

CONTAINS PROPRIETARY INFORMATION WITHHOLD UNDER 10 CFR 2.390

(NOT PROPRIETARY WITHOUT ENCLOSURE 1P ATTACHED)



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**A. Christopher Bakken III**  
President & Chief Executive Officer

10 CFR 50.80  
10 CFR 50.90  
10 CFR 72.50

November 16, 2018

U.S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Washington, DC 20555-0001

SUBJECT: Application for Order Consenting to Direct and Indirect Transfers of Control of Licenses and Approving Conforming License Amendment; and Request for Exemption from 10 CFR 50.82(a)(8)(i)(A)  
Pilgrim Nuclear Power Station  
Docket Nos. 50-293 & 72-1044  
Renewed License No. DPR-35

LETTER NUMBER: CNRO-2018-00047/2.18.067

Dear Sir or Madam:

In accordance with Section 184 of the Atomic Energy Act, as amended (the "Act"), Title 10 Code of Federal Regulations ("CFR") 50.80, 10 CFR 50.90, and 10 CFR 72.50, Entergy Nuclear Operations, Inc. ("ENOI"), on behalf of itself and Entergy Nuclear Generation Company ("ENGCO") (to be known as Holtec Pilgrim, LLC), Holtec International ("Holtec"), and Holtec Decommissioning International, LLC ("HDI") (together, "Applicants"), respectfully request that the U.S. Nuclear Regulatory Commission ("NRC") consent to: (1) the indirect transfer of control of the Renewed Facility Operating License No. DPR-35 for the Pilgrim Nuclear Power Station ("Pilgrim"), as well as the general license for the Pilgrim Independent Spent Fuel Storage Installation ("ISFSI") (collectively the "Licenses"), to Holtec; and (2) the direct transfer of ENOI's operating authority (*i.e.* its authority to conduct licensed activities at Pilgrim) to HDI. In addition, the Applicants request that the NRC approve a conforming administrative amendment to the Licenses to reflect the proposed direct transfer of the Licenses from ENOI to HDI; a planned name change for ENGCO from ENGCO to Holtec Pilgrim, LLC; and deletion of certain license conditions to reflect satisfaction and termination of all ENGCO obligations after the license transfer and equity sale. Enclosure 1 provides the basis for this request and the required documentation.

Approval of these transfers is sought to effectuate a transaction under which 100% of the equity interests in ENGCO will be transferred to Holtec, through a wholly-owned subsidiary, Nuclear Asset Management Company, LLC ("NAMCO"), pursuant to the terms of an Equity Purchase and Sale Agreement ("EPSA"). As a result, indirect control of ENGCO will be transferred from

ENG's parent companies to Holtec. ENG will immediately change its name to Holtec Pilgrim, LLC ("Holtec Pilgrim"), but the same legal entity will continue to exist as the owner of Pilgrim before and after the transfer of control.<sup>1</sup> The EPSA and the proposed transaction have been approved by the boards of directors of both Entergy Corporation ("Entergy") and Holtec.

In addition, HDI, an indirect wholly-owned subsidiary of Holtec, will assume licensed responsibility for Pilgrim through a direct transfer of ENO's responsibility for licensed activities at Pilgrim to HDI. HDI is a special purpose entity formed by Holtec to be the licensed operator that will decommission nuclear power plants, including Pilgrim. Because the transfer will occur following docketing of ENO's certifications of permanent cessation of operations and permanent removal of fuel from the reactor vessel, the Part 50 license will no longer authorize operation of the reactor or emplacement or retention of fuel in the reactor vessel. Accordingly, HDI's licensed activities will involve possessing and disposing of radioactive material, maintaining the facility in safe condition (including storage, control, and maintenance of the spent fuel), decommissioning and decontaminating the facility, and maintaining the ISFSI until it can be decommissioned, each in accordance with the Licenses and the NRC regulations.

Upon closing the proposed transaction, Holtec Pilgrim will own and HDI will operate (i.e., conduct licensed activities at) Pilgrim, and proceed with the prompt decommissioning of Pilgrim. Holtec Pilgrim will enter into a Decommissioning Operator Services Agreement with HDI, which will provide for HDI to act as Holtec Pilgrim's agent and for Holtec Pilgrim to pay HDI's costs of post-shutdown operations, including decommissioning costs and spent fuel management costs. This is a Holtec Pilgrim and HDI regulatory commitment.

A simplified organization chart reflecting the current Pilgrim licensees and their owners is provided as Figure 1 following this letter. The planned ownership structure following the proposed transfers is depicted in Figure 2. These organization charts are "simplified" in that they only show the companies in the chain of ownership of the licensee entities before and after the proposed transfers. With the exception of certain excluded assets discussed in the enclosed "Application for Consent to Direct and Indirect Transfers of Control of Licenses and Approval of Conforming License Amendment" ("Application"), Holtec Pilgrim will continue to own Pilgrim as well as its associated assets and real estate, including its nuclear decommissioning trust fund ("NDT"), title to spent nuclear fuel, and rights pursuant to the terms of its Standard Contract for Disposal of Spent Nuclear Fuel and/or High-Level Radioactive Waste with the U.S. Department of Energy ("DOE").

In addition, Holtec (through its subsidiary HDI) has formed Comprehensive Decommissioning International, LLC ("CDI"), a jointly-owned company with SNC-Lavalin Group's subsidiary, Kentz USA Inc. CDI is majority-owned by HDI. SNC-Lavalin is transferring commercial nuclear personnel and capabilities into CDI from other subsidiaries, including Atkins Energy, Inc., which is based in Columbia, South Carolina. Pursuant to a Decommissioning General Contractor Agreement between HDI and CDI and as shown on Figure 2, CDI will manage and perform the

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<sup>1</sup> Prior to the closing of the proposed transaction, ENG will be converted to a limited liability company. Because Massachusetts law on the effect of such a conversion provides that the converted entity is considered to be the same as the entity that existed prior to the conversion without interruption (Mass. Gen. Laws ch. 156D, § 9.55(a)(7)(ii)), this conversion does not constitute a transfer of control requiring NRC approval. ENO will notify the NRC when the conversion of ENG occurs, which could occur any time prior to the transfer. This is a regulatory commitment.

day-to-day activities, including decommissioning activities, to maintain compliance with the Licenses and NRC regulations, subject to HDI's direct oversight and control as the licensed operator.

This transfer is desirable and of considerable benefit to the citizens of Massachusetts because it will result in the prompt decommissioning of Pilgrim and release of all portions of the site other than the ISFSI on an accelerated schedule, supported by a decommissioning general contractor with a business focus on and expertise with decommissioning and spent fuel management. Following the transfer, HDI plans to complete the transfer of spent nuclear fuel to the ISFSI as soon as practicable and to promptly proceed with decontamination and dismantlement of the site (other than the ISFSI). The project goal for completing the radiological decommissioning, restoration and release for unrestricted use of the non-ISFSI portions is within eight (8) years of the license transfer.

The required NDT fund value at closing exceeds the minimum financial assurance required by 10 CFR 50.75(b) and the site-specific estimate of the radiological decommissioning cost, providing sufficient confidence that decommissioning can be achieved without the need for additional financial assurance. Further, a cash-flow analysis based on the site-specific estimate demonstrates that the funds in the NDT at closing will be sufficient to fund all radiological decommissioning costs, spent fuel management costs, and site restoration costs through the expected license termination date, and thus demonstrates Holtec Pilgrim's financial qualifications.

The financial assurance required by 10 CFR 50.75, 10 CFR 50.82(a)(8)(vi), and 10 CFR 72.30(b) and (c) for decommissioning Pilgrim, including eventually the ISFSI, will be provided by Holtec Pilgrim using the prepayment method in accordance with 10 CFR 50.75(e)(1)(i) and 10 CFR 72.30. As previously mentioned, Holtec Pilgrim will retain the Pilgrim NDT, which as of October 31, 2018 contained \$1,051,722,466 (as documented in the Pilgrim Updated Spent Fuel Management Plan submitted by ENOI on November 16, 2018). Under the terms of the EPSA, the after-tax market value of the NDT must be no less than \$1,030,000,000 at closing, subject to an adjustment that will not impact Holtec Pilgrim's or HDI's financial qualifications, as discussed in the enclosed Application.

HDI is financially qualified to be Pilgrim's decommissioning licensed operator, because under the terms of the Decommissioning Operator Services Agreement between Holtec Pilgrim and HDI, Holtec Pilgrim will be required to pay for HDI's costs of post-shutdown operation, including all decommissioning costs at Pilgrim.

Information supporting this request for consent and approval is provided in the enclosed Application. A mark-up of the proposed conforming amendment is included in the Application as Attachment A.

In addition, the Application in Enclosure 1 provides information pertaining to the proposed transfer as required by 10 CFR 50.80. The referenced information demonstrates that: (1) the proposed indirect transfer of ENGCO's ownership interests to Holtec Pilgrim and the direct transfer of ENOI's decommissioning operator authorities under the Licenses to HDI will permit the prompt decommissioning of Pilgrim; (2) Holtec Pilgrim and HDI have the requisite managerial, technical, and financial qualifications to be the licensees for Pilgrim; (3) Holtec Pilgrim will provide reasonable assurance of funding for decommissioning of the facility, spent fuel management, and ISFSI decommissioning; (4) the material terms of the Licenses will not be

affected; and (5) the license transfer will not result in any impermissible foreign ownership, control or domination.

Because funding for spent fuel management and site restoration relies on funds in the NDT, HDI is submitting an exemption request to the NRC to allow HDI to use of a portion of the NDT for spent fuel management and site restoration costs. Specifically, 10 CFR 50.82(a)(8)(i)(A) states that decommissioning trust funds may be used by licensees if the withdrawals are for expenses for legitimate decommissioning activities consistent with the definition of decommissioning in 10 CFR 50.2. The definition of "decommission" in 10 CFR 50.2 does not include activities associated with spent fuel management or site restoration. Therefore, pursuant to 10 CFR 50.12, an exemption from 10 CFR 50.82(a)(8)(i)(A) is needed prior to using NDT funds for spent fuel management and site restoration activities. The HDI request for exemption is included as Enclosure 2 to this letter.

ENOI has submitted the Pilgrim Post-Shutdown Decommissioning Activities Report (PSDAR), including a Site-Specific Decommissioning Cost Estimate (DCE), based on Entergy's plan to utilize the SAFSTOR method for decommissioning. Given the DECON approach to decommissioning contemplated by the transaction, HDI is separately submitting to the NRC a Revised PSDAR reflecting the plans for decommissioning and spent fuel management following the proposed transfers of the Licenses. The HDI Revised PSDAR includes a Revised Site-Specific Decommissioning Cost Estimate (DCE) and is being submitted in parallel with this license transfer application. The HDI Revised PSDAR would become effective upon the transfer of the Licenses.

Subject to the satisfaction of all closing conditions, including receipt of all required regulatory approvals, the Applicants wish to close this transaction at the earliest practicable date. Accordingly, the Applicants respectfully request that the NRC review the enclosed Application on a schedule that will permit issuance of an order consenting to the transfer and approval of a conforming license amendment as promptly as possible and in any event by May 31, 2019. The Applicants are targeting a transaction closing by the end of 2019. Closing will occur following certification pursuant to 10 CFR 50.82(a)(1)(ii) that fuel has been permanently removed from the reactor vessel, which should be complete a few weeks after permanent cessation of operations (which will occur not later than June 1, 2019). The Applicants are prepared to work closely with the NRC to facilitate the review of the Application. While the closing and transfers are targeted to occur by the end of 2019, the Applicants request that the NRC issue an Order approving the amendments to the Pilgrim License and authorizing the transfers to take place at any time up to May 31, 2020. The Applicants also request that the license amendment be made effective as of the date the transfers are completed. ENOI will notify the NRC staff at least 2 business days prior to the expected closing date for the transaction. This is a regulatory commitment.

In addition, HDI respectfully requests that the NRC review the enclosed exemption request on a schedule that will permit issuance of an exemption as promptly as possible and in any event by May 31, 2019.

There are certain regulatory filings and approvals beyond that of the NRC that must be made and obtained prior to the closing of the proposed transaction, including approval from the Federal Energy Regulatory Commission for the transfer of control of the Pilgrim switchyard. The Applicants will keep the NRC informed of any significant changes in the status of other required approvals or developments that could have an impact on the closing date.

In summary, the proposed transfer will neither have any adverse impact on the public health and safety, nor be inimical to the common defense and security. The proposed transfer will be consistent with the requirements of the Act, the NRC regulations, and the Pilgrim Licenses. The Applicants therefore respectfully request that the NRC consent to the transfer of the Pilgrim Licenses in accordance with 10 CFR 50.80 and 10 CFR 72.50 and issue the conforming license amendment requested herein pursuant to 10 CFR 50.90.

In addition, pursuant to 10 CFR 50.12, HDI respectfully requests that the NRC grant the exemption to allow HDI to use of a portion of the NDT for spent fuel management and site restoration costs.

A separately bound Enclosure 1P of the Application contains the EPSA, which includes confidential commercial and financial information. The Applicants request that this information be withheld from public disclosure pursuant to 10 CFR 2.390, as described in the Affidavits provided in Attachment G to the Application. A redacted version of the EPSA, suitable for public disclosure, is in Attachment B to the Application.

In accordance with 10 CFR 50.91(b)(1), a copy of this submittal has been sent to the Commonwealth of Massachusetts.

This Application contains regulatory commitments as noted in Attachment F to the Application.

In the event that the NRC has any questions about the proposed transaction described in this letter and in the Application or wishes to obtain any additional information about the transfers of the Licenses, please contact Phil Couture on behalf of ENOI at 601-368-5102 or [pcoutur@entergy.com](mailto:pcoutur@entergy.com), or contact Andrea Sterdis on behalf of HDI at 724-493-1833 or [a.sterdis@cdi-decom.com](mailto:a.sterdis@cdi-decom.com).

Service upon the Applicants of any notices, comments, hearing requests, intervention petitions, or other pleadings should be made to:

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In addition, please place the above individuals on the NRC correspondence distribution for all correspondence related to the Application.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on November 16, 2018.

Sincerely,

A handwritten signature in black ink, appearing to be 'ACB/plc', with a large circular flourish at the end.

ACB/plc



**Enclosures:**

Figure 1 – Simplified Organization Chart (Current)

Figure 2 – Simplified Organization Chart (Post-Transfer)

Enclosure 1 - Application for Order Approving License Transfers and Conforming License Amendments (NRC Renewed Facility Operating License No. DPR-35)

Enclosure 2 - Request for Exemption from 10 CFR 50.82(a)(8)(i)(A)

Enclosure 1P - Equity Purchase and Sale Agreement (Proprietary)

cc (w/enclosures, except Enclosure 1P):

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Resident Inspector  
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Massachusetts Department of Public Health  
Radiation Control Program  
Commonwealth of Massachusetts  
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Charlestown, MA 02129-1121



STATE OF NEW JERSEY     )

) SS.

COUNTY OF CAMDEN     )

Andrew R. Ryan, being duly sworn according to law, deposes and says:

I am General Counsel for Holtec International, and, as such, I am familiar with the contents of this correspondence and the attachments thereto concerning the Pilgrim Nuclear Power Station, and the matters set forth therein regarding Holtec International, its affiliated companies, and the planned organization and activities of Holtec Pilgrim, LLC and HDI after the closing of the transaction discussed herein, are true and correct to the best of my knowledge, information and belief.



Andrew R. Ryan

Subscribed and Sworn to before me this 14<sup>th</sup> day of November, 2018

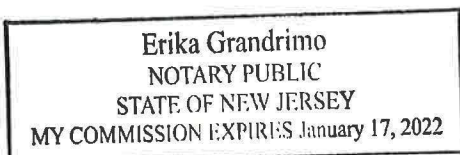
  
Notary Public of New Jersey

Figure 1: Simplified Organization Chart (Current)

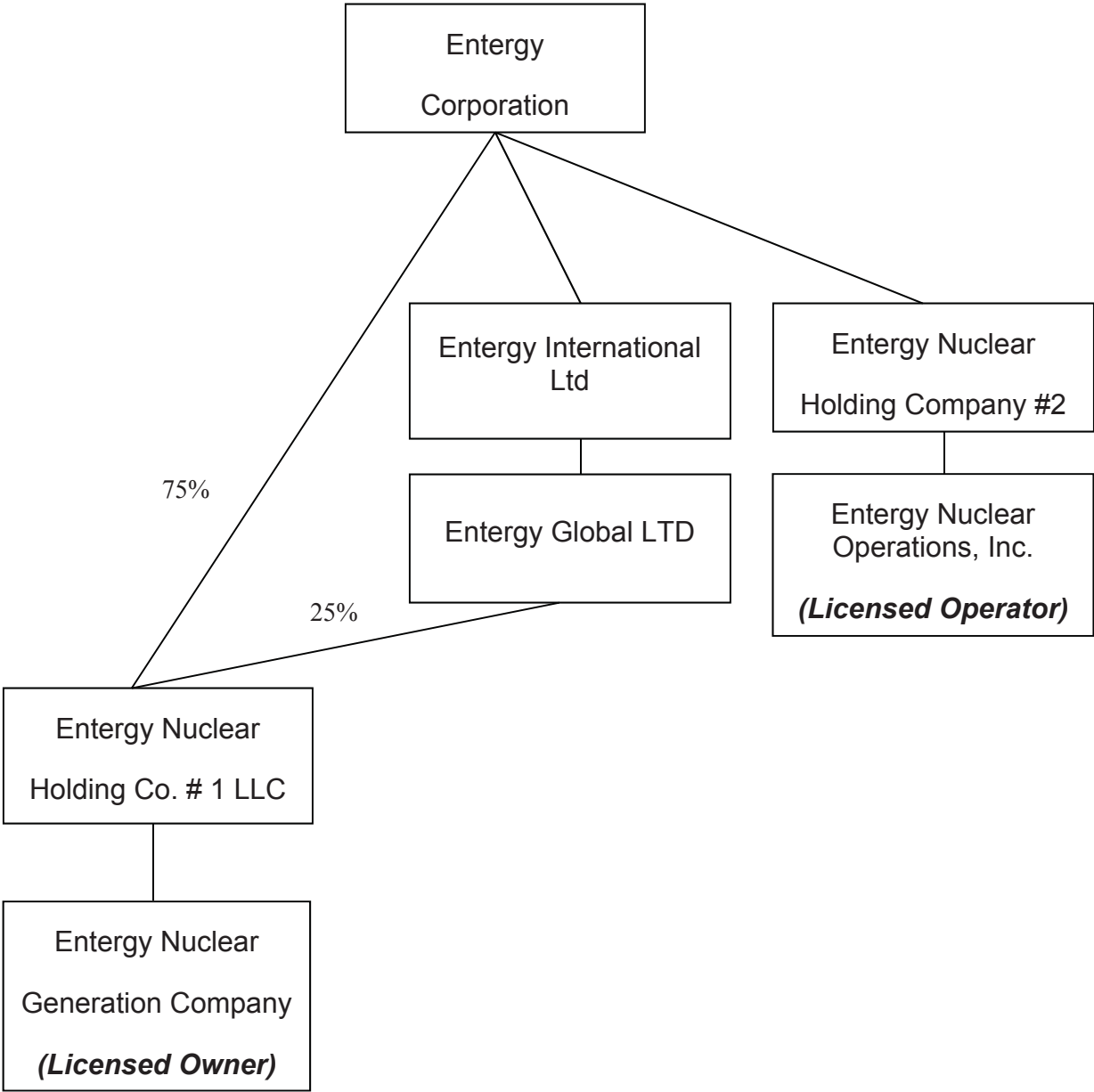
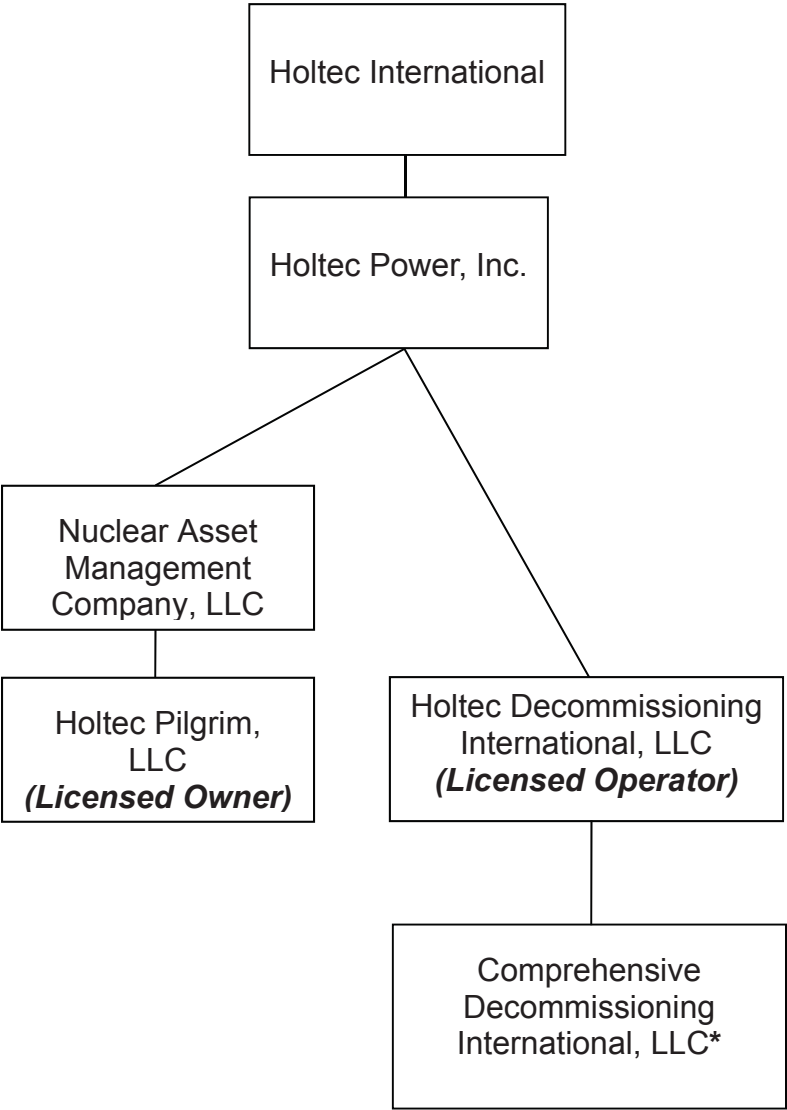


Figure 2: Simplified Organization Chart (Post-Transfer)



Note:

\* Comprehensive Decommissioning International, LLC (“CDI”) is jointly owned by Holtec (through its subsidiary, Holtec Decommissioning International, LLC (“HDI”), the majority owner) and SNC-Lavalin (through its subsidiary, Kentz USA, the minority owner). HDI will contract with CDI through a Decommissioning General Contractor Agreement.

**ENCLOSURE 1**

**Application for Order Consenting to Direct and Indirect Transfers of Control of  
Licenses and Approving Conforming License Amendment**

**(NRC Renewed Facility Operating License No. DPR-35 and General License for  
Independent Spent Fuel Storage Installation)**

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Attachment A – Renewed Facility Operating License (Changes)

Attachment B - Equity Purchase and Sale Agreement (“EPSA”) (Non-Proprietary Version)  
(Without Exhibits)

Attachment C - General Corporate Information Regarding Holtec International, Holtec Power, Inc., Nuclear Asset Management Company, LLC, Holtec Pilgrim, LLC and Holtec Decommissioning International, LLC, and Resumes of Key Management Personnel

Attachment D - Schedule and Financial Information for Decommissioning

Attachment E - Form of Decommissioning Operator Services Agreement Between Holtec Pilgrim and Holtec Decommissioning International

Attachment F - Regulatory Commitments

Attachment G – Affidavits Supporting Request for Withholding Pursuant to 10 CFR 2.390

# 1. INTRODUCTION

In accordance with Section 184 of the Atomic Energy Act, as amended (the “Act”), Title 10 of the Code of Federal Regulations (“CFR”) 50.80, 10 CFR 50.90, and 10 CFR 72.50, Entergy Nuclear Operations, Inc. (“ENOI”), on behalf of itself and Entergy Nuclear Generation Company (“ENGCO”) (to be known as Holtec Pilgrim, LLC), Holtec International (“Holtec”), and Holtec Decommissioning International, LLC (“HDI”) (together, “Applicants”), respectfully requests written consent approving the: (1) the indirect transfer of control of the Renewed Facility Operating License No. DPR-35 for the Pilgrim Nuclear Power Station (“Pilgrim”), as well as the general license for the Pilgrim Independent Spent Fuel Storage Installation (“ISFSI”) (the “Licenses”), to Holtec; and (2) the direct transfer of ENOI’s operating authority (*i.e.* its authority to conduct licensed activities at Pilgrim) to HDI. The Applicants also request that the NRC approve a conforming amendment to the Licenses to reflect the proposed direct transfer of the Licenses from ENOI to HDI, as well as, a planned name change for ENGCO from ENGCO to Holtec Pilgrim, LLC (“Holtec Pilgrim”), and deletion of certain license conditions to reflect satisfaction and termination of all Entergy obligations after the license transfer and equity sale. These administrative changes are based on Amendments 246 and 247 to the Pilgrim Renewed Facility Operating License and are shown in Attachment A to this enclosure.

The license amendment should be approved, but not issued until consummation of the transaction as described below. ENOI will notify the NRC at least two business days prior to the expected closing date so that the conforming license amendment can be issued concurrently with the transaction closing. This is a regulatory commitment. The Applicants anticipate that the transaction will close in by the end of 2019, pending receipt of the required regulatory approvals.

Approval of these transfers is sought pursuant to a transaction under which 100% of the equity interests in ENGCO will be transferred to Holtec pursuant to the terms of an Equity Purchase and Sale Agreement (“EPSA”). ENGCO will immediately change its name to Holtec Pilgrim, but the same legal entity will continue to exist before and after the proposed transfer.

Upon closing of the transaction, indirect control of ENGCO will be transferred from ENGCO’s parent companies to Holtec and its subsidiary, while ENOI’s operating authority will be transferred to HDI. Thereafter, Holtec Pilgrim will own and HDI will operate (*i.e.*, conduct licensed activities at) Pilgrim and will proceed with the prompt decommissioning of the site. HDI was formed by Holtec to operate and decommission all Holtec-owned decommissioning nuclear power plant sites, including Pilgrim. HDI’s mission is to assume licensed operator responsibilities for decommissioning nuclear power plants that Holtec acquires including Pilgrim.

After the closing of the transaction and license transfer, ENGCO, renamed Holtec Pilgrim, will continue to own Pilgrim as well as its associated assets and real estate (with the exception of certain excluded assets<sup>1</sup>), including its nuclear decommissioning trust fund (“NDT”), title to spent nuclear fuel, and rights pursuant to the terms of its Standard Contract for Disposal of Spent Nuclear Fuel and/or High-Level Radioactive Waste with the U.S. Department of Energy (“Standard Contract”). Holtec Pilgrim will continue to hold the NDT assets in a trust segregated from its other assets and outside of its administrative control.

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<sup>1</sup> The excluded assets consist of certain insurance premium refunds and distributions, intellectual property, certain excess inventory, and equipment comprising a water decontamination system not required for decommissioning.



Holtec Pilgrim will enter into a Decommissioning Operator Services Agreement with HDI that provides for HDI to act as Holtec Pilgrim's agent and for Holtec Pilgrim to pay HDI's costs of operation, including all decommissioning costs. This is a regulatory commitment.

HDI will contract with Comprehensive Decommissioning International, LLC ("CDI"), a company jointly formed and owned by Holtec and SNC-Lavalin Group, as the decommissioning general contractor. CDI is majority-owned by HDI. SNC-Lavalin holds its interest in CDI through a wholly-owned U.S. subsidiary, Kentz USA Inc. Holtec and SNC-Lavalin are transferring employees into CDI. SNC-Lavalin is transferring commercial nuclear personnel and capabilities into CDI from other subsidiaries including Atkins Energy, Inc., which is based in Columbia, South Carolina. Pursuant to a Decommissioning General Contractor Agreement between HDI and CDI, following license transfer, CDI will manage and perform the day-to-day Pilgrim activities, including decommissioning activities, in compliance with the licenses and the NRC regulations, subject to HDI's direct oversight and control as the decommissioning licensed operator and majority owner of CDI.

A copy of the EPSA is provided in a separately bound Addendum as Enclosure 1P. This version contains confidential commercial and financial information that should be withheld from public disclosure pursuant to 10 CFR 2.390. A redacted version of the EPSA, suitable for public disclosure, is Attachment B to the Application.

## **2. STATEMENT OF PURPOSE OF THE TRANSFERS AND NATURE OF THE TRANSACTION MAKING THE TRANSFERS NECESSARY OR DESIRABLE**

### **A. Purpose and Description of the License Transfer**

Pilgrim is a single unit boiling water nuclear reactor located in the town of Plymouth, Massachusetts, in Plymouth County on the western shore of Cape Cod Bay. Pilgrim received its Construction Permit on August 26, 1968, and its Operating License on June 8, 1972. Pilgrim began commercial operations on December 1, 1972. Pilgrim was initially licensed to generate 1998 megawatts-thermal (MWt) but obtained approval from the NRC in 2003 to increase the maximum core power level from 1998 MWt to 2028 MWt. The current facility operating license for PNPS expires at midnight, June 8, 2032. By letter dated November 10, 2015, ENOI notified the NRC that it had decided to permanently cease operations at Pilgrim no later than June 1, 2019.

Following approval from the NRC and upon the closing of the transaction, Holtec Pilgrim will own the Pilgrim facility pursuant to the terms of the EPSA. As such, Holtec Pilgrim will have licensed responsibility for Pilgrim as its licensed owner. Holtec Pilgrim will enter into a Decommissioning Operator Services Agreement for decommissioning services with HDI, which provides for HDI to act as Holtec Pilgrim's agent and for Holtec Pilgrim to pay for all of HDI's costs of decommissioning, spent fuel management, and restoring the site. HDI will become the Pilgrim licensed operator for decommissioning, and CDI will perform day-to-day activities at the site, including decommissioning activities, pursuant to the Decommissioning General Contractor Agreement between HDI and CDI, subject to HDI's direct oversight and control as the licensed operator. HDI is structured to function similarly to the fleet operating entity that exists in many current nuclear industry utilities with a fleet of operating units, including the current Pilgrim structure. Pursuant to the terms of the EPSA, closing of the transaction cannot occur until the satisfaction of several conditions, including ENOI's certification pursuant to 10 CFR 50.82(a)(1)(ii) that fuel has been permanently removed from the reactor vessel, which is expected to occur shortly after cessation of operations.

A simplified organization chart reflecting the current Pilgrim licensees and their owners is provided as Figure 1 to the letter accompanying this Application. The planned ownership following the proposed transfers is depicted in Figure 2. The Figure 2 ownership structure developed by Holtec to support the intended acquisition of multiple decommissioning nuclear power plant sites is based on the typical organization structure for many current nuclear utility fleets. Nuclear Asset Management Company (“NAMCo”) is an indirect wholly owned subsidiary of Holtec formed to be the management company for all Holtec-owned decommissioning nuclear power plant sites, including Pilgrim. These organization charts are “simplified” in that they only show the companies in the chain of ownership of the licensee entities before and after the proposed transfers.

HDI’s contractual relationship with CDI (as the Decommissioning General Contractor) is also depicted on Figure 2. CDI has been formed to provide an organization that performs safe and efficient decommissioning of the anticipated Holtec fleet of decommissioning nuclear power plant sites. CDI will efficiently and effectively incorporate lessons-learned and best practices as well as technology and process improvement as sites are decommissioned.

Additional detail is provided in Section 5 regarding technical qualifications of Holtec Pilgrim, HDI and CDI.

## **B. Nature of the Transaction Making the License Transfer Desirable**

The purpose of the transfer of the Licenses is to permit the prompt decommissioning of Pilgrim. The transfer is desirable and of considerable benefit to the citizens of Massachusetts, because the transfer will result in the decommissioning of Pilgrim and unrestricted release of all portions of the site, other than the ISFSI, on an accelerated schedule.

ENOI has submitted the Pilgrim Post-Shutdown Decommissioning Activities Report (PSDAR), including a Site-Specific Decommissioning Cost Estimate (DCE) as well as an Updated Spent Fuel Management Plan (SFMP), based on Entergy’s plan to utilize the SAFSTOR method for decommissioning. Through the license transfers for Pilgrim and the strategic partnering with SNC-Lavalin (including its subsidiary Atkins) and subcontracting with other experienced industry vendors, Holtec Pilgrim and HDI will complete decommissioning, restoration, and release of all portions of the site (other than the ISFSI), significantly earlier than would be achieved via ENOI’s SAFSTOR decommissioning approach.

To facilitate the NRC’s review of this Application, HDI is submitting a Revised PSDAR including a Revised Site-Specific DCE reflecting HDI’s plan for prompt decommissioning following the proposed transfers of the Licenses. The HDI PSDAR is based on HDI’s plan to utilize the DECON method for decommissioning. The HDI PSDAR including DCE is contingent upon NRC approval and execution of the License transfers. HDI has determined that no update to the ENOI Updated Spent Fuel Management Plan is needed at this time. HDI’s SFMP is based on the same strategy and schedule for DOE removal of spent fuel from Pilgrim. The HDI cost estimates for managing spent fuel are shown in Attachment D to this application.

The license transfers effectuating this acquisition will place Pilgrim in a well-supported organization specifically focused on and experienced with spent fuel management and decommissioning. In the event that this Application is not approved, or if the transaction does not close, the HDI PSDAR and DCE would be ineffective, and the ENOI PSDAR and DCE would remain in effect.

Under the terms of the proposed transaction, HDI plans to complete the transfer of spent nuclear fuel in the spent fuel pool to the ISFSI as soon as practicable and will promptly proceed with decontamination and dismantlement of the Pilgrim site (other than the ISFSI). HDI's goal is to complete radiological decommissioning, restoration, and release for unrestricted use for the non-ISFSI portions of the site within eight years following license transfer.

Importantly, the transaction will place responsibility for licensed activities with organizations whose core businesses are focused on radiological decommissioning and spent fuel management. Holtec is an industry leader in the development of spent fuel management technologies and has developed proto-prompt decommissioning, which enables used fuel to be placed in dry storage in as little as two years after the reactor is shutdown. In addition, HDI will contract with its strategic partners in order to take advantage of contractors that have decommissioning experience and knowledge of best practices.

HDI will engage CDI, a company formed and jointly owned by Holtec and SNC-Lavalin as the decommissioning general contractor to perform the site day-to-day activities, including decommissioning the plant, pursuant to a Decommissioning General Contractor Agreement between HDI and CDI. Pursuant to this Decommissioning General Contractor Agreement and subject to HDI's direct oversight and control as the licensed operator, CDI will perform decommissioning activities safely and securely in support of HDI's responsibility to maintain the plant in compliance with the licenses and NRC regulations. However, HDI will, at all times, be responsible for possessing and disposing of radioactive material, maintaining the facility in a safe condition (including handling, storage, control, and protection of spent fuel), decommissioning and decontaminating the facility, and maintaining the ISFSI until it can be decommissioned. HDI will retain ultimate decision-making authority and provide direct governance and oversight of CDI's performance, thereby fulfilling its licensed responsibilities as the decommissioning licensed operator. HDI plans to fill the on-site leadership position of Pilgrim Site Vice President with an incumbent Pilgrim senior manager and HDI will be managed by Holtec senior staff to provide the requisite managerial capabilities and decision-making authority within the licensed organization, while CDI will be staffed with a combination of Holtec and Atkins personnel who have considerable nuclear experience, including experience in spent fuel handling and decommissioning. As of the transaction closing, CDI will become the employer of ENOI employees in the Pilgrim Decommissioning Organization, thereby adding to CDI's expertise.

CDI plans to enter into subcontracts with nuclear industry vendors with decommissioning experience to complete various decommissioning activities. Subcontractor and vendor selection will be made consistent with customary industry vendor evaluation and selection processes.

This Application provides information regarding the financial qualifications of Holtec Pilgrim and the required financial assurance for decommissioning of the facility and ISFSI and funding plan for spent fuel management. In addition, it provides additional information pertaining to the proposed transfer of the Licenses, including the information required under 10 CFR 50.80. As that information demonstrates: (1) Holtec Pilgrim and HDI will have the requisite managerial, technical, and financial qualifications to be the licensed owner and licensed operator of the Pilgrim Station; (2) Holtec Pilgrim will provide reasonable assurance of funding for decommissioning of the facility, spent fuel management, and ISFSI decommissioning; (3) the material terms of the Licenses will not be affected; and (4) the license transfers will not result in any impermissible foreign ownership, control or domination.

In summary, the proposed transfers of the Licenses will not be inimical to the common defense and security or result in any undue risk to public health and safety, and the transfers will be consistent with the requirements of the Atomic Energy Act and the NRC regulations.

### **3. GENERAL CORPORATE INFORMATION REQUIRED BY 10 CFR 50.33(A)-(D)**

Holtec Pilgrim will be a direct, wholly-owned subsidiary of NAMCo, which is a direct, wholly-owned subsidiary of Holtec Power, Inc. ("Holtec Power"). HDI is also a direct, wholly-owned subsidiary of Holtec Power. Holtec Power is a direct, wholly-owned subsidiary of Holtec. Figure 2 illustrates the corporate ownership structure following the license transfer. Upon completion of the transaction and license transfer, Holtec Pilgrim will be the licensed owner of Pilgrim, while HDI, as licensed operator, will provide the overall management of the decommissioning of nuclear plants, including Pilgrim.

The general corporate information required by 10 CFR 50.33(d)(3) regarding Holtec, Holtec Power, NAMCo, Holtec Pilgrim, and HDI, including identification of their principal officers and directors, is provided in Attachment C to the Application. Holtec is the ultimate parent company of the proposed licensee entities. Holtec is a privately held corporation and is controlled by its Board of Directors, all of whom are U.S. citizens. It is owned by its shareholders as follows: (i) The Great Banyan Trust, 36.33% ownership interest; and (ii) Multi-Decades Trust, 63.67% ownership interest. These trusts are controlled by Dr. Krishna Singh.

### **4. FOREIGN OWNERSHIP, CONTROL, OR DOMINATION**

Holtec is a privately held corporation and is controlled by its Board of Directors, all of whom are United States citizens. The Directors are ultimately appointed by Holtec's owners, who are trust companies organized in the State of Florida that are controlled by U.S. citizens. Holtec has been U.S.-owned since its inception in 1986 without any non-U.S. control or domination. Holtec Power, NAMCo, Holtec Pilgrim, and HDI are all directly or indirectly under Holtec's control, and all of the directors and executive committee members as identified in Attachment C to the Application are U.S. citizens. Although Holtec performs work in foreign countries, the contractual arrangements to provide products and services do not result in any foreign ownership, control or domination of the Holtec organization or its subsidiaries or contracts. The activities conducted in foreign countries are ultimately controlled by U.S. citizens. As such, Holtec and the licensee entities will not be owned, controlled, or dominated by any foreign person.

As the licensed entity with possession of and responsibility for direct oversight, control, and decommissioning of Pilgrim, HDI will act for itself and on behalf of Holtec Pilgrim, as its agent. Neither HDI nor Holtec Pilgrim is acting as the agent or representative of any other entity in the proposed transfer of the Licenses.

CDI is jointly owned by HDI and SNC-Lavalin. HDI, as the majority owner of CDI, controls CDI. SNC-Lavalin, a company based in Montreal, Quebec Canada, is a publicly traded company on the Toronto Stock Exchange. CDI's role is defined as the Decommissioning General Contractor pursuant to a contract between HDI and CDI. CDI will not be the licensed owner or operator of the plant and will not have direct access to the Pilgrim decommissioning trust funds. CDI will perform decommissioning activities pursuant to its contract with HDI subject to HDI's direct oversight and control. There is no prohibition against a company with foreign minority ownership performing licensed activities at U.S. nuclear reactors. Therefore, notwithstanding

CDI's foreign minority ownership and engagement as the decommissioning operations contractor, Holtec and the licensee entities proposed for Pilgrim will not be owned, controlled, or dominated by any foreign person.

## **5. TECHNICAL QUALIFICATIONS**

### **A. Holtec International**

Holtec has established HDI as the entity with ultimate corporate responsibility as the decommissioning licensed operator for the successful decommissioning of its anticipated fleet of decommissioning sites including Pilgrim. As explained above, HDI is managed by individuals who are Holtec senior staff members to provide the requisite managerial capabilities within the organization. Holtec is an integrated technologies enterprise providing innovative solutions, equipment, and services to the global nuclear, solar, geothermal, and fossil power generation sectors of the energy industry. Holtec possesses in-house capabilities to design, engineer, analyze, construct, and deploy the technologies to manage used nuclear fuel discharged from nuclear reactors, and has extensive experience in designing, manufacturing, and installing capital equipment, as well as providing services to operating commercial power plants.

Holtec is an industry leader in nuclear fuel management systems. Holtec's technical resources; and experience with nuclear decommissioning, spent fuel handling equipment, and spent fuel storage systems and components will provide the leadership to effectively transition Pilgrim to active decommissioning and subsequent long-term dry storage of spent fuel. Based on past experience performing NRC licensed activities, the Holtec team has a mature nuclear safety culture and policies that will be integrated with existing Pilgrim policies. The combined policies will focus on the safe and effective decommissioning of Pilgrim while maintaining compliance with applicable regulations.

Additional information about Holtec's activities can be found online at [www.holtecinternational.com](http://www.holtecinternational.com).

Holtec is led by Dr. Krishna Singh. Holtec's nuclear business model has been focused on a long-term view of the marketplace. Specializing in spent nuclear fuel management technologies, Holtec is the patent holder for a number of technology solutions for spent fuel management. Since the 2000s, the company has advanced the state of the art, including early fuel transfer capability, which is proposed for deployment at Pilgrim.

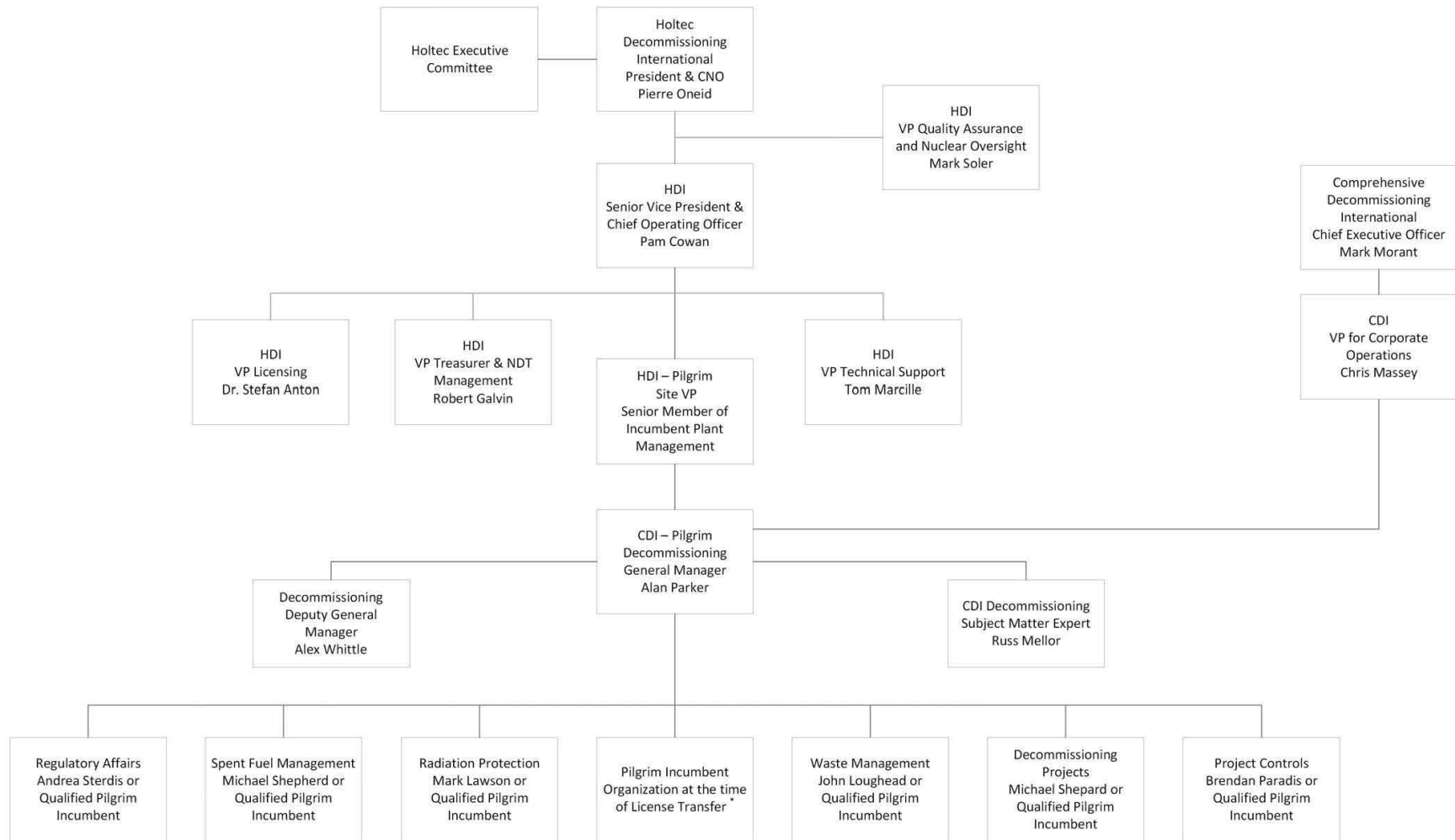
In this undertaking, Holtec brings a diverse corporate resume of prior accomplishments in nuclear projects in the U.S. and abroad, a substantial list of ongoing and satisfactorily completed nuclear projects (including many turnkey projects), and a long record of securing regulatory approvals. Every project, regardless of complexity, has been completed safely.

Dr. Singh's resume is provided in Attachment C to this Application.

Figure A-1 on the following page depicts the relationships between HDI as the decommissioning licensed operator, and CDI as the Decommissioning General Contractor that will perform the Pilgrim day-to-day decommissioning of the plant under HDI's direct oversight and control. Additional information on HDI and CDI is provided in Sections B and C that follow.



**Figure A-1 Pilgrim Combined Org Chart Depiction**



Note \* This box represents the planned integration into the CDI site organization of the existing Pilgrim Decommissioning Organization site personnel at the site during the time of transaction closing and license transfer including the Plant Operations, Emergency Planning and Security organizations.

## **B. Holtec Decommissioning International**

HDI is an indirect wholly-owned subsidiary of Holtec. The senior management of HDI is composed of Holtec personnel. HDI is structured to serve as a fully resourced organization to directly oversee and manage licensed decommissioning operations and the dismantlement of a nuclear plant that has ceased operation. HDI has expertise to oversee all licensed activities following reactor de-fueling, including the transfer of spent nuclear fuel from the spent fuel pool to the on-site ISFSI, security and emergency preparedness. The HDI performance mission is to effectuate licensed maintenance and decommissioning of a plant with a focus on protection of human health and safety, including the personnel engaged to carry out the decommissioning of Pilgrim. Specifically, HDI is responsible to:

- Assume responsibilities for the duties and obligations of the decommissioning operator licensee following cessation of operations and certification of defueling, including development of and continuing compliance with the dry storage system Certificate(s) of Compliance, licensing basis including the Technical Specifications, regulatory requirements, and regulatory commitments.
- Possess and dispose of radioactive material
- Maintain the facility in a safe condition, including the storage, control, and protection of the spent fuel in the pool and on the ISFSI until the ISFSI is decommissioned.
- Establish and implement governance processes to ensure compliance with the Licenses and NRC regulations, and retain decision-making authority for any issues related to compliance with the Licenses (including whether to seek amendments thereto) and NRC regulations.
- Oversee the development and submittal of periodic licensing and regulatory actions (e.g., exemption requests and license amendment requests) required to support ongoing decommissioning activities.
- Assume authority and responsibility for modifications to the emergency preparedness and security plans and responses to NRC orders regarding security.
- Assume authority and responsibility for the functions necessary to fulfill the quality assurance ("QA") requirements of the Pilgrim Technical Specifications and as specified in the Pilgrim Quality Assurance Program Manual ("QAPM") in place at the time of license transfer.
- Ensure the site safety procedures are consistent with Holtec's corporate safety plan.
- Ensure legitimate expenditures from, and prudent investment management of, the Pilgrim Decommissioning Trust Fund.
- Serve as the interface with Holtec's counter-parties, government organizations, and other stakeholders.
- Provide oversight of CDI, including oversight of schedule and cost control, quality assurance, regulatory compliance, safety, security and human resource management pursuant to the Decommissioning General Contractor Agreement.
- Oversee the development of tools, fixtures, and robots to improve the duration and as low as reasonably achievable ("ALARA") goals of the decommissioning operations.

HDI will ensure that the decommissioning activities are maintained consistent with the essential elements of the Holtec project management approach, which has been honed through successful implementation in hundreds of Holtec's safety-significant projects.



The planned HDI senior management project organization is depicted in Figure A-1. Table A-1 provides the roles and responsibilities of the HDI Senior Management personnel.

<b>Table A-1</b> <b>Roles and Responsibilities of HDI Senior Management</b>		
<b>Position</b>	<b>Role</b>	<b>Responsibilities</b>
President and CNO	Oversee the safety, operation, and decommissioning of the nuclear sites maintained by HDI	<ol style="list-style-type: none"> <li>1. Establish and maintain a strong Nuclear Safety Culture</li> <li>2. Provide management direction, oversight and support to the site organization</li> <li>3. Report routinely to the Executive Board</li> </ol>
Senior Vice President and Chief Operating Officer	Provide strategic direction and support to the HDI organization and to the senior leadership of the nuclear sites maintained by HDI. Provide oversight of the decommissioning activities performed by CDI.	<ol style="list-style-type: none"> <li>1. Support the efforts of the CNO in building a strong Nuclear Safety Culture</li> <li>2. Assure HDI provides direction as appropriate and oversight in the key sectors of fuel management and decommissioning, including security and emergency preparedness</li> </ol>
Vice President for Pilgrim Site	Provide day-to-day onsite leadership and direction to the Holtec Pilgrim site to assure the safe, decommissioning maintenance and regulatory compliance of the site	<ol style="list-style-type: none"> <li>1. Assure compliance with the licenses including the Technical Specifications, dry storage system Certificate of Compliance, other regulatory requirements, and other regulatory commitments</li> <li>2. Maintain the site's strong Nuclear Safety Culture</li> <li>3. Ensure expenditures from the Pilgrim Decommissioning Trust Fund are legitimate</li> <li>4. Interface with the Site Decommissioning General Manager to assure decommissioning activities have the appropriate resources.</li> </ol>
Vice President Licensing	Provide licensing oversight for the decommissioning nuclear stations maintained by HDI	<ol style="list-style-type: none"> <li>1. Oversee and guide the development and submission of licensing and regulatory actions</li> <li>2. Conduct routine assessments of the licensing activities at each of the decommissioning nuclear</li> </ol>

<b>Table A-1</b> <b>Roles and Responsibilities of HDI Senior Management</b>		
<b>Position</b>	<b>Role</b>	<b>Responsibilities</b>
		stations maintained by HDI 3. Support the interface between the site and nuclear regulators while also taking a lead role on generic issues in decommissioning
Vice President Treasurer & NDT Management	Provide support and guidance for the prudent investment of decommissioning trust funds and assurance that funds are used for decommissioning purposes	1. Establish investment policy and guidelines 2. Review investment performance 3. Assure that decommissioning expenditures are reviewed for appropriateness and reflect decommissioning activities 4. In conjunction with the VP Technical Support, evaluate the sites performance to the decommissioning cost and schedule
Vice President Quality Assurance and Nuclear Oversight	Provide quality assurance oversight for the decommissioning nuclear stations maintained by HDI	1. Maintain nuclear sites' Quality programs in alignment with the HDI QA infrastructure 2. Provide routine oversight evaluations of the quality assurance function at the decommissioning nuclear stations maintained by HDI 3. Provide quality assurance oversight for the movement of fuel and the transportation of radioactive waste
Vice President Technical Support	Provide technical support in the areas of health and safety, the environment, radiation protection, and decommissioning improvements to each of the decommissioning nuclear stations maintained by HDI	1. Perform routine assessments of the health and safety, environment, and radiation protection areas 2. Develop improved tools, fixtures, robotics, and processes to safely reduce the decommissioning duration and the ALARA goals for decommissioning 3. In conjunction with the VP Treasury, evaluate the sites

<p style="text-align: center;"><b>Table A-1</b></p> <p style="text-align: center;"><b>Roles and Responsibilities of HDI Senior Management</b></p>		
<b>Position</b>	<b>Role</b>	<b>Responsibilities</b>
		performance to the decommissioning cost and schedule

Resumes for the HDI positions described in Table A-1 are included in Attachment C of the Application.

### **C. Comprehensive Decommissioning International**

CDI is a company jointly owned by Holtec's subsidiary, HDI, and SNC-Lavalin Group's subsidiary, Kentz USA Inc. CDI is majority owned by Holtec. CDI was formed with the strategic goal of creating an organization with a deep pool of decommissioning knowledge and experience to perform decommissioning of nuclear power plants. Under HDI's direct oversight and control, CDI will perform the day-to-day activities at the site, including decommissioning the plant, pursuant to a Decommissioning General Contractor Agreement between HDI and CDI. As discussed earlier, HDI is managed by Holtec senior staff to provide the requisite managerial capabilities and decision-making authority within the licensed organization, while CDI will be staffed with a combination of Holtec and SNC-Lavalin personnel who have considerable nuclear experience, including experience in spent fuel handling and decommissioning, and enhanced by the addition of incumbents from the nuclear site owner who will transition following license transfer to HDI.

SNC-Lavalin, joint owner of CDI, is one of the leading engineering and construction groups in the world and a major player in the ownership of infrastructure. With a workforce of over 50,000, it operates from offices in over 50 countries. SNC-Lavalin is also the current owner of CANDU reactor technology employed around the world. As the Original Equipment Manufacturer of the CANDU technology, SNC-Lavalin has a deep understanding of nuclear reactor technology and lifecycle. Following the acquisition of Atkins in July 2017, the nuclear business unit has further established itself through the incorporation of complementary nuclear capabilities as a project management organization in the decommissioning and waste management fields.

Atkins, a wholly-owned subsidiary of SNC-Lavalin, is the U.K.'s largest engineering and design consultancy and one of the world's largest design firms. Atkins has been involved in nuclear clean up and decommissioning activities since the late 1980s, working with Sellafield Ltd (formerly BNFL), Magnox and UKAEA. Atkins acquired Nuclear Safety Associates in 2014, and in 2016, it acquired EnergySolutions' Projects, Products and Technology ("PP&T") division, bringing significant U.S. decommissioning expertise in both the commercial and government markets. Thus, its expertise includes the management team that led the baseline planning, license transfer, and project delivery through fuel transfer and reactor segmentation for the decommissioning of the Zion Nuclear Generating Station and managed the fleet of 22 Magnox reactors through operation and into decommissioning in the U.K. In addition, BNFL Inc., which is now owned by Atkins through its acquisition of EnergySolutions' PP&T, had a significant role in the decommissioning of Big Rock Point, including the removal of the large components and reactor vessel.

CDI personnel will include Atkins personnel who have decommissioning expertise and experience. Key CDI personnel planned to assume roles with regulatory significance, including personnel from Atkins, are shown on Figure A-1. Resumes for the CDI personnel depicted in Figure A-1 are included in Attachment C to the Application.

CDI will establish a site decommissioning organization. CDI plans to employ the ENOI Pilgrim Decommissioning Organization site personnel remaining at the site at the time of the transaction closing, with the exception of one incumbent senior manager, who will become an HDI employee as the Site Vice President in charge of the site-based organization.

Under HDI's direction, CDI's principal mission will be to maintain and decommission Pilgrim in full compliance with the QA and safety programs adopted for the plant. CDI will be responsible, under the direct oversight and control of HDI for the plant's safety, regulatory compliance, security, ALARA, and environmental protection requirements. CDI will be subject to continuous oversight by HDI for regulatory and procedural compliance, as well as expenditure control.

CDI operates as an autonomous business entity reporting to a board consisting of executives from SNC-Lavalin and Holtec. The activities of CDI are managed by its executive team led by its CEO, Mark Morant, who will report directly to the CDI Management Board. CDI is headquartered at the KPS Technology Campus in Camden, NJ.

The CDI organization provides an experienced nuclear management team that will ensure compliance with the requirements of the facility Licenses and NRC regulations. CDI employs a management approach that will ensure efficient and effective decontamination and decommissioning planning, preparation and execution; a safety-conscious work environment; day-to-day industrial safety, radiological protection, radioactive waste handling and management rigor; effective corrective action program implementation; performance reporting, monitoring and metrics; personnel performance and financial controls.

CDI has personnel with extensive in-depth experience in decommissioning a wide variety of nuclear power plants, research reactors, and other facilities in technical areas including ALARA, nuclear security, waste management, dismantlement, project management, regulatory compliance and environmental protection. CDI staffing will include the key leadership positions shown on the organization chart in Figure A-1.

In addition to employees transferred from Holtec and SNC-Lavalin, CDI staffing will include ENOI Pilgrim Decommissioning Organization incumbent staff who, at license transfer, will be integrated into the CDI decommissioning organization in a manner consistent with their expertise and previous positions as part of ENOI Pilgrim Decommissioning Organization. CDI's team of experts along with incumbent personnel retained from the plant will form a seamless organization operating under a common set of processes and procedures.

The integrated site decommissioning organization will provide:

- A single CDI site Decommissioning General Manager accountable to HDI for overall management, leadership, performance, nuclear safety, QA, and employee safety.
- Several key managers with responsibilities for radiological safety, industrial health and safety, project administration and financial services, training, labor relations, fuel storage, regulatory affairs, quality assurance, licensing, environmental, decontamination and decommissioning, engineering, operations, waste operations, and project controls.

This organization provides an experienced nuclear management team with control over activities to maintain the site within the requirements of the facility Licenses and perform decommissioning operations under HDI's direct oversight and control.

- Implementation of industry high standards, best practices, effective programs and processes, and management controls.
- Effective and integrated oversight and technical support functions.

CDI will perform the day-to-day activities at the site to maintain compliance with the Licenses and NRC regulations, subject to HDI's direct oversight and control as the licensed operator. HDI plans to adopt the current NRC-approved Pilgrim programs, processes and procedures that will be followed by HDI and CDI. Revisions to the programs, processes, and procedures to reflect evolving decommissioning site status and decreasing site risks will similarly be performed under the appropriate NRC regulations and change processes.

Upon the license transfer, HDI also plans to adopt the existing Pilgrim NRC-approved site physical security and cyber security plans, which will be followed by HDI and CDI. As site conditions evolve, and site risks are reduced, the security plan will be modified by HDI using the appropriate NRC regulatory change processes, including 10 CFR 50.54(p).

Key CDI personnel are shown on Figure A-1. The CDI team is led by a Decommissioning General Manager who reports to the HDI Site Vice President. Key personnel reporting to the Decommissioning General Manager are:

- Decommissioning Deputy General Manager
- Regulatory Affairs Manager
- Spent Fuel Manager
- Radiation Protection Manager
- Waste Manager
- Decommissioning Project Manager
- Project Controls Manager

Figure A-1 also depicts the planned integration into the CDI site organization of the existing ENOI Pilgrim Decommissioning Organization site personnel remaining at the site at the time of the transaction closing. This includes the Plant Operations, Emergency Planning and Security organizations in place at the time of transaction closing and license transfer. Attachment C to the Application also includes resumes for the key CDI management team members with responsibilities of regulatory significance (as shown in Figure A-1).

#### **D. Transfer of ENGC Assets, Knowledge, and Incumbent Staff**

Prior to transaction closing, Entergy and the Holtec-led team are developing and are implementing a transition plan to facilitate a smooth transfer of licensed and decommissioning responsibilities at Pilgrim. Prior to the license transfer, HDI management, along with HDI and CDI department leads, will verify completion of the transition plan. Holtec and its affiliates have been actively engaged with Entergy in decommissioning planning to ensure that upon license transfer, HDI and CDI can successfully maintain compliance with the facility Licenses and NRC regulations and promptly begin executing the DECON strategy.

HDI plans to hire a current Pilgrim incumbent senior as the Pilgrim Site Vice President for decommissioning. In addition, incumbent ENOI Pilgrim Decommissioning Organization personnel at the time of license transfer who accept offers of employment will be integrated into the CDI site organization. These personnel will continue to be located at Pilgrim with clear and well-defined roles and responsibilities based largely on their pre-transfer roles and responsibilities. Incumbent staffing levels will be based on the permanent shutdown and defueled status of the station immediately prior to the license transfer.

Staffing levels at the time of transfer will be fully compliant with the requirements of the facility Licenses and NRC regulations. HDI will ensure that positions filled by incumbent employees that are vacated due to attrition are backfilled with qualified personnel, subject to a determination of the need to fill the position. The need for these staff positions required by the facility Licenses will reduce over time as fuel cools, fuel is moved to the ISFSI, and the facility Licenses are amended. The attrition strategy includes filling vacant positions with other qualified employees, hiring from the community of retired Pilgrim employees, assigning qualified personnel from the HDI and CDI parent companies, and seeking qualified personnel from industry staff augmentation firms. In all cases, the individuals will be qualified to Pilgrim's programs and procedures, as applicable.

Holtec Pilgrim will maintain the assets that will be needed to maintain Pilgrim and the site in accordance with NRC requirements and the facility Licenses. These assets will include, in addition to the structures and equipment, the necessary books, records, safety and maintenance manuals, and engineering construction documents.

Applicable ENOI policies, programs, procedures, and work instructions applicable to Pilgrim as of the transfer will be adopted in their current state, with minimal or no revisions or substitutions, and HDI and CDI will continue to work in accordance with those documents following the post-license transfer. The existing Pilgrim programs and procedures at the time of transfer, including the emergency plan, security plans, fire protection program, radiological protection, certified fuel handler training, and QA program will also be implemented post-license transfer. Any subsequent changes to these procedures will be determined by HDI and made in accordance with NRC regulations, including 10 CFR 50.59, 50.54(a), 50.54(p), 50.54(q), 50.48(f), and 50.71(e).

## **E. Strategic Partner Experience and Expertise**

As previously discussed, HDI will leverage the experience and expertise of the Holtec and SNC-Lavalin teams. The CDI joint owners have substantial expertise that will support the safe, efficient, and compliant decommissioning of Pilgrim.

In addition to the CDI owners and their affiliates, CDI (pursuant to the Decommissioning General Contractor Agreement) will subcontract with industry vendors who have consistently demonstrated expertise in dismantlement and decommissioning in the nuclear field. Subcontractors will be selected by the HDI and CDI team using industry vendor evaluation and selection vetting processes. Among the key criteria used in subcontractor evaluation and vetting processes are:

- Recent experience (responsiveness, contractual probity, with the vendor's performance in other relevant projects with Holtec, SNC-Lavalin and their subsidiaries)



- Technical capability to render the tasks specified in the requests for proposals (“RFP”)
- Safety record
- Strength of QA infrastructure (For Safety-Significant RFPs only)
- Prior record of adherence to quality
- Prior record of schedule compliance
- Availability of qualified resource (personnel, machinery, etc.)
- History of adverse NRC notices such as Notice of Violation, Confirmatory Action Letter, etc.
- Outcome of Holtec QA audit (if applicable)
- Input from recent peer audits such as those by Nuclear Procurement Issues Committee (NUPIC), if available.
- Record of 10 CFR Part 21 filing on the subcontractor’s goods and services
- Quality of subcontractor’s Corporate Governance
- Reputation and caliber of sub-contractor’s executive team
- Pricing
- Financial Health

HDI and CDI emphasize vendor selection as a significant activity that has a direct consequence on mitigating project risk.

## **F. Conclusion**

HDI provides a management team that is experienced and qualified, and an organization that is well-designed to oversee and control the decommissioning of the site in accordance with NRC requirements. The necessary management processes and controls will be applied, with clear lines of authority and communication. In addition, HDI is supported by the experience and expertise of the CDI team and both HDI and CDI’s corporate parents and affiliates—and will ensure the safe, efficient, proper, and expeditious decommissioning of Pilgrim. The HDI management team’s knowledge and experience, further supported by the specific skills, qualifications and knowledge of the CDI organization, will allow HDI to achieve synergies and management efficiencies at Pilgrim, as well as expedite the expected date of site release (with the exception of the ISFSI) for unrestricted use. For these reasons, HDI has the necessary technical qualifications to safely perform the decontamination and decommissioning of Pilgrim.

## **6. FINANCIAL QUALIFICATIONS**

### **A. Holtec Pilgrim (ENG C)**

The sale of ENG C to Holtec will be structured such that, on the closing date, 100% of the equity interests in ENG C will transfer to Holtec, and ENG C will be renamed Holtec Pilgrim. The decommissioning trust will continue to be owned by Holtec Pilgrim. Holtec Pilgrim will continue to maintain the NDT, segregated from its other assets and outside its administrative control, in accordance with 10 CFR 50.75(e)(1).

Holtec Pilgrim will be responsible for funding the costs of decommissioning, spent fuel management and site restoration. Holtec Pilgrim will be financially qualified to fund HDI’s

possession, maintenance, and decommissioning of Pilgrim, including the ISFSI. Because HDI will not be authorized under the facility License to operate or load fuel in the reactor pursuant to 10 CFR 50.82(a)(2), HDI will not conduct any of the operations contemplated by the financial qualification provisions of 10 CFR 50.33(f)(2). Rather, all of its licensed activities will involve possession of radioactive material in connection with maintaining the safe condition of the plant, decommissioning the Pilgrim site (including the ISFSI), and maintaining the ISFSI until it can be decommissioned. Thus, the existing decommissioning trust funds provide the appropriate basis for the financial qualifications of Holtec Pilgrim.

The EPSA requires, as a condition to closing, that the after-tax market value of the fund assets held in the NDT (including any shortfall payment by Entergy to the NDT) must be within \$50 million of a target value of \$1,080,139,000, which is subject to both upward and downward adjustment. Absent a downward adjustment, the fund value at closing will be at least \$1,030,000,000. The value can be adjusted downward below this number if Entergy has satisfactorily completed, with authorization from Holtec, certain decommissioning work that was expected (as of the EPSA's signing) to be performed by HDI after closing. Entergy's completion of such work would eliminate the need for HDI to perform the work after closing and therefore any downward adjustment in the fund value below \$1,030,000,000 will result in a corresponding reduction in HDI's costs. Accordingly, the EPSA's target value adjustment mechanism will not impact Holtec Pilgrim's or HDI's financial qualifications. For simplicity, this Application and financial analyses discussed herein assume a closing fund value of \$1,030,000,000.

HDI has analyzed the expected costs of decommissioning, including the projected annual cash flows, based on a site-specific decommissioning cost estimate. This cash flow analysis, which is included as Attachment D to this Application, demonstrates that the fund value at closing will be sufficient to pay for all radiological decommissioning costs, spent fuel management costs, and site restoration costs through the expected license termination date.

The financial assurance required by 10 CFR 50.75, 10 CFR 50.82(a)(8)(vi), and 10 CFR 72.30(b)&(c) for decommissioning the facility will be provided by Holtec Pilgrim using the prepayment method. The HDI plan is to fund spent fuel management as required by 10 CFR 50.54(bb) following permanent cessation of operations using the NDT, pursuant to the NRC's approval of an exemption from 10 CFR 50.82(a)(8)(i)(A), which HDI is submitting as part of this Application. Based upon its ability to fund decommissioning and spent fuel management from the NDT, Holtec Pilgrim will be financially qualified to remain the licensed owner. HDI will be financially qualified, because under the terms of its operating agreement, Holtec Pilgrim will be required to pay for HDI's costs of operation relating to Pilgrim, including decommissioning and spent fuel management costs.

HDI has prepared Attachment D to the Application, "Schedule & Financial Information for Decommissioning," which provides financial projections for the duration of the Pilgrim decommissioning project and shows that the amount of the decommissioning trust funds in the Pilgrim NDT required at the time of transfer will be adequate to fund the costs of decommissioning Pilgrim, spent fuel management, and site restoration including the eventual costs for decommissioning the ISFSI. The right to draw on the source of funds described herein and the *pro forma* projected costs for the planned decommissioning period set forth in Attachment D to the Application provide the requisite financial information for this license transfer request consistent with 10 CFR 50.33(f)(2).

The annualized expense analysis in Attachment D to the Application shows that the assumed minimum amount of the NDT at closing (\$1,030,139,000) with a credit for projected earnings

assumed at a 2 percent real rate of return is sufficient to fund the entire estimated cost of decommissioning, spent fuel management, and site restoration. The annualized cash flows are conservative in that they do not take credit for any proceeds Holtec Pilgrim expects to recover from the U.S. Department of Energy (DOE) through litigation or settlement of its claims for the spent fuel management costs it will incur as a result of the DOE's breach of its obligations to dispose of Pilgrim's spent nuclear fuel. Thus, the availability to Holtec Pilgrim of the assets in the Pilgrim NDT satisfies the "prepayment" method of providing decommissioning funding assurance pursuant to 10 CFR 50.75(e)(1)(i), provides funding assurance for spent fuel management by satisfying 10 CFR 50.54(bb), and satisfies the "prepayment" method of providing ISFSI decommissioning funding assurance pursuant to 10 CFR 72.30.

Holtec Pilgrim's cost estimates are based upon a detailed, site-specific cost estimate that provides costs for each projected work activity based upon a Level 4 Work Breakdown Structure. These estimates provide a conservative and realistic estimate of expected costs. Additionally, Holtec Pilgrim's breakdown of work and cost estimates incorporate subcontractor estimates for reactor segmentation and waste removal. For large contracts, the selected contractors, including affiliates, will be required to post performance bonds (or insurance, where appropriate) issued by Treasury-rated surety companies to guarantee performance of work scope to ensure the work is performed at the specified costs.

Because HDI will rely on the NDT to provide funding for spent fuel management and site restoration costs, this Application requests an exemption from 10 CFR 50.82(a)(8)(i)(A) to allow the use of the NDT for spent fuel management, as well as for site restoration costs. The exemption request is provided in Enclosure 2 to the transmittal letter. As discussed in Enclosure 2, the Pilgrim NDT contains funds in excess of the amounts needed to complete radiological decommissioning, and preventing Pilgrim Holtec from using these funds for spent fuel management is not necessary to achieve the purposes of 10 CFR 50.82(a)(8)(i)(A) and would create an undue hardship (indeed, prevent the transaction from occurring, losing all the benefits therefrom). Allowing the NDT to be used for spent fuel management and site restoration will have no impact on Holtec Pilgrim's ability to decommission and release all portions of the site other than the ISFSI, as demonstrated by the cash flow analysis in Attachment D to the Application.

## **B. Holtec Decommissioning International**

Under the terms of a Decommissioning Operator Services Agreement with HDI, Holtec Pilgrim will be obligated to fund HDI's "Price for Services." "Price for Services" is defined in Section 9 of the Decommissioning Operator Services Agreement to include all of HDI's costs arising out of or associated with HDI's operation and maintenance of Pilgrim in accordance with the NRC facility Licenses, which includes, without limitation, HDI's decommissioning costs and spent fuel management costs. A copy of the form of the Decommissioning Operator Services Agreement is provided as Attachment E to the Application. HDI, therefore, will be financially qualified based upon the financial qualifications of Holtec Pilgrim.

## **7. RESTRICTED DATA AND CLASSIFIED NATIONAL SECURITY INFORMATION**

The proposed transfer of ownership and operating authority does not involve any Restricted Data or possession of other Classified National Security Information, and it is not expected that possession of any such information will become involved in the licensed activities of Holtec

Pilgrim and HDI. However, in the event that such information does become involved, and in accordance with 10 CFR 50.37, "Agreement Limiting Access to Classified Information," Holtec Pilgrim and HDI agree that they will appropriately safeguard such information and will not permit any individual to have access to such information until the individual has been appropriately approved for access under 10 CFR Part 25, "Access Authorization" and/or 10 CFR Part 95, "Facility Security Clearance and Safeguarding of National Security Information and Restricted Data."

## **8. OTHER NUCLEAR REGULATORY ISSUES**

### **A. Price-Anderson Indemnity and Nuclear Insurance**

Holtec Pilgrim and HDI request that the NRC amend the Price-Anderson indemnity agreement for Pilgrim to: (1) change the name of ENGC to Holtec Pilgrim, LLC; (2) add Holtec Decommissioning International, LLC as a licensee for the facility; (3) name Holtec Pilgrim and HDI as indemnified entities upon the consummation of the proposed transfers of the Licenses; and (4) delete references to ENOI. Holtec Pilgrim will obtain onsite property damage insurance coverage and offsite nuclear liability coverage as required by the NRC, and prior to the license transfer, will provide proof that this coverage will be in place on the effective date of the transfer. This is a regulatory commitment.

### **B. Standard Contract For Disposal Of Spent Nuclear Fuel**

Upon closing, Holtec Pilgrim will continue to hold title to the spent nuclear fuel at Pilgrim and will continue to maintain the DOE Standard Contract, including all rights and obligations under that contract. This Standard Contract, No. DE-CR01-83NE44368, dated June 17, 1983, was entered into by the previous owner Boston Edison Company and the United States of America, represented by the DOE, to govern the disposal of the spent nuclear fuel generated at Pilgrim. Holtec Pilgrim expects to recover from the DOE through litigation or settlement of its claims for the spent fuel management costs it will incur as a result of the DOE's breach of its obligations to dispose of Pilgrim's spent nuclear fuel. Holtec Pilgrim will have exclusive responsibility under the Licenses for the possession, maintenance, and decommissioning of Pilgrim, which includes the responsibility to the NRC for spent fuel management and the maintenance and security of the ISFSI.

### **C. Exclusion Area Control**

Upon approval of the transfer, HDI will have control over the Pilgrim exclusion area and will have authority to determine all activities within the exclusion area to the extent required by 10 CFR Part 100.

### **D. Quality Assurance Program**

Upon closing of the transaction and transfer of the Licenses, HDI will assume authority and responsibility for the functions necessary to fulfill the QA requirements of the Pilgrim Technical Specifications and as specified in the Pilgrim Quality Assurance Program Manual (QAPM) in place at the time of license transfer. The Pilgrim QAPM will be added as an Appendix to the Holtec QA program and specified as applicable to the Pilgrim site. As the site decommissioning status evolves, HDI will use NRC-approved change processes, including 10 CFR 50.54(a), to revise the QA program to address the site changes and the activities being performed.

## **E. No Significant Hazards Consideration**

The changes proposed for the License are shown in Attachment A to this Application. The changes conform the License reflect the proposed transfer of authority and responsibility for licensed activities under the Licenses to Holtec Pilgrim and HDI. Consistent with the generic determination in 10 CFR 2.1315(a), the proposed conforming license amendment involves no significant hazards consideration, because it does no more than conform the License to reflect the proposed transfer action.

The proposed license amendment does not involve any change in the design or licensing basis, plant configuration, status of Pilgrim, or the requirements of the Licenses.

Therefore, the proposed action does not: (1) involve an increase in the probability or consequences of an accident previously analyzed; (2) create the possibility of a new or different kind of accident from the accidents previously analyzed; or (3) involve a significant reduction in a margin of safety.

## **9. ENVIRONMENTAL REVIEW**

The requested consent to transfer licensed owner and operator authority for Pilgrim is exempt from environmental review because it falls within the categorical exclusion contained in 10 CFR 51.22(c)(21) for which neither an Environmental Assessment nor an Environmental Impact Statement is required. Moreover, the proposed transfer does not directly affect the actual maintenance or decommissioning of the shutdown facility in any substantive way, other than changing the timeframe for conducting certain activities. The proposed transfer does not involve an increase in the amounts, or a change in the types, of any radiological effluents that may be allowed to be released off-site and involves no increase in the amounts or change in the types of non-radiological effluents that may be released off-site. Further, there is no increase in the individual or cumulative occupational radiation exposure, and the proposed direct transfer has no environmental impact. Therefore, pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the proposed change.

## **10. EFFECTIVE DATE AND OTHER REQUIRED REGULATORY APPROVALS**

Subject to the satisfaction of all closing conditions, including receipt of all required regulatory approvals, the Applicants wish to close this transaction by the end of 2019. Accordingly, the Applicants request that the NRC review this application on a schedule that will permit issuance of an order consenting to the transfer and approving a conforming license amendment as promptly as possible and in any event by May 31, 2019. The Applicants request that the consent be immediately effective upon issuance and authorize the transfer to occur up to one year after issuance or such later date as the NRC may authorize. ENOI will notify the NRC staff at least two business days prior to the expected closing date for the transaction.

Certain regulatory filings and approvals beyond that of the NRC must be made and obtained prior to the closing of the proposed transaction, including approval from the Federal Energy Regulatory Commission for the transfer of control of the Pilgrim switchyard. Approval for the proposed transaction is not required from the Commonwealth of Massachusetts. The Applicants

will keep the NRC informed of any significant changes in the status of other required approvals or developments that could impact the anticipated closing date.

## **11. CONCLUSION**

The proposed license transfer will be consistent with the requirements of the Act, NRC regulations, and regulatory guidance. The transfer of the Licenses will not be inimical to the common defense and security and does not involve foreign ownership, control, or domination.

Therefore, the Applicants respectfully request that the NRC issue an Order (1) consenting to the proposed license transfer related to Renewed Facility Operating License No. DPR-35 and the ISFSI general license, and (2) approving the conforming license amendment.

**ATTACHMENT A**

**RENEWED FACILITY OPERATING LICENSE (CHANGES)**

**PILGRIM NUCLEAR POWER STATION  
NRC LICENSE NO. DPR-35  
DOCKET NO. 50-293**

**(8 PAGES)**



Holtec Pilgrim, LLC and Holtec  
Decommissioning International

~~ENTERGY NUCLEAR GENERATION COMPANY \*~~

~~And ENTERGY NUCLEAR OPERATIONS, INC.~~

(PILGRIM NUCLEAR POWER STATION)

DOCKET NO. 50-293

RENEWED FACILITY OPERATING LICENSE

Renewed License No. DPR-35

The Nuclear Regulatory Commission (the Commission) has found that:

- a. Except as stated in condition 5, construction of the Pilgrim Nuclear Power Station (the facility) has been substantially completed in conformity with the application, as amended, the Provisional Construction Permit No. CPPR-49, the provisions of the Atomic Energy Act of 1954, as amended (the Act), and the rules and regulations of the Commission as set forth in Title 10, Chapter 1, CFR; and
- b. The facility will operate in conformity with the application, as amended, the provisions of the Act, and the rules and regulations of the Commission; and
- c. There is reasonable assurance (i) that the activities authorized by the renewed operating license can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the rules and regulations of the Commission; and
- d. ~~The Entergy Nuclear Generation Company (Entergy Nuclear)~~ is financially qualified and ~~Entergy Nuclear Operations, Inc. (ENO)~~ is technically and financially qualified to engage in the activities authorized by this renewed operating license, in accordance with the rules and regulations of the Commission; and
- e. ~~Entergy Nuclear~~ and ~~ENO~~ have satisfied the applicable provisions of 10 CFR Part 140, "Financial Protection Requirements and Indemnity Agreements" of the Commission's regulations; and
- f. The issuance of this renewed operating license will not be inimical to the common defense and security or to the health and safety of the public; and
- g. After weighing the environmental, economic, technical, and other benefits of the facility against environmental costs and considering available alternatives, the issuance of this renewed operating license (subject to the condition for protection of the environment set forth herein) is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements of said regulations have been satisfied; and
- h. Actions have been identified and have been or will be taken with respect to (1) managing the effects of aging during the period of extended operation on the functionality of structures and components that have been identified to require review under

Amendment No. XXX

\* The Nuclear Regulatory Commission approved the transfer of the license from Boston Edison Company to Entergy Nuclear Generation Company on April 29, 1999.

10 CFR 54.21(a)(1); and (2) time-limited aging analyses that have been identified to require review under 10 CFR 54.21(c), such that there is reasonable assurance that the activities authorized by the renewed operating license will continue to be conducted in accordance with the current licensing basis, as defined in 10 CFR 54.3, for the facility, and that any changes made to the facility's current licensing basis in order to comply with 10 CFR 54.29(a) are in accordance with the Act and the Commission's regulations.

Facility Operating License No. DPR-35, dated June 8, 1972, issued to the Boston Edison Company (Boston Edison) is hereby amended in its entirety, pursuant to an Initial Decision dated September 13, 1972, by the Atomic Safety and Licensing Board, to read as follows:

1. This renewed operating license applies to the Pilgrim Nuclear Power Station, a single cycle, forced circulation, boiling water nuclear reactor and associated electric generating equipment (the facility), owned by ~~Entergy Nuclear~~ and operated by ~~ENO~~. The facility is located on the western shore of Cape Cod Bay in the town of Plymouth on the ~~Entergy Nuclear~~ site in Plymouth County, Massachusetts, and is described in the "Final Safety Analysis Report," as supplemented and amended. Holtec Pilgrim HDI
2. Subject to the conditions and requirements incorporated herein, the Commission hereby licenses ~~Entergy Nuclear~~. Holtec Pilgrim
  - A. Pursuant to the Section 104b of the Atomic Energy Act of 1954, as amended (the Act) and 10 CFR Part 50, "Licensing of Production and Utilization Facilities," a) ~~Entergy Nuclear~~ to possess and use and b) ~~ENO~~ to possess, use, and operate the facility as a utilization facility at the designated location on the Pilgrim site;
  - B. HDI ~~ENO~~, pursuant to the Act and 10 CFR 70, to receive, possess, and use at any time special nuclear material as reactor fuel, in accordance with the limitations for storage and amounts required for reactor operation, as described in the Final Safety Analysis Report, as supplemented and amended;
  - C. ~~ENO~~, pursuant to the Act and 10 CFR Parts 30, 40 and 70 to receive, possess and use at any time any byproduct, source or special nuclear material as sealed neutron sources for reactor startup, sealed sources for reactor instrumentation and radiation monitoring equipment calibration, and as fission detectors in amounts as required;
  - D. ~~ENO~~, pursuant to the Act and 10 CFR Parts 30, 40 and 70, to receive, possess and use in amounts as required any byproduct, source or special nuclear material without restriction to chemical or physical form, for sample analysis or instrument calibration or associated with radioactive apparatus or components; and
  - E. ~~ENO~~, pursuant to the Act and 10 CFR Parts 30 and 70, to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of the facility.
3. This renewed operating license shall be deemed to contain and is subject to the conditions specified in the following Commission regulations; 10 CFR Part 20, Section 30.34 of 10 CFR Part 30, Section 40.41 of 10 CFR Part 40, Sections 50.54 and 50.59 of 10 CFR Part 50 and Section 70.32 of 10 CFR Part 70; and is subject to all applicable

provisions of the Act and to the rules, regulations, and orders of the Commission now or hereafter in effect; and is subject to the additional conditions specified below:

A. Maximum Power Level

~~ENO~~ is authorized to operate the facility at steady state power levels not to exceed 2028 megawatts thermal.

B. Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 247, are hereby incorporated in the renewed operating license. The licensee shall operate the facility in accordance with the Technical Specifications.

C. Records

~~ENO~~ shall keep facility operating records in accordance with the requirements of the Technical Specifications.

D. Equalizer Valve Restriction - DELETED

E. Recirculation Loop Inoperable - DELETED

F. Fire Protection

~~ENO~~ shall implement and maintain in effect all provisions of the approved fire protection program as described in the Final Safety Analysis Report for the facility and as approved in the SER dated December 21, 1978 as supplemented subject to the following provision:

~~ENO~~ may make changes to the approved fire protection program without prior approval of the Commission only if those changes would not adversely affect the ability to achieve and maintain safe shutdown in the event of a fire.

G. Physical Protection


The licensee shall fully implement and maintain in effect all provisions of the Commission-approved physical security, training and qualification, and safeguards contingency plans including amendments made pursuant to provisions of the Miscellaneous Amendments and Search Requirements revisions to 10 CFR 73.55 (51 FR 27817 and 27822) and to the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The combined set of plans, which contain Safeguards Information protected under 10 CFR 73.21, is entitled: "Pilgrim Nuclear Power Station Physical Security, Training and Qualification, and Safeguards Contingency Plan, Revision 0" submitted by letter dated October 13, 2004, as supplemented by letter dated May 15, 2006.

The licensee shall fully implement and maintain in effect all provisions of the Commission-approved cyber security plan (CSP), including changes made pursuant to the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The licensee's CSP was approved by License Amendment No. 236, as supplemented by changes approved by: Amendment Nos. 238, 241, 244, and 247.


H. Post-Accident Sampling System. NUREG-0737, Item II.B.3. and  
Containment Atmospheric Monitoring System, NUREG-0737, Item II.F.1(6)

The licensee shall complete the installation of a post-accident sampling system and a containment atmospheric monitoring system as soon as practicable, but no later than June 30, 1985.

I. Additional Conditions

The Additional Conditions contained in Appendix B, as revised through Amendment No. 177, are hereby incorporated into this renewed operating license. ~~ENO~~ shall operate the facility in accordance with the Additional Conditions. 

J. Conditions Related to the Sale and Transfer

-  (1) ~~For purposes of ensuring public health and safety, Entergy Nuclear shall provide decommissioning funding assurance of no less than \$396 million, after payment of any taxes, in the decommissioning trust fund for Pilgrim upon the transfer of the Pilgrim licenses to Entergy Nuclear.~~
- (2) ~~Entergy Nuclear shall maintain the decommissioning trust funds in accordance with the Order, the related Safety Evaluation dated April 29, 1999, and the related application for approval of the transfer.~~
- (3) ~~Entergy Nuclear shall provide a Provisional Trust fund in the amount of \$70 million, after payment of any taxes, in the Provisional Trust for Pilgrim upon the transfer of the Pilgrim licenses to Entergy Nuclear. The Provisional Trust shall be established and maintained in conformance with the representations made in the application for approval of the transfer.~~
- (4) ~~Entergy Nuclear shall have access to a contingency fund of not less than fifty million dollars (\$50m) for payment, if needed, of Pilgrim operating and maintenance expenses, the cost to transition to decommissioning status in the event of a decision to permanently shut down the unit, and decommissioning costs. Entergy Nuclear will take all necessary steps to ensure that access to these funds will remain available until the full amount has been exhausted for the purposes described above. Entergy Nuclear shall inform the Director, Office of Nuclear Regulation, in writing, at such time that it utilizes any of these contingency funds. This provision does not affect the NRC's authority to assure that adequate funds will remain available in the plant's separate decommissioning fund(s), which Entergy Nuclear shall maintain in accordance with NRC regulations. Once the plant has been placed in a safe shutdown condition following a decision to decommission, Entergy Nuclear will use any remainder of the \$50m contingency fund that has not been used to safely operate and maintain the plant to support the safe and prompt decommissioning of the plant, to the extent such funds are needed for safe and prompt decommissioning.~~



- (5) The Decommissioning Trust agreement(s) shall be in a form which is acceptable to the NRC and shall provide, in addition to any other clauses, that:

Holtec Pilgrim,  
Holtec International

- a) Investments in the securities or other obligations of ~~Entergy Nuclear, Entergy Corporation~~, their affiliates, subsidiaries or associates, or their successors or assigns shall be prohibited. In addition, except for investments tied to market indexes or other non-nuclear sector mutual funds, investments in any entity owning one or more nuclear power plants is prohibited.
- b) The Director, Office of Nuclear Reactor Regulation, shall be given 30 days prior written notice of any material amendment to the trust agreement(s).

K. Mitigation Strategy License Condition

Develop and maintain strategies for addressing large fires and explosions and that include the following key areas:

- (a) Fire fighting response strategy with the following elements:
1. Pre-defined coordinated fire response strategy and guidance
  2. Assessment of mutual aid fire fighting assets
  3. Designated staging areas for equipment and materials
  4. Command and control
  5. Training of response personnel
- (b) Operations to mitigate fuel damage considering the following:
1. Protection and use of personnel assets
  2. Communications
  3. Minimizing fire spread
  4. Procedures for implementing integrated fire response strategy
  5. Identification of readily-available pre-staged equipment
  6. Training on integrated fire response strategy
  7. Spent fuel pool mitigation measures
- (c) Actions to minimize release to include consideration of:
1. Water spray scrubbing
  2. Dose to onsite responders

- L. The licensee shall implement and maintain all Actions required by Attachment 2 to NRC Order EA-06-137, issued June 20, 2006, except the last action that requires incorporation of the strategies into the site security plan, contingency plan, emergency plan and/or guard training and qualification plan, as appropriate.

- M. Upon Implementation of Amendment No. 231 adopting TSTF-448, Revision 3, the determination of control room envelope (CRE) unfiltered air inleakage required by SR 4.7.6.2.e in accordance with TS 5.5.8.c.(i), the assessment of CRE habitability as required by Specification 5.5.8.c.(ii), and the measurement

APPENDIX A  
TO  
FACILITY OPERATING LICENSE DPR-35  
TECHNICAL SPECIFICATION AND BASES  
FOR  
PILGRIM NUCLEAR POWER STATION  
PLYMOUTH, MASSACHUSETTS  
~~ENTERGY NUCLEAR and ENTERGY NUCLEAR OPERATIONS, INC.~~

Holtec Pilgrim, LLC and Holtec Decommissioning International

Holtec Pilgrim

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#### 4.0 DESIGN FEATURES

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##### 4.1 Site Location

Pilgrim Nuclear Power Station is located on the western shore of Cape Cod Bay in the Town of Plymouth, Plymouth County, Massachusetts and contains approximately 517 acres owned by ~~Entergy Nuclear~~ as shown on FSAR Figures 2.2-1 and 2.2-2. The site boundary is posted and a perimeter security fence provides a distinct security boundary for the protected area of the station.

The reactor (center line) is located approximately 1800 feet from the nearest property boundary.

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##### 4.2 Deleted

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##### 4.3 Fuel Storage

###### 4.3.1 Criticality

4.3.1.1 The spent fuel storage racks are designed and shall be maintained with:

- a. Fuel assemblies having a maximum k-infinity of 1.32 for standard core geometry, calculated at the burnup of maximum bundle reactivity, and an average U-235 enrichment of 4.6 % averaged over the axial planar zone of highest average enrichment; and
- b.  $K_{eff} \leq 0.95$  if fully flooded with unborated water, which includes an allowance for uncertainties as described in Section 10.3.5 of the FSAR.

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(continued)

Holtec  
Decommissioning  
International

APPENDIX B

ADDITIONAL CONDITIONS

OPERATING LICENSE NO. DPR-35

~~Entergy Nuclear Operations, Inc.~~ shall comply with the following conditions on the schedules noted below:

<u>Amendment Number</u>	<u>Additional Conditions</u>	<u>Implementation Date</u>
177	The licensee is authorized to relocate certain Technical Specifications requirements to licensee-controlled documents. Implementation of this amendment shall include relocation of various sections of the technical specifications to the appropriate documents as described in the licensee's application dated September 19, 1997, and in the staff's safety evaluation attached to this amendment.	The amendment shall be implemented within 30 days from July 31, 1998, except that the licensee shall have until the next scheduled Updated Final Safety Analysis Report (UFSAR) update to incorporate the UFSAR relocations.



**ATTACHMENT B**

**EQUITY PURCHASE AND SALE AGREEMENT (“EPSA”)  
(NON-PROPRIETARY VERSION)  
(WITHOUT EXHIBITS)**

**PILGRIM NUCLEAR POWER STATION  
NRC LICENSE NO. DPR-35  
DOCKET NO. 50-293**

**(117 PAGES)**

**EQUITY PURCHASE AND SALE AGREEMENT**  
**BY AND AMONG**  
**NUCLEAR ASSET MANAGEMENT COMPANY, LLC,**  
**HOLTEC INTERNATIONAL,**  
**ENTERGY NUCLEAR HOLDING COMPANY #1,**  
**and**  
**ENTERGY NUCLEAR GENERATION COMPANY.**

**DATED AS OF JULY 30, 2018**

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## **EQUITY PURCHASE AND SALE AGREEMENT**

THIS EQUITY PURCHASE AND SALE AGREEMENT (this “Agreement”), dated as of July 30, 2018, is made by and among NUCLEAR ASSET MANAGEMENT COMPANY, LLC, a Delaware limited liability company (“Purchaser”), HOLTEC INTERNATIONAL, a Delaware corporation (“Parent”), ENTERGY NUCLEAR HOLDING COMPANY #1, a Delaware corporation (“Seller”), and ENTERGY NUCLEAR GENERATION COMPANY (including the Converted Company in the event that the Conversion is effectuated, “ENGC”), a Massachusetts corporation. Purchaser, Parent, Seller and ENG C are each referred to individually as a “Party,” and collectively as the “Parties.” All capitalized terms used in this Agreement shall have the respective meanings ascribed thereto in Section 11.1.

### **RECITALS**

WHEREAS, Seller owns all of the Equity Interests;

WHEREAS, ENG C (together with ENOI) holds the NRC License, and ENG C owns the Pilgrim Nuclear Power Station (the “Pilgrim NPS”) located in Plymouth, Massachusetts, and the Facilities, including the ISFSI; and

WHEREAS, Purchaser desires to purchase the Equity Interests from Seller, and Seller desires to sell the Equity Interests to Purchaser, upon the terms and conditions set forth in this Agreement.

NOW, THEREFORE, in consideration of the mutual representations, warranties, covenants and agreements hereinafter set forth, and intending to be legally bound hereby, the Parties agree as follows:

### **ARTICLE 1**

#### **PURCHASE AND SALE**

Section 1.1 Purchase and Sale. Upon the terms and subject to the satisfaction or waiver of the conditions of this Agreement, Seller agrees to sell to Purchaser, and Purchaser agrees to purchase from Seller, at the Closing, all of Seller’s right, title and interest in the Equity Interests.

Section 1.2 Purchase Price.

(a) The aggregate purchase price for the Equity Interests shall be an amount equal to the difference of (i) one thousand dollars (\$1,000.00), minus (ii) the Net Adjustment Amount (the “Purchase Price”).

(b) Ten (10) Business Days prior to the anticipated Closing Date, Seller shall deliver to Purchaser a written statement (the “Estimated Closing Statement”) of the calculation of (x) the Net Adjustment Amount (“Estimated Net Adjustment Amount”), which statement shall include (i) the estimated Net Liabilities Amount as of the Closing (the “Estimated Closing Net”).

Liabilities Amount”) consistent with the Net Liabilities Adjustment Schedule and (ii) the estimated Qualified Expenses Adjustment Amount (the “Estimated Qualified Expenses Adjustment Amount”) consistent with the Qualified Expenses Adjustment Schedule, and (y) the estimated Pilgrim Target Value (as adjusted pursuant to such definition, the “Estimated Target Value”). Purchaser shall have five (5) Business Days to review the Estimated Closing Statement for the sole purpose of reviewing the components of the Estimated Net Liabilities Amount and the Estimated Qualified Expenses Adjustment Amount (including the classification or allocation of such amounts as a Net Liability or a Qualified Expenses Adjustment Amount set forth therein) contained in the Estimated Net Adjustment Amount and the Estimated Target Value. Seller shall provide supporting documentation reasonably requested in connection with Purchaser’s review. No later than the next Business Day after such five (5) Business Day period, Purchaser shall notify Seller in writing whether it accepts or disputes in good faith the classification or allocation of any component amounts as a Net Liability or a Qualified Expense or the amount of the Estimated Target Value. If Purchaser accepts the Estimated Closing Statement or fails to notify Seller of any dispute with respect thereto as provided in the next sentence, the classification or allocation of such components shall be deemed final and conclusive and binding upon the Parties in all respects and the amount of the Estimated Target Value shall be binding upon the Parties for determining the Pilgrim Target Value for purposes of determining whether the condition to Closing in Section 8.1(g) is satisfied, but subject to Section 1.4. If Purchaser disputes the accuracy of the classification or allocation of any component amounts as a Net Liability or a Qualified Expense or the amount of the Estimated Target Value (which may include a dispute regarding the classification or allocation of amounts adjusting the Pilgrim Target Value pursuant to the definition thereof), Purchaser shall provide written notice to Seller no later than one (1) Business Day after such five (5) Business Day period (the “Allocation Dispute Notice”), setting forth in reasonable detail those items that Purchaser disputes. During the ten (10) Business Day period (or such other period of time agreed to by the Parties in writing) (such period of time, the “Resolution Period”) following delivery of an Allocation Dispute Notice, senior representatives of the Parties (including, if necessary, the Senior Executive of Entergy Wholesale Commodities and the President of Parent) shall negotiate in good faith with a view of resolving their disagreements. During the Resolution Period, each of the Parties shall use commercially reasonable efforts, upon reasonable advance notice and during normal business hours, to cooperate with each other and their respective Representatives in connection with the activities contemplated by this Section 1.2(b).

(c) During the Resolution Period, no Party shall be obligated to consummate the Closing. Upon resolution of the dispute by the Parties, the classification and allocation of the components amounts resolved in writing by the Parties shall be final and conclusive and binding upon all the Parties in all respects.

(d) At the Closing, Purchaser shall pay or cause to be paid to Seller for the purchase of the Equity Interests the amount equal to the difference of (a) one thousand dollars (\$1,000.00), minus (b) unless mutually agreed by the Parties in writing, the Estimated Net Adjustment Amount (the “Estimated Purchase Price”) by wire transfer of immediately available funds to an account or accounts designated in writing by Seller at least two (2) Business Days prior to the Closing; provided, that, if the Estimated Purchase Price is a negative number, at the Closing Seller shall pay Purchaser the Estimated Purchase Price by wire transfer of immediately

available funds to an account or accounts designated in writing by Purchaser at least two (2) Business Days prior to the Closing.

Section 1.3 Tax Treatment of Contemplated Transactions.

(a)

[REDACTED]

(b)

[REDACTED]

(c)

[REDACTED]

(d)

[REDACTED]

(e)

[REDACTED]

Section 1.4 Post-Closing Adjustment.

(a) No later than sixty (60) Business Days following Closing, Purchaser shall deliver to Seller a written statement (the “Closing Statement”) of the actual Net Adjustment Amount as of the Closing (the “Actual Net Adjustment Amount”) and the actual Pilgrim Target Value as of the Closing (as adjusted pursuant to the definition thereof, the “Actual Target Value”), which statement shall include the (i) the actual Net Liabilities Amount as of the Closing consistent with the Net Liabilities Adjustment Schedule, (ii) the actual Qualified Expense Amount as of the Closing consistent with the Qualified Expenses Adjustment Schedule and, in each case, consistent with the classification or allocation of any Qualified Expense or Net Liability determined pursuant to Section 1.2 except where such classification or allocation was the result of manifest error in preparing the Estimated Closing Statement, and (iii) the actual adjustments under the Qualified Expenses Adjustment Schedule, consistent with the classification or allocation of any such adjustments determined pursuant to Section 1.2 except where such classification or allocation was the result of manifest error in preparing the Estimated Closing Statement. No later than twenty (20) Business Days following delivery by Purchaser of the Closing Statement, Seller shall notify Purchaser in writing whether it accepts or disputes the

accuracy of the Closing Statement. If Seller accepts the Closing Statement or fails to notify Purchaser of any dispute with respect thereto, the calculation of the Net Adjustment Amount shall be deemed final and conclusive and binding upon all the Parties in all respects, including for determining the Purchase Price and the payments under Section 1.4(c) or Section 1.4(d) [REDACTED]

[REDACTED]. If Seller disputes the accuracy of the Closing Statement, Seller shall provide written notice to Purchaser no later than ten (10) Business Days following the delivery by Purchaser of the Closing Statement (the “Dispute Notice”), setting forth in reasonable detail those items that Purchaser disputes. During the fifteen (15) Business Day period following delivery of a Dispute Notice, the Parties shall negotiate in good faith with a view of resolving their disagreements. If the Parties fail to resolve their differences over the dispute items within such fifteen (15) Business Day period, then Purchaser and Seller shall forthwith jointly request that a nationally recognized independent public accounting firm, as shall be mutually agreed by Purchaser and Seller (the “Accounting Expert”), be appointed as expert. If, after ten (10) Business Days after the end of such fifteen (15) Business Day period, Purchaser and Seller cannot mutually agree on the selection of the Accounting Expert, either Purchaser or Seller may request that the American Arbitration Association appoint, as Accounting Expert, a senior partner in a nationally recognized independent public accounting firm, who is a certified public accountant, independent of Purchaser or Seller, and who is impartial. The Accounting Expert shall act as an expert and not an arbitrator, and shall have no more than twenty (20) Business Days from the date of referral and no more than ten (10) Business Days from the final submission of information by Seller and Purchaser within which to render its written decision with respect to the disputed items. In resolving any item that remains in dispute, the Accounting Expert may not assign a value to any such item greater than the maximum value or less than the minimum value for each such item claimed by Purchaser or Seller and the Accounting Expert shall not have any right to rule on any classification or allocation of any Qualified Expense, Net Liability or the adjustments to the Pilgrim Target Value in the definition thereof determined pursuant to Section 1.2 except in the case of manifest error in such classification or allocation. The decision of the Accounting Expert shall be final and binding upon the Parties, absent manifest error, for determining the Purchase Price and the payments under Section 1.4(c) or Section 1.4(d) [REDACTED]

[REDACTED]. The fees and expenses of the Accounting Expert shall be allocated to be paid by Purchaser, on the one hand, and Seller, on the other hand, based upon the percentage that the portion of the disputed amount not awarded to each Party bears to the amount actually contested by such Party, as determined by the Accounting Expert.

(b) Each of Purchaser and Seller shall use commercially reasonable efforts, upon reasonable advance notice and during normal business hours, to cooperate with each other and their respective Representatives in connection with this Section 1.4. Each of Purchaser and Seller shall enter into a customary engagement letter with the Accounting Expert.

(c) If the difference of (i) one thousand dollars (\$1,000.00), minus (ii), unless mutually agreed to in writing by the Parties, the Actual Net Adjustment Amount as determined by this Section 1.4 (the “Actual Purchase Price”) is less than the Estimated Purchase Price, the Seller shall promptly pay an amount equal to such shortage to Purchaser. If the Actual Purchase

Price exceeds the Estimated Purchase Price, Purchaser shall promptly pay an amount equal to such excess to Seller. Any payments made by Purchaser or Seller pursuant to this Section 1.4 shall be made by wire transfer of immediately available funds to the accounts designated by Purchaser or Seller, as applicable.

(d) If, upon determination of the Actual Target Value pursuant to Section 1.4(a), the Actual Target Value is less than the Estimated Target Value, and Seller made a Shortfall Payment pursuant to Section 6.8(c), then Purchaser shall promptly pay the difference between the actual Shortfall Payment made by Seller and the amount of Shortfall Payment that would have been necessary to satisfy the condition to Closing in Section 8.1(g) using the Actual Target Value. If the Actual Target Value is greater than the Estimated Target Value, and the Actual Target Value would have caused the condition to Closing in Section 8.1(g) not to be satisfied, then Seller shall promptly pay the amount that would have been necessary to satisfy the Closing condition in Section 8.1(g) using the Actual Target Value.

## ARTICLE 2

### THE CLOSING

Section 2.1 Closing. The closing of the purchase and sale of the Equity Interests (the “Closing”) shall take place (a) at the offices of Skadden, Arps, Slate, Meagher & Flom LLP at 1440 New York Avenue, N.W., Washington, D.C. at 10:00 a.m. (local time) no later than the twentieth (20th) Business Day following the satisfaction or waiver of the conditions set forth in Article 8 (other than the conditions in Section 8.1(g) and Section 8.3(d), conditions that by their nature are to be satisfied at the Closing, but subject to the satisfaction or waiver of such conditions on or before the Closing Date) or (b) at such other place, date and time as the Parties may agree in writing (the day on which the Closing takes place being, the “Closing Date”). For purposes of this Agreement, the effective time of the Closing shall be deemed to be 12:01 a.m. Eastern time on the Closing Date.

Section 2.2 Closing Deliveries by Seller to Purchaser. At the Closing, Seller will deliver, or cause to be delivered, the following to Purchaser:

- (a) An amount equal to the absolute value of the Estimated Purchase Price, if the Estimated Purchase Price is negative;
- (b) All Transaction Documents duly executed by ENG C, Seller or Affiliate of Seller, as applicable;
- (c) Copies of the Required Regulatory Approvals applicable to the Seller Parties;
- (d) Certified resolutions of the board of directors of each of ENG C and Seller authorizing the execution and delivery of this Agreement and the Transaction Documents to be executed and delivered by ENG C and Seller, as applicable, and the consummation of the Contemplated Transactions;

(e) A certificate of good standing (or equivalent document) with respect to ENGC, issued by the Secretary of State of the Commonwealth of Massachusetts, and a certificate of good standing with respect to Seller, issued by the Secretary of State of the State of Delaware, in each case, issued not earlier than twenty (20) days prior to the Closing Date;

(f) Duly executed resignations, effective as of the Closing, of the directors (or, if the Conversion has been effectuated, the managers) and officers of ENGC;

(g) All entity minute books, entity ledgers and registers and entity seals of ENGC (it being agreed and understood that Seller shall be permitted to retain copies thereof);

(h) All entity certificates (if certificates) and a customary Stock Power (or if the Conversion has been effectuated, instrument of assignment and assumption);

(i) The Seller Guarantee duly executed by Entergy Northeast Holding Inc.;

(j) [REDACTED]; and

(k) The documents contemplated by Article 8, to the extent not theretofore delivered and such other agreements, consents, documents, instruments and writings as are reasonably required to be delivered by Seller or its Affiliates at or prior to the Closing Date pursuant to this Agreement or any other Transaction Document or otherwise reasonably required in connection with the consummation of the Contemplated Transactions.

Section 2.3 Closing Deliveries by Purchaser to Seller. At the Closing, the Purchaser Parties will deliver, or cause to be delivered, the following to Seller:

(a) An amount in cash equal to the Estimated Purchase Price, if the Estimated Purchase Price is positive;

(b) All Transaction Documents duly executed by Purchaser and Parent, as applicable;

(c) Copies of the Required Regulatory Approvals applicable to the Purchaser Parties;

(d) Certified resolutions of the appropriate managing or governing body or bodies of each of Purchaser and Parent authorizing the execution and delivery of this Agreement and the Transaction Documents to be executed and delivered by Purchaser and such Parent, as applicable, and the consummation of the Contemplated Transactions;

(e) [REDACTED];

(f) A certificate of good standing with respect to Purchaser, issued by the Secretary of State of the State of Delaware, and a certificate of good standing with respect to Parent, issued by the Secretary of State of the State of Delaware;



(g) [REDACTED];

(h) The payment of any amounts required pursuant to Section 6.21(b); and

(i) The documents contemplated by Article 8, to the extent not theretofore delivered and such other agreements, consents, documents, instruments and writings as are reasonably required to be delivered by Purchaser or its Affiliates at or prior to the Closing Date pursuant to this Agreement or any other Transaction Document or otherwise reasonably required in connection with the consummation of the Contemplated Transactions.

### **ARTICLE 3**

#### **REPRESENTATIONS AND WARRANTIES OF SELLER**

Except as set forth in the Seller Disclosure Schedules, Seller represents and warrants to Purchaser as follows:

Section 3.1 Organization; Qualification. Seller is a corporation duly organized, validly existing and in good standing under the Laws of the State of Delaware and has all requisite corporate power and authority to own, lease and operate its properties and assets and to carry on its business as presently conducted. Seller is duly qualified to do business and is in good standing (with respect to jurisdictions that recognize the concept of good standing) as a foreign entity in each jurisdiction where the ownership, leasing or operation of its assets or properties or conduct of its business requires such qualification, except where any such failure to be so qualified or in good standing would not have, individually or in the aggregate, a Seller Material Adverse Effect.

Section 3.2 Ownership of Equity Interests. Seller has good and valid title to the Equity Interests, and all of the Equity Interests are owned of record and beneficially by Seller and free and clear of all Encumbrances (other than transfer restrictions of general applicability as provided under the Securities Act and other applicable securities Laws). The sale of the Equity Interests to Purchaser in accordance with the terms of this Agreement will effectively transfer to and vest in Purchaser good and valid title to, and record and beneficial ownership of, all of the Equity Interests, free and clear of all Encumbrances (other than transfer restrictions of general applicability as provided under the Securities Act and other applicable securities Laws, and Encumbrances placed thereon by Purchaser or otherwise applicable solely to Purchaser or its assets).

Section 3.3 Authority. Seller has all requisite corporate power and authority, and has taken all corporate action necessary, to execute and deliver this Agreement and each of the Transaction Documents to which Seller is a party, and to perform its obligations under this Agreement and each of the Transaction Documents to which Seller is a party and to consummate the Contemplated Transactions. This Agreement has been, and each of the Transaction Documents will be at the Closing, duly executed and delivered by Seller and, assuming the due authorization, execution and delivery by the other parties hereto and thereto, this Agreement constitutes, and each of the Transaction Documents will constitute at the Closing, a valid, legal and binding obligation of Seller enforceable against it in accordance with its terms, subject to



bankruptcy, insolvency, fraudulent transfer, reorganization, moratorium and similar Laws of general applicability relating to or affecting creditors' rights and to general equity principles (the "Bankruptcy and Equity Exception").

#### Section 3.4 No Violation; Consents and Approvals.

(a) Subject to obtaining or making the applicable Required Regulatory Approvals, neither the execution and delivery by Seller of this Agreement or any of the Transaction Documents to which Seller is a party nor the consummation by Seller of the Contemplated Transactions will (i) conflict with or result in any breach or violation of any provision of Seller's Organizational Documents; (ii) result in a default (or give rise to any right of termination, cancellation or acceleration) under any of the terms, conditions or provisions of any note, bond, mortgage, indenture, material license or material agreement or contract or other material instrument or obligation to which Seller is a party or by which it may be bound, except for such defaults (or rights of termination, cancellation or acceleration) as to which requisite Consents have been, or will be prior to the Closing obtained; or (iii) constitute a violation of any Law or Governmental Order applicable to Seller, except in the case of clause (ii) or (iii) for any such default or violation which would not have, individually or in the aggregate, a Seller Material Adverse Effect.

(b) Subject to the receipt or satisfaction of the applicable Required Regulatory Approvals listed in Section 3.4(b) of the Seller Disclosure Schedules, no Consent or Filing with any Governmental Authority (or any regional transmission organization or independent system operator) is necessary for the execution and delivery by Seller of this Agreement or any of the Transaction Documents to which Seller is party or the consummation by Seller of the Contemplated Transactions, other than (i) such Consents and Filings that the failure to obtain or make would not have, individually or in the aggregate, a Seller Material Adverse Effect and (ii) such Consents and Filings which become applicable to Seller or ENG C as a result of the status of Purchaser (or any of its Affiliates) or as a result of any other facts that specifically relate to the business or activities in which Purchaser (or any of its Affiliates) is or proposes to be engaged (whether before or after the Closing).

Section 3.5 Brokers; Finders. No broker, finder or investment banker is entitled to any brokerage, finder's or other fee or commission in connection with the Contemplated Transactions based upon arrangements made by or on behalf of Seller, ENG C or any Affiliate thereof.

### ARTICLE 4

#### REPRESENTATIONS AND WARRANTIES REGARDING ENG C

Except as set forth in the Seller Disclosure Schedules, each of Seller and ENG C represents and warrants to Purchaser as follows:

Section 4.1 Organization; Qualification. ENG C is a corporation (or, if the Conversion has been effectuated, a limited liability company) duly organized, validly existing and in good standing under the Laws of the Commonwealth of Massachusetts and has all requisite entity

power and authority to own, lease and operate its properties and assets and to carry on its business as presently conducted. Section 4.1 of the Seller Disclosure Schedules sets forth each foreign jurisdiction in which ENG C is licensed or qualified to do business and is in good standing (with respect to jurisdictions that recognize the concept of good standing) as a foreign corporation or other legal entity where the ownership, leasing or operation of its assets or properties or conduct of its business requires such qualification, except where any such failure to be so qualified or in good standing would not have, individually or in the aggregate, an ENG C Material Adverse Effect.

Section 4.2 Authority. ENG C has all requisite entity power and authority, and has taken all entity action necessary, to execute and deliver this Agreement and each of the Transaction Documents to which ENG C is a party, to perform its obligations under this Agreement and each of the Transaction Documents to which ENG C is a party and to consummate the Contemplated Transactions. This Agreement has been, and each of the Transaction Documents will be at the Closing, duly executed and delivered by ENG C and, assuming the due authorization, execution and delivery by the other parties hereto and thereto (other than Seller or any of its Affiliates), this Agreement constitutes, and each of the Transaction Documents will constitute at the Closing, a valid and binding obligation of ENG C enforceable against it in accordance with its terms, subject to the Bankruptcy and Equity Exception.

Section 4.3 No Violation; Consents and Approvals.

(a) Subject to obtaining or making the applicable Required Regulatory Approvals, neither the execution and delivery by ENG C of this Agreement or any of the Transaction Documents to which ENG C is a party nor the consummation by ENG C of the Contemplated Transactions will (i) conflict with or result in any breach or violation of any provision of ENG C's Organizational Documents; (ii) result in a default (or give rise to any right of termination, cancellation or acceleration) under any of the terms, conditions or provisions of any note, bond, mortgage, indenture, material license or material agreement or other material contract or other material instrument or material obligation to which ENG C is a party or by which it may be bound, except for such defaults (or rights of termination, cancellation or acceleration) as to which requisite Consents have been, or will be prior to the Closing obtained, or which would not, individually or in the aggregate, reasonably be expected to be material; or (iii) constitute a violation of any Law or Governmental Order applicable to ENG C in any material respect, except in the case of clause (ii) or (iii) for any such default or violation which would not be, individually or in the aggregate, material to ENG C after the Closing.

(b) Subject to the receipt or satisfaction of the applicable Required Regulatory Approvals, no Consent or Filing with any Governmental Authority (or any regional transmission organization or independent system operator) is necessary for the execution and delivery by ENG C of this Agreement or any of the Transaction Documents to which ENG C is a party or the consummation by ENG C of the Contemplated Transactions, other than (i) such Consents and Filings that the failure to obtain or make would not, individually or in the aggregate, reasonably be expected to be material, and would not materially impair ENG C's ability to perform its material obligations under this Agreement or any of the Transaction Documents to which ENG C is a party and (ii) such Consents and Filings which become applicable to Seller or ENG C as a

result of the status of Purchaser (or any of its Affiliates) or as a result of any other facts that specifically relate to the business or activities in which Purchaser (or any of its Affiliates) is or proposes to be engaged from and after the Closing.

Section 4.4 Equity Interests; No Subsidiaries. All of the Equity Interests are duly and validly authorized, issued, outstanding, fully paid and nonassessable and is owned of record and beneficially by Seller. The Equity Interests are the only outstanding equity interests of ENGC. Except for this Agreement and as set forth on Section 4.4 of the Seller Disclosure Schedules, there are no outstanding or authorized subscriptions, options, rights, warrants, profits interests, phantom stock, profit participation or similar rights, convertible securities or other agreements or calls, demands or commitments of any kind relating to the issuance, sale or transfer of any ownership interest of ENGC. Except for the Decommissioning Trust (including the Qualified Decommissioning Fund), ENGC does not own, control or participate in, directly or indirectly, any interest in any Person.

Section 4.5 Permits; Compliance with Applicable Laws. Except as set forth on Section 4.5 of the Seller Disclosure Schedules ENGC has all Permits material to the conduct of its business as now being conducted or material to the ownership, lease, use or operation of the Facilities as now being conducted. Each of ENGC and, with respect to the Facilities, ENOI is, and has been during the three (3) year period prior to the date hereof and the Closing Date, in compliance with all such Permits and Laws of any Governmental Authority applicable to it, except for violations which would not be, individually or in the aggregate, material to ENGC after the Closing. Except as set forth on Section 4.5 of the Seller Disclosure Schedules, ENGC has not received any written notification which remains unresolved that it is in violation of any such Permits or any Law applicable to the Facilities, except for notifications of violations which would not be, individually or in the aggregate, material to ENGC after the Closing. Except for any conditions imposed, proposed or threatened by any Governmental Authority in connection with or related to the Required Regulatory Approvals or the Contemplated Transactions, as set forth on Section 4.5 of the Seller Disclosure Schedules as of the Closing Date, no Governmental Authority is threatening in writing to revoke, adversely modify or impose any condition or sanction in respect of any such Permit, or has commenced proceedings to revoke, adversely modify or impose any condition or sanction in respect of any such Permit.

Section 4.6 Reports. Except as set forth in Section 4.6 of the Seller Disclosure Schedules, since January 1, 2016, ENGC and its Affiliates have filed or caused to be filed with any applicable state or local utility commission or regulatory body, the NRC, the FCC, the Department of Energy and the FERC, as the case may be, all material forms, statements, reports and documents (including all exhibits, amendments and supplements thereto) required to be filed by ENGC or any of its Affiliates with respect to the Facilities or the ownership or operation thereof under each of the applicable Laws (including Massachusetts public utility Laws), the Federal Power Act, the Public Utility Holding Company Act, the Atomic Energy Act, the Energy Reorganization Act and the Price-Anderson Act and the respective rules and regulations thereunder, except for such Filings the failure of which to make would not, individually or in the aggregate, be material to ENGC after the Closing. All such Filings complied in all material respects with all applicable requirements of the appropriate Law and the rules and regulations thereunder in effect on the date each such report was filed. Except pursuant to the previous sentence as it relates to compliance with applicable Law, rules and regulations, ENGC shall not

be deemed to be making any representation or warranty to Purchaser hereunder concerning the financial statements or projections of ENG C or any of its Affiliates contained in any such report.

Section 4.7 Absence of Certain Changes or Events. Since January 1, 2017, there has not been any ENG C Material Adverse Effect, and since January 1, 2017 through the date of this Agreement, ENG C has operated and maintained, or has caused to be operated and maintained, the Facilities in the ordinary course consistent with Good Industry Practices and taking into account the planned shutdown of the Facilities.

Section 4.8 Title to Property; Encumbrances.

(a) Except for Permitted Encumbrances, ENG C has marketable title to, or holds pursuant to valid and binding leases, all of the material Tangible Personal Property, including all property set forth on Section 4.8 of the Seller Disclosure Schedules, free and clear of all Encumbrances, except where the failure to hold such title, individually or in the aggregate, would not be material to ENG C after the Closing.

(b) Except for any Excluded Real Property and any Excluded Assets, or as permitted by Section 6.1(c)(iv), but including the assets and properties set forth on Section 4.8 of the Seller Disclosure Schedule, the tangible assets and properties of ENG C, and taking into account the planned Decommissioning of the Facility and taking into account any assets or services to or provided or made available pursuant to the Transition Services Agreement, including any property held pursuant to valid and binding leases, the tangible assets and properties of ENG C as of the Closing constitute all of the tangible assets and properties used to operate the Facilities in the manner operated as of the Business Day immediately prior to the Closing.

Section 4.9 Real Property. Section 4.9(a) of the Seller Disclosure Schedules sets forth a list of all of the real property owned by ENG C, including the Facilities, (but excluding any Tangible Personal Property thereon) (the “Owned Real Property”), but excluding the real property owned by ENG C set forth on Section 4.9(b) of the Seller Disclosure Schedules identified as “Excluded Real Property” (the “Excluded Real Property”). ENG C owns good and marketable title to the Owned Real Property, subject to no Encumbrances other than Permitted Encumbrances. There are no outstanding options, rights of first offer or refusal or other preemptive rights in favor of any Third Party to purchase the Owned Real Property or any portion thereof, except as set forth in Section 4.9(a) of the Seller Disclosure Schedules. ENG C has not leased, subleased or otherwise granted to any Person the right to use or occupy the Owned Real Property or any material portion thereof, except as set forth in Section 4.9(a) of the Seller Disclosure Schedules. Except as set forth in Section 4.9(a) of the Seller Disclosure Schedules, to the Knowledge of Seller and ENG C, there are no eminent domain proceedings of any kind, pending or threatened, against any Owned Real Property.

Section 4.10 Leased Property. Section 4.10 of the Seller Disclosure Schedules sets forth a correct and complete list of each material lease (each, a “Lease”) under which ENG C is a lessee or lessor which is a lease of real property. There is not, with respect to any Lease, any material event of default existing on the part of ENG C or, to the Knowledge of Seller or ENG C, on the part of any other party thereto. Except for the Consents set forth in Section 4.10 of the

Seller Disclosure Schedules (the “Lease Consents”), no Consent of any Third Party is required under any Lease, as a result of the consummation of the Contemplated Transactions. The full amount of the security deposit required under each Lease, if any, is on deposit thereunder.

#### Section 4.11 Intellectual Property Rights.

(a) Section 4.11(a) of the Seller Disclosure Schedules sets forth a true and complete list of (i) all material Intellectual Property that is owned by ENG C that is subject to registration or application for registration (including, where applicable, the title, application or registration number and jurisdiction) (the “Owned Intellectual Property”), and (ii) Intellectual Property used by ENG C under a license or similar agreement under which ENG C pays a specified licensing fee linked to such Intellectual Property of more than [REDACTED] per annum or for which ENG C paid a perpetual licensing fee of [REDACTED] or more (“Material Licensed Intellectual Property”). Together, the Owned Intellectual Property and the Material Licensed Intellectual Property are the “Scheduled Intellectual Property.” ENG C owns all right, title and interest in and to the Owned Intellectual Property, free and clear of all Encumbrances other than Permitted Encumbrances, and has the rights to use all Material Licensed Intellectual Property. None of the Scheduled Intellectual Property is subject to any outstanding order, ruling, decree, judgment or stipulation to which ENG C is or has been made a party.

(b) To the Knowledge of Seller and ENG C, the assets and properties held at the Facilities do not infringe upon or otherwise violate the Intellectual Property rights of any other Person, and no such claims are pending or, to the Knowledge of Seller and ENG C, threatened against ENG C, except for violations which would not be, individually or in the aggregate, material to ENG C after the Closing.

(c) To the Knowledge of Seller and ENG C, no other Person is infringing upon the rights of ENG C in any Owned Intellectual Property in any material respect.

(d) Each item of Owned Intellectual Property is subsisting and, to the Knowledge of Seller and ENG C, valid and enforceable, except as would not, individually or in the aggregate, reasonably be expected to be material to ENG C after the Closing.

Notwithstanding any other provision of this Agreement, this Section 4.11 contains the exclusive representations and warranties of the Seller Parties concerning Intellectual Property matters, and the Seller Parties disclaim any and all other warranties that may relate to Intellectual Property.

Section 4.12 Insurance. Section 4.12 of the Seller Disclosure Schedules sets forth all insurance policies (the “Insurance Policies”) of any kind or nature, including policies of property damage, fire, liability, Nuclear Insurance Policies, workers’ compensation and other forms of insurance maintained by or on behalf of ENG C, indicating the type of coverage, name of insured, name of insurance carrier or underwriter and expiration date of each policy. The Insurance Policies are in full force and effect, all premiums with respect thereto covering all periods up to and including the date of this Agreement have been paid (other than retroactive premiums which may be payable with respect to Nuclear Insurance Policies), and no written notice of



cancellation, nonrenewal or termination has been received by ENG C (except for any such notice received in connection with the termination of such policy at the Closing) with respect to any Insurance Policy which was not after the date of this Agreement replaced on substantially similar terms prior to the date of such cancellation and ENG C (or any such other Person who has obtained such insurance on behalf of ENG C) is not in material breach or default thereunder. ENG C does not have any self-insurance arrangements.

Notwithstanding any other provision of this Agreement, this Section 4.12 contains the exclusive representations and warranties of the Seller Parties concerning insurance matters.

Section 4.13 Environmental Matters. Except as set forth in Section 4.13 of the Seller Disclosure Schedules:

(a) Section 4.13(a) of the Seller Disclosure Schedules sets forth all material Environmental Permits necessary for the ownership or use of the Facilities as conducted prior to Closing;

(b) ENG C holds all material Environmental Permits necessary for the ownership or use of the Facilities as conducted prior to the Closing Date, including any use directed or executed by ENOI or other parties, and ENG C has duly and timely applied for any renewal, amendment, modification or extension of any material Environmental Permit as necessary to preserve the permissions available to the Facilities under such permits beyond the Closing Date for the current use prior to the Closing Date;

(c) Except as set forth in Section 4.13(c) of the Seller Disclosure Schedules, (i) ENG C, ENOI and the Facilities are, and have been for the previous five (5) years, in compliance in all material respects with all material Environmental Laws and material Environmental Permits and (ii) neither Seller, ENOI or ENG C has received any written notification from a Governmental Authority, or has Knowledge of any imminent written notice, that ENG C or ENOI is or may be in violation of any applicable Environmental Law or any of its material Environmental Permits;

(d) Except as set forth on Section 4.13(d) of the Seller Disclosure Schedules, there are no Environmental Claims pending or, to the Knowledge of Seller and ENG C, threatened in writing against ENG C by any Governmental Authority with respect to the ownership or use of the Facilities;

(e) Except as set forth in Section 4.13(e) of the Seller Disclosure Schedules, neither the Site, nor any portion thereof, is an Environmental Clean-up Site;

(f) To the Knowledge of Seller and ENG C, (i) none of the Off-Site Locations to which any Hazardous Substances, Nuclear Materials or Mixed Substances have at any time been transported from the Facilities by ENG C for treatment, storage, handling or disposal is an Environmental Clean-up Site or (ii) would subject ENG C to any liability under Environmental Law that would have, individually or in the aggregate, an ENG C Material Adverse effect. All locations to which any Hazardous Substance, Nuclear Materials or Mixed Substances have been transported from the Facilities by ENG C or, to the Knowledge of Seller and ENG C, prior to

ENG C's ownership of the Facility are identified in Section 4.13(f) of the Seller Disclosure Schedules;

(g) Except for the Consents and Filings set forth in Section 4.13(g) of the Seller Disclosure Schedules (the "Environmental Permit Consents"), to the Knowledge of Seller and ENG C, no material Consent or Filing with any Governmental Authority with respect to Environmental Permits is necessary for the consummation of the Contemplated Transactions;

(h) Section 4.13(h) of the Seller Disclosure Schedules sets forth all environmental reports and site characterization studies obtained or commissioned by ENG C (the "Environmental Reports"). Seller has made available to Purchaser a true, complete and correct copy of each Environmental Report; and

(i) Except for Releases of Hazardous Substances, Nuclear Materials or Mixed Substances set forth in Section 4.13(i) of the Seller Disclosure Schedules or identified in the Environmental Reports, there has been no material Release of Hazardous Substances, Nuclear Materials or Mixed Substances at or migrating from the Site during ENG C's ownership period of the Facility or, to the Knowledge of Seller and ENG C, prior to ENG C's ownership of the Facility.

Notwithstanding any other provision of this Agreement, Section 4.13 contains the exclusive representations and warranties of the Seller Parties concerning environmental matters, Environmental Permits and Environmental Laws and Nuclear Laws related to environmental matters.

#### Section 4.14 Labor and Employment Matters.

(a) Section 4.14(a) of the Seller Disclosure Schedules sets forth a complete and accurate list of each Collective Bargaining Agreement affecting Pilgrim Employees. Seller has made available to Purchaser a true, complete and correct copy of each Collective Bargaining Agreement and any other material written agreement relating to the employment of Pilgrim Employees to which Seller, ENG C or ENOI is a party. ENG C is not a party to any Collective Bargaining Agreement.

(b) The employment of each Pilgrim Employee by ENOI, ENG C or any Seller Affiliate is in compliance with all applicable Laws respecting employment and employment practices, immigration, leave, occupational safety and health standards, record retention requirements, terms and conditions of employment and wages and hours, except for any violations which would not be, individually or in the aggregate, material to ENG C after the Closing. All individuals characterized and treated as consultants or independent contractors of ENOI, ENG C or any Seller Affiliate and relating to the Facilities are properly treated as independent contractors under all applicable laws, except for any misclassification that would not be, individually or in the aggregate, material to ENG C after the Closing. There are no unfair labor practice charges with respect to the employment of any Pilgrim Employee or Target Employee relating to the Facilities pending before the National Labor Relations Board and, to the Knowledge of Seller, no such charge is threatened in writing that would be reasonably expected to be, individually or in the aggregate, material to ENG C after the Closing, except as



set forth on Section 4.14(b) of the Seller Disclosure Schedules. There is no labor strike, lockout or work stoppage actually pending, or, to the Knowledge of Seller and ENGC, threatened in writing, in each case with respect to ENOI or ENGC relating to the Facilities. Except as set forth on Section 4.14(b) of the Seller Disclosure Schedules, there is no arbitration proceeding arising out of or under any Collective Bargaining Agreement that is pending with respect to ENOI or ENGC relating to the Facilities or any Pilgrim Employee whose employment is covered by any such Collective Bargaining Agreement, and, to the Knowledge of Seller and ENGC, no such arbitration is threatened in writing, except as set forth on Section 4.14(b) of the Seller Disclosure Schedules. There is no lawsuit, complaint, charge, arbitration, grievance, or claim of unlawful employment practices, including but not limited to any involving discrimination, retaliation, harassment, leaves, wages, or hours of work with respect to the employment of any Pilgrim Employee relating to the Facilities and, to the Knowledge of Seller and ENGC, none is threatened in writing, except as set forth on Section 4.14(b) of the Seller Disclosure Schedules. Section 4.14(b) of the Seller Disclosure Schedules sets forth the list of unfair labor practice charges, labor arbitrations, and other employment lawsuits, charges, or arbitrations pending as of the Business Day immediately preceding the date of this Agreement and as updated as of the Closing Date with respect to ENOI and ENGC relating to the Facilities or any Pilgrim Employee or Target Employee.

(c) All Pilgrim Employees are based in the United States. Except as set forth in Section 4.14(c) of the Seller Disclosure Schedules, there are no employees of ENOI, ENGC or any of its Affiliates who perform substantially all of their services for the Pilgrim NPS, other than Pilgrim Employees or Target Employees.

(d) Except as would not be reasonably likely to result in liability to ENGC, or to Purchaser or any of its Affiliates, there are no material (i) outstanding assessments, penalties, fines, liens, charges, surcharges, or other amounts due or owing pursuant to any workplace safety and insurance Laws (including IRS Employer Shared Responsibility Payment Notice under Code § 4980H or any notice of ACA information reporting penalties under Code § 6055, 656, 6721 or 6722) and (ii) orders, injunctions, judgments, decrees, rulings, assessments or arbitration awards under applicable occupational health and safety Laws which are currently outstanding, in each case, which relate to the Pilgrim Employees or the Facilities.

Notwithstanding any other provision of this Agreement, this Section 4.14 and Section 4.15 contain the exclusive representations and warranties of the Seller Parties concerning labor and employment matters.

#### Section 4.15 ERISA; Benefit Plans.

(a) Seller has made available to Purchaser each material written “employee benefit plan” as defined in Section 3(3) of ERISA, whether or not subject to ERISA, each material written bonus, employment, deferred compensation, incentive compensation, stock purchase, restricted stock, stock option, or other equity-based compensation, severance, retention or termination pay, fringe benefit, education reimbursement, vacation or holiday pay, welfare, cafeteria, flexible spending, hospitalization or other medical, dental, vision life, disability, accident or other insurance, supplemental unemployment benefits, savings, profit-sharing, pension, or retirement plan, program, agreement or arrangement (including any employment

agreement), and each other material written employee benefit plan, program, policy, agreement or arrangement, in each case that is sponsored, maintained or contributed to, or required to be contributed to, by Seller, ENG C or any entity that, prior to the Closing, is an ERISA Affiliate of ENG C for the benefit of any Pilgrim Employee or Target Employee (each, a “Benefit Plan”). ENG C does not have any employees and does not sponsor, maintain or contribute to any Benefit Plans. Section 4.15(a) of the Seller Disclosure Schedule contains a true and complete list of each Benefit Plan. For the avoidance of doubt, a Collective Bargaining Agreement shall not be deemed a Benefit Plan.

(b) With respect to each Benefit Plan in which any Target Employee participates or is eligible to participate that is intended to be “qualified” under Section 401(a) of the Code, Seller has made available to Purchaser: (i) the trust documents and all amendments thereto, (ii) the most recent summary plan description and summaries of material modification thereto, and (iii) the most recent determination, advisory and/or opinion letter received from the IRS and the most recent annual reports (Form 5500 series, including all required schedules and financial statements with respect thereto).

(c) Each Benefit Plan intended to be “qualified” within the meaning of Section 401(a) of the Code has received a favorable determination letter from the IRS as to its qualification and to Seller’s Knowledge no event has occurred and no condition exists that would reasonably be expected to adversely affect the qualified status of such Benefit Plan or result in the revocation of such determination letter.

(d) Except as could not be reasonably expected to give rise to a Liability of ENG C, the Purchaser Parties or their Affiliates, with respect to each Pension Plan: (i) no liability to the PBGC has been incurred (other than for premiums not yet due); (ii) no notice of intent to terminate the plan has been filed with the PBGC or distributed to participants; (iii) no amendment terminating the plan has been adopted; (iv) no proceedings to terminate the plan have been instituted by the PBGC; (v) no event or condition has occurred which might constitute grounds under Section 4042 of ERISA for the termination of, or the appointment of a trustee to administer, the plan; (vi) all applicable minimum funding requirements under Section 412 of the Code and Section 302 of ERISA have been met, and no application for a funding waiver or an extension of any amortization period pursuant to Section 412 of the Code has been made; (vii) no lien has arisen under ERISA or the Code, or is likely to arise, on the assets of ENG C or the Facilities; and (viii) there has been no cessation of operations at a Facility subject to Section 4062(e) of ERISA within the last seven (7) years and the Contemplated Transactions shall not result in any such cessation under Section 4062(e) of ERISA. No Pension Plan is a “multiemployer plan,” within the meaning of Section 3(37) of ERISA, or a multiple employer plan, as described in Section 413(c) of the Code or Sections 4063 or 4064 of ERISA. Within the immediately preceding six (6) years measured from the date of this Agreement and from the Closing Date, Seller, ENG C or any entity that is an ERISA Affiliate of ENG C has not (or will not have) withdrawn from any Pension Plan that is a “multiemployer plan” (within the meaning of Section 3(37) of ERISA). The consummation of the Contemplated Transactions will not result in a withdrawal from any Pension Plan that is a “multiemployer plan” (within the meaning of Section 3(37) of ERISA) and will not result in any withdrawal liability under ERISA to the Purchaser or its ERISA Affiliates (including ENG C) on or following the Closing Date.

(e) Except as would not result in Liability to ENG C or to any of the Purchaser Parties or any of their Affiliates, (i) neither the execution and delivery of this Agreement nor the consummation of the Contemplated Transactions, whether alone or together with any other event, will (A) entitle any Target Employee to severance pay or any other payment or benefit or (B) trigger any funding (through a grantor trust or otherwise), accelerate the time of payment, funding or vesting, or increase the amount of any compensation, severance or other benefits to any Target Employee or under any Benefit Plan, and (ii) neither the execution and delivery of this Agreement nor the consummation of the Contemplated Transactions will result in a change in ownership or control of Entergy under Section 280G of the Code.

(f) Except as set forth in Section 4.15(f) of the Seller Disclosure Schedules, no Benefit Plan provides life insurance or medical benefits with respect to any Target Employee beyond his or her retirement or other termination of service, other than continuation coverage mandated by Section 4980B of the Code or Sections 601-608 of ERISA or applicable state Law.

(g) Except as set forth in Section 4.15(g) of the Seller Disclosure Schedules, there are no pending or, to the Knowledge of Seller and ENG C, threatened in writing (i) claims (other than routine claims for benefits) or (ii) investigations or audits by a Governmental Authority against ENG C with respect to any Benefit Plan.

(h) None of Seller, ENG C, or any ERISA Affiliate thereof has taken any action and, to the Knowledge of Seller and ENG C, no circumstances exist which may result in Purchaser or any ERISA Affiliate thereof (including ENG C) being a party to, or bound by, any Benefit Plan following the Closing. Following the Closing Date, none of Purchaser, ENG C or any ERISA Affiliate thereof will have any Liability with respect to any Benefit Plan.

Notwithstanding any other provision of this Agreement, this Section 4.15 contains the exclusive representations and warranties of the Seller Parties concerning employee benefits and ERISA matters.

#### Section 4.16 Material Agreements.

(a) Section 4.16(a) of the Seller Disclosure Schedules sets forth a true and complete list of all of the ENG C Agreements to which ENG C is a party, or by which the Facilities are bound. As used in this Agreement, the term “ENG C Agreements” means, together with the Material Licensed Intellectual Property and the Leases, the following:

(i) any agreement, contract, lease or commitment that reasonably would be expected to require the payment of money or delivery of goods or services to, from or by ENG C with or in an aggregate value or amount of more than [REDACTED] in the case of any such agreement, contract, lease or commitment that cannot be terminated [REDACTED];

(ii) any noncompetition contract or other contract that is related to the Facilities and purports to limit in any material respect either the type of business in which ENG C may engage or the manner or geographic area in which it may so engage in any business, in each case, whether on an individual or aggregate basis;

(iii) any partnership, joint venture, shareholders, limited liability company, voting or similar contract material to the Site;

(iv) any standalone indemnification agreement entered into outside of the ordinary course of business in which ENG C has an outstanding indemnification to any other Person;

(v) any standalone confidentiality or non-disclosure agreement entered into outside of the ordinary course of business prohibiting the disclosure of confidential information provided to ENG C by another Person;

(vi) [REDACTED]; and

(vii) any agreement for the transportation, disposal, storage, transportation, recycling or the arrangement of such activities with respect to Hazardous Substances, Nuclear Materials or Mixed Substances.

(b) Except as set forth in Section 4.16(b)(i) of the Seller Disclosure Schedules, each ENG C Agreement is valid, legal and binding on ENG C and in full force and effect and enforceable against ENG C, subject to the Bankruptcy and Equity Exception. ENG C has not, and to the Knowledge of Seller and ENG C, none of the other parties thereto has, violated in any material respect any provision of, or committed or failed to perform, any act, and no event or condition exists, which with or without notice, lapse of time or both would constitute a material default under the provisions of any ENG C Agreement, except for violations or defaults that would not be, individually or in the aggregate, material to ENG C after the Closing, and ENG C has not received written notice of any of the foregoing. The consummation of the Contemplated Transactions will not require under any ENG C Agreement the Consent from any Person other than those listed in Section 4.16(b)(ii) of the Seller Disclosure Schedules (the “ENG C Agreement Consents”), except for those Consents which, individually or in the aggregate, would not be material to ENG C after the Closing. No party to any of the ENG C Agreements has provided written notice of its intent to exercise any termination rights with respect thereto or, to the Knowledge of Seller and ENG C threatened in writing to cancel such relationship, other than in the ordinary course or for any such termination rights or cancellations that would not, individually or in the aggregate, be reasonably expected to be material to ENG C after the Closing. Except as set forth in Section 4.16(b)(iii) of the Seller Disclosure Schedules, ENG C has made available to Purchaser a true and complete copy of each ENG C Agreement, including any material amendments, modifications or supplements thereto.

(c) The one-time fee under the Standard Spent Fuel Disposal Contract has been indefeasibly paid in full.

(d) Notwithstanding any other provision of this Agreement, ENG C and Seller make no representation or warranty that any volume discounts, price discounts or other special pricing or terms available prior to the Closing due to ENG C’s being an Affiliate of Entergy under any ENG C Agreement will be available following the Closing.

Section 4.17 Legal Proceedings. Except as set forth in Section 4.13, Section 4.14(a), Section 4.14(b), Section 4.14(c) and Section 4.17 of the Seller Disclosure Schedules, there is no suit, claim, action, arbitration, investigation of a Governmental Authority, alternative dispute resolution action or any other proceeding pending or, to the Knowledge of Seller and ENG C, threatened against ENG C with respect to the Facilities or otherwise that is or would reasonably be expected to, individually or in the aggregate, result in liability to ENG C in excess of [REDACTED]. There is no unsatisfied judgment, penalty or award against ENG C or any of its assets or properties.

Section 4.18 NRC License.

(a) Except as set forth in Section 4.18(a) of the Seller Disclosure Schedules, ENG C (together with ENOI) holds (i) the NRC License and (ii) the Permits applicable to the Facilities it owns and/or operates that are issued by the NRC. ENG C has not received any written notification by the NRC which remains unresolved that ENG C or ENOI is in material violation of the NRC License, any such Permit or any order, rule, regulation or decision of the NRC with respect to the Facilities, except for violations which would not, individually or in the aggregate, be material to ENG C after the Closing. To the Knowledge of Seller and ENG C, each of ENG C and ENOI is in material compliance with all Nuclear Laws and all orders, rules, regulations or decisions of the NRC applicable to it, except as set forth in Section 4.18(a) of the Seller Disclosure Schedules.

(b) To the Knowledge of Seller and ENG C, the Facilities conform in all material respects to the technical specifications included in the NRC License in accordance with the requirements of 10 C.F.R. § 50.36 and the Final Safety Analysis Report, as updated, that is required to be maintained for the Facilities in accordance with the requirements of 10 C.F.R. § 50.71(e), and are being operated in all material respects in conformance with all material applicable requirements under the Atomic Energy Act, the Energy Reorganization Act, and the rules, regulations, orders and licenses issued thereunder, except for nonconformances which would not be, individually or in the aggregate, material to ENG C after the Closing.

Notwithstanding any other provision of this Agreement, this Section 4.18 contains the exclusive representations and warranties of the Seller Parties concerning the NRC License and any Permits issued by the NRC.

Section 4.19 Tax Matters.

(a) All material Tax Returns which are required to be filed by each Seller Party or with respect to their assets and operations (taking into account all applicable extensions of time within which to file) have been timely filed and all such Tax Returns are true, correct and complete in all material respects.

(b) All material Taxes owed by each Seller Party or with respect to their assets and operations that are due and payable for periods ending before the Closing Date have been or will have been paid, except as set forth in Section 4.19(b) of the Seller Disclosure Schedules. No notice of deficiency, audit, or examination has been received in writing from any



taxing authority with respect to any Liability for Taxes of any Seller Party, except as set forth in Section 4.19(b) of the Seller Disclosure Schedules, or with respect to their assets and operations.

(c) There are (and, as of immediately following the Closing, there will be) no liens on any of the assets of ENG C with respect to Taxes other than statutory liens for Taxes not yet due and payable.

(d) Except as set forth in Section 4.19(d) of the Seller Disclosure Schedules, there are no outstanding agreements or waivers extending the applicable statutory periods of limitations for any Income Taxes associated with the Seller Parties or with respect to their assets and operations for any period.

(e) ENG C is, and has always been, a corporation organized under the laws of the Commonwealth of Massachusetts, except as set forth in Section 4.19(e) of the Seller Disclosure Schedules.

(f) Except as set forth in Section 4.19(f) of the Seller Disclosure Schedules, both Seller Parties are and have been members of an affiliated group of corporations filing a consolidated federal income tax return, and neither of the Seller Parties has any Liability for the Taxes of any Person or other taxpayer under Treas. Reg. § 1.1502-6 (or any similar provision of any other Law), as a transferee or successor, or otherwise.

(g) Notwithstanding any other provision of this Agreement, this Section 4.19, Section 4.15 as it relates to employee benefit plans and Section 4.20 as it relates to the Decommissioning Trust contain the exclusive representations and warranties of the Seller Parties concerning Taxes.

#### Section 4.20 Decommissioning Trust.

(a) The Decommissioning Trust is a trust validly existing under the Laws of the Commonwealth of Pennsylvania that is authorized to and does include a Qualified Decommissioning Fund and a Non-qualified Decommissioning Fund. With respect to all periods prior to the Closing, ENG C maintained the Qualified Decommissioning Fund in accordance with all terms and requirements of the Decommissioning Trust Agreement, Code § 468A and the Treas. Reg. §§ 1.468A-1 through 1.468A-9.

(b) A copy of the Decommissioning Trust Agreement as in effect on the date of this Agreement has previously been made available to Purchaser.

(c) ENG C requested and obtained from the IRS a schedule of ruling amounts pursuant to Section 468A(a) of the Code and Treas. Reg. § 1.468A-3 (the “Schedule of Ruling Amounts”) concerning the Facilities. A copy of the Schedule of Ruling Amounts approved by the IRS has previously been made available to Purchaser. Contributions by ENG C to the Qualified Decommissioning Fund pursuant to the Schedule of Ruling Amounts are set forth in Section 4.20(c) of the Seller Disclosure Schedules.

(d) The Qualified Decommissioning Fund has received contributions in accordance with a schedule of deduction amounts issued by the IRS pursuant to Section 468A(f)

of the Code and Treas. Reg. § 1.468A-8 (the “Schedule of Deduction Amounts”). A copy of the Schedule of Deduction Amounts approved by the IRS has previously been made available to Purchaser. Contributions by ENG C to the Qualified Decommissioning Fund pursuant to a Schedule of Deduction Amounts are set forth in Section 4.20(d) of the Seller Disclosure Schedules.

(e) There is no legal proceeding pending against ENG C or, to the Knowledge of Seller, the trustee (in its capacity as such), including any proceeding alleging any acts of “self-dealing” as defined in Treas. Reg. section 1.468A-5(b)(2), that would materially affect the financial position of the Decommissioning Trust.

(f) The Qualified Decommissioning Fund is, and always has been, in compliance with section 468A of the Code and the regulations promulgated thereunder. The Qualified Decommissioning Fund is, and always has been, a “Nuclear Decommissioning Reserve Fund” within the meaning of section 468A of the Code and Treas. Reg. sections 1.468A-1 through 1.468A-9, and specifically section 1.468A-5. The Qualified Decommissioning Fund has filed or, as of the Closing Date, will have filed all material Tax Returns required to be filed (taking into account all applicable extensions of time within which to file) prior to the Closing Date with respect to all taxable periods ending prior to the Closing Date, including returns for estimated Income Tax. Neither the trustee of the Decommissioning Trust nor Seller has received a notice of deficiency or assessment from any taxing authority for any period during which the related Facility was owned by ENG C which have not been fully paid or finally settled. There are no outstanding agreements or waivers extending the applicable statutory periods of limitations for any Income Tax associated with the Qualified Decommissioning Fund for any period. For purposes of this Section 4.20(f), the representations and warranties are qualified by the Knowledge of Seller with respect to periods prior to ENG C’s ownership of the Facility.

#### Section 4.21 Financial Statements.

(a) Section 4.21(a) of the Seller Disclosure Schedules contains a copy of the unaudited balance sheet of ENG C as of December 31, 2017 (the “2017 Balance Sheet”). The 2017 Balance Sheet was prepared in good faith and in accordance with GAAP and was derived from the books and records of Entergy and ENG C; provided, however, that Seller and ENG C make no representation or warranty regarding (i) the presentation of the information statement contained in the 2017 Balance Sheet (which is not in the format of full-disclosure, financial statements prepared according to GAAP) or (ii) any required presentation adjustments or footnotes necessary to provide full disclosure statements of the financial position of ENG C under GAAP or otherwise.

(b) Section 4.21(b) of the Seller Disclosure Schedules sets forth all outstanding Debt of ENG C as of the date hereof. As of the Closing, ENG C will have no outstanding Debt.

Section 4.22 No Undisclosed Liabilities. ENG C has no liabilities that would be required under GAAP in effect on the date of this Agreement to be reflected on a balance sheet of ENG C except matters (i) reflected or reserved against the 2017 Balance Sheet, (ii) incurred

since December 31, 2017 in the ordinary course of business, (iii) incurred in connection with the Contemplated Transactions, (iv) related to liabilities associated with Decommissioning or Decommissioning activities, (v) for which the liability arising thereunder is related to an Excluded Asset or, (vi) that would not, individually, or in the aggregate, reasonably be expected to be material to ENGCO after the Closing.

## **ARTICLE 5**

### **REPRESENTATIONS AND WARRANTIES OF PURCHASER AND PARENT**

Except as set forth in the Purchaser Disclosure Schedules, each of Purchaser and Parent, (jointly and severally) represents and warrants to Seller as follows:

Section 5.1 Organization; Qualification. Purchaser is a limited liability company, duly organized, validly existing and in good standing under the Laws of the State of Delaware. Parent is a corporation, duly organized, validly existing and in good standing under the Laws of the State of Delaware. Each of Purchaser and Parent has all requisite entity power and authority to own, lease and operate its properties and assets and to carry on its business as presently conducted. Each of Purchaser and Parent is duly qualified to do business and is in good standing (with respect to jurisdictions that recognize the concept of good standing) as a foreign entity in each jurisdiction where the ownership, leasing or operation of its assets or properties or conduct of its business requires such qualification, except where any such failure to be so qualified or in good standing would not have, individually or in the aggregate, a Purchaser Material Adverse Effect.

Section 5.2 Authority. Each of Purchaser and Parent has all requisite entity power and authority to enter into and has taken all entity action necessary to execute and deliver this Agreement and each of the Transaction Documents to which it is a party, to perform its obligations under this Agreement and each of the Transaction Documents to which it is a party and to consummate the Contemplated Transactions. This Agreement has been, and each of the Transaction Documents will be at the Closing, duly executed and delivered by Purchaser and Parent and, assuming the due authorization, execution and delivery by the other parties hereto and thereto, this Agreement constitutes, and each of the Transaction Documents will constitute at the Closing, the valid, legal and binding obligation of Purchaser and Parent, as applicable, enforceable against it in accordance with its terms, subject to the Bankruptcy and Equity Exception.

Section 5.3 No Violation; Consents and Approvals.

(a) Subject to obtaining or making the applicable Required Regulatory Approvals, neither the execution and delivery by each of Purchaser and Parent of this Agreement or any of the Transaction Documents to which it is a party nor the consummation by each of Purchaser and Parent of the Contemplated Transactions will: (i) conflict with or result in any breach or violation of any provision of the Organizational Documents of Purchaser or Parent; (ii) result in a default (or give rise to, or result in, any right of termination, cancellation or acceleration) under any of the terms, conditions or provisions of, any note, bond, mortgage, indenture, material license or agreement or other instrument or obligation to which Purchaser or



Parent is a party or by which it may be bound, except for such defaults (or rights of termination, cancellation or acceleration) as to which requisite Consents have been, or will be prior to the Closing obtained, or which would not, individually or in the aggregate, reasonably be expected to be material; or (iii) constitute a violation of any Law or Governmental Order applicable to Purchaser or Parent, except in the case of clause (ii) or (iii) for any such default or violation which would not have, individually or in the aggregate, a Purchaser Material Adverse Effect.

(b) Subject to the receipt or satisfaction of the applicable Required Regulatory Approvals, no Consent or Filing with any Governmental Authority (or any regional transmission organization or independent system operator) is necessary for the execution and delivery by Purchaser and Parent of this Agreement or any of the Transaction Documents to which it is a party or the consummation by Purchaser and Parent of the Contemplated Transactions, other than such Consents and Filings that the failure to obtain or make would not have, individually or in the aggregate, a Purchaser Material Adverse Effect.

#### Section 5.4 Available Funds.

(a) Purchaser and/or Parent have all funds necessary for payment of the Purchase Price and sufficient for the satisfaction of all of Purchaser's and Parent's obligations under this Agreement. Purchaser has delivered evidence to Seller of the availability of sufficient funds.

(b) At Closing, upon satisfaction of the condition set forth in Section 8.1(g) Purchaser and/or Parent and its Affiliates will have sufficient resources, or other financial instruments (such as, at the discretion of Purchaser or Parent, a letter of credit, support agreement, or surety bond) to (i) meet NRC decommissioning financial assurance requirements pursuant to 10 C.F.R. 50.75; (ii) meet NRC requirements, as applicable, for providing funding for the management of Spent Nuclear Fuel, as required by 10 C.F.R. 50.54(bb); and (iii) meet NRC requirements for funding site restoration activities.

Section 5.5 Permits; Compliance with Applicable Laws. All Permits held by Purchaser and Parent are in full force and effect, except where the failure to be in full force and effect would not have, individually or in the aggregate, a Purchaser Material Adverse Effect. Neither Purchaser nor Parent has received any written notification which remains unresolved that it is in violation of any of such Permits, or any Law applicable to its business, except for notifications of violations that would not have, individually or in the aggregate, a Purchaser Material Adverse Effect. Each of Purchaser and Parent is in compliance with all Permits and Laws of any Governmental Authority applicable to it, except for violations which, to the Knowledge of Purchaser or Parent, as applicable, would not have, individually or in the aggregate, a Purchaser Material Adverse Effect.

Section 5.6 Legal Proceedings. There is no claim, suit, action, proceeding or investigation of any nature pending or, to the Knowledge of Purchaser or Parent, threatened, against Purchaser, Parent or any Affiliate of Purchaser or Parent challenging the validity or propriety of the Contemplated Transactions, which, if adversely determined, would have, either individually or in the aggregate, a Purchaser Material Adverse Effect.

Section 5.7 Solvency. Immediately after giving effect to the Contemplated Transactions, neither Purchaser nor Parent will (a) be insolvent (either because its financial condition is such that the sum of its debts is greater than the fair value of its assets or because the fair salable value of its assets is less than the amount required to pay its probable liability on its existing debts as they mature), (b) have unreasonably small capital with which to engage in its business nor (c) have incurred debts beyond its ability to pay as they become due.

Section 5.8 Purchaser Identity/Foreign Ownership. Purchaser and Parent conform to the restrictions on foreign ownership, control or domination contained in Sections 103d and 104d of the Atomic Energy Act, as applicable, and the NRC's regulations in 10 C.F.R. § 50.38. Neither Purchaser nor Parent is currently owned, controlled, or dominated by a foreign entity and neither will become owned, controlled or dominated by a foreign entity before the Closing Date.

Section 5.9 Technological and Other Qualifications. Purchaser, Parent and/or Parent's Affiliates are financially capable and qualified to undertake their obligations under this Agreement, subject to receipt of the Required Regulatory Approvals, they are licensed and equipped to do so. The consolidated financial statements of Parent and its subsidiaries as of and for the years ended December 31, 2016 and December 31, 2017 and the six (6) months ended June 30, 2018 made available to Seller are true and correct, and each of the consolidated balances sheets (including the notes thereto) included in the financial statements fairly presents in all material respects the consolidated financial position of Parent and its subsidiaries, and each of the consolidated statements of operations and comprehensive income, cash flows and changes in equity included in the financial statements (including in the notes thereto) fairly presents in all material respects the results of operations and comprehensive income, cash flows or changes in equity, as the case may be, of Parent and its subsidiaries for the periods set forth therein, in each case in accordance with GAAP consistently applied during the periods involved, except as may be noted therein (or, in the case of interim financial statements, subject to normal year-end adjustments, which are not expected to be material in effect or amount). To Purchaser and Parent's Knowledge, all statements of experience and qualification of Purchaser and Parent made available to Seller in connection with the negotiation, review and approval of the transactions contemplated by this Agreement and the other Transaction Documents are true and correct in all material respects. Purchaser has sufficient financial resources, when combined with the assets of the Qualified Decommissioning Trust, and sufficient expertise and technical know-how, to perform its Decommissioning obligations under this Agreement and in compliance with applicable Law.

Section 5.10 Brokers; Finders. No broker, finder or investment banker is entitled to any brokerage, finder's or other fee or commission in connection with the Contemplated Transactions based upon arrangements made by or on behalf of Purchaser or Parent.

Section 5.11 Investment Intent. Purchaser is acquiring the Equity Interests for its own account for investment and not with a view to, or for sale or other disposition in connection with, any distribution of all or any part thereof in violation of federal or state securities Law. In acquiring the Equity Interests, Purchaser is not offering or selling, and will not offer or sell, for Seller or otherwise in connection with any distribution of the Equity Interests, and Purchaser will not participate in any such undertaking or in any underwriting of such an undertaking except in compliance with applicable federal and state securities Laws. Purchaser acknowledges that it has

such knowledge and experience in financial and business matters that it is capable of evaluating the merits and risks of an investment in the Equity Interests. Purchaser understands that the Equity Interests have not been registered pursuant to the Securities Act or any applicable state securities Laws, that the Equity Interests will be characterized as “restricted securities” under federal securities Laws and that under such Laws and applicable regulations the Equity Interests cannot be sold or otherwise disposed of without registration under the Securities Act or an exemption therefrom.

Section 5.12 Regulatory Status. Purchaser is neither (i) a “holding company” as such term is defined under the Public Utility Holding Company Act, nor (ii) a “public utility” as such term is defined under the Federal Power Act.

## ARTICLE 6

### COVENANTS OF THE PARTIES

#### Section 6.1 Conduct of Business During the Interim Period.

(a) Purchaser acknowledges and agrees that during the Interim Period, ENG C and ENOI, as the licensed owner and operator of the Facilities, respectively, retain the exclusive responsibility for safe operation of the Facilities, and nothing in this Agreement shall in any way alter the licensed owner’s and operator’s duties or obligations under any Law (including any Required Operating Order) or the NRC License. Except as set forth in Section 6.1(a) of the Seller Disclosure Schedules, during the period commencing on the date of this Agreement and terminating on the earlier to occur of the Closing and the termination of this Agreement pursuant to and in accordance with Article 10 (such period, the “Interim Period”), Seller and ENG C shall operate and maintain, or cause to be operated and maintained, in each case, the Facilities in all material respects in the ordinary course consistent with all Permits and Governmental Approvals and with Good Industry Practices and the present use and intended shutdown of the Facilities, it being understood that any actions deemed reasonably necessary in the use and maintenance of the Facilities in accordance with Good Industry Practices or required by Law or as may be reasonably necessary in response to any Required Operating Order shall be deemed to be in the ordinary course and shall be permitted under this Section 6.1(a).

(b) Without limiting the generality of Section 6.1(a), during the Interim Period, Seller, ENOI and ENG C shall, subject to the other requirements of this Article 6, (i) be entitled to exercise all of their rights as owners or operators of the Facilities in connection with suits, petitions or other proceedings related to the ownership or operation of the Facilities, including proceedings before any Governmental Authority; (ii) be entitled to take actions as required by Law or as may be reasonably necessary in response to any Required Operating Order or a Collective Bargaining Agreement or a collective bargaining obligation, including, with respect to any Collective Bargaining Agreement that is set to expire before the anticipated Closing Date, to negotiate in good faith and enter into a successor Collective Bargaining Agreement consistent with prior negotiations provided that such agreements do not result in a material delay to Decommissioning or a material increase in the cost of Decommissioning; (iii) be entitled to take such actions in response to a business emergency or other unforeseen operational matters; (iv) be entitled to take such actions as each deems necessary or appropriate,

to cancel or terminate all Affiliate Agreements and to satisfy and discharge all indebtedness or other obligations to or from any of Seller's Affiliates; (v) determine which individuals shall be employed at the Pilgrim NPS and the Site (provided that, Seller and ENG C shall consult in good faith with Purchaser regarding required staffing levels, but that Seller, ENOI and ENG C shall retain final decision rights); provided further, however, with respect to staffing levels for Phase 2, Purchaser shall have final decision rights on and after the Closing Date (provided that Purchaser shall consult in good faith with Seller regarding such required staffing levels), and in all cases both Seller and Purchaser (as the case may be) shall ensure that the Facilities, the Pilgrim NPS and the Site are adequately staffed (without over-staffing) to satisfy applicable Laws or other regulatory requirements; and (vi) take any action otherwise contemplated by this Agreement. During the Interim Period, ENG C shall be entitled to amend, substitute or otherwise modify any ENG C Agreement or Lease (A) to the extent that it expires by its terms prior to the Closing Date or is terminable without Liability to ENG C on or after the Closing Date (other than an amendment that would extend the term thereof for a new term of years in excess of the then current term); (B) if the terms and conditions of such modified or substituted (including by way of replacement contracts) ENG C Agreement or Lease are no less favorable in the aggregate to ENG C than the original ENG C Agreement or Lease; (C) in order to enter into any new agreements in the ordinary course consistent with Good Industry Practices, ENG C's present practices or any of the other provisions of this Section 6.1 or as may be necessary in response to any Required Operating Order; or (D) if such amendment, substitution, modification or novation is necessary to eliminate references to and participation of Seller's Affiliates other than ENG C or facilities owned or operated by Seller's Affiliates other than the Facilities. ENG C shall advise Purchaser of such amendments, substitutions, modifications, novations and new agreements to which ENG C is a party, and shall update the applicable Section of the Seller Disclosure Schedules pursuant and subject to Section 6.14.

(c) Subject, in all cases, to the terms of Section 6.1(a) and Section 6.1(b), and except as contemplated in this Agreement or as set forth in Section 6.1(c) of the Seller Disclosure Schedules, during the Interim Period, without the prior written consent of Purchaser, which consent will not be unreasonably withheld, conditioned or delayed, ENG C shall not directly do any of the following, and shall not issue any Consent, or otherwise take any action, which permits ENG C to do any of the following on ENG C's behalf or otherwise:

(i) amend its Organizational Documents, other than amendments which are administrative or ministerial in nature, provided that ENG C and Seller shall be permitted to undertake any internal restructurings or change its corporate form prior to Closing without Purchaser's consent, provided such restructurings or changes do not (i) materially delay consummation of the Contemplated Transactions, (ii) adversely affect in any material respects the assets and liabilities owned or held by ENG C immediately prior to the Closing, or (iii) increase the cost of Decommissioning of the Facilities in any material respect;

(ii) except as provided for in Section 6.30(e), issue, sell or otherwise transfer or dispose of any of its equity interests, or create or suffer to be created any Encumbrance thereon, or reclassify, split up or otherwise change any of its equity interests, or grant or enter into any options, covenants or calls or other rights to purchase or convert any obligation into any of its equity interests, or merge or consolidate with any

Person, except in connection with any internal restructurings of ENG C or Seller or changes to its corporate form (including by merger) prior to Closing, provided such restructurings or changes do not (i) materially delay consummation of the Contemplated Transactions, (ii) adversely affect in any material respects the assets and liabilities owned or held by ENG C prior to the Closing, or (iii) increase the cost of Decommissioning of the Facilities in any material respect;

(iii) organize any Subsidiary or acquire any equity or ownership interest in any business (other than portfolio investments in marketable securities);

(iv) except for Permitted Encumbrances or as provided for in Section 6.30(e), sell, lease (as lessor), pledge, encumber, restrict, transfer or otherwise dispose of, or grant any right with respect to, any of the assets set forth on Section 6.1(c) of the Seller Disclosure Schedules or any material portion of its assets exceeding [REDACTED] in the aggregate, other than assets used, consumed or replaced in the ordinary course of business consistent with Good Industry Practices or with respect to the Excluded Assets or with respect to those assets (other than real property) whose need is not reasonably anticipated for operation or maintenance of the Site following Closing;

(v) amend any material provision of or voluntarily terminate prior to the expiration date thereof any of the ENG C Agreements or Leases or any Permit or Environmental Permit or waive any default by, or release, settle or compromise any claim against, any other party thereto, other than (A) with cause, to the extent consistent with Good Industry Practices, (B) with its Affiliates, (C) as may be required to secure the transfer, reissuance or procurement (either partial or in full) of any such Permit or Environmental Permit, (D) as necessary to eliminate references to and participation of Seller's Affiliates other than ENG C or facilities owned or operated by Seller's Affiliates other than the Facilities, (E) as may be required in connection with Seller's obligations to Purchaser under this Agreement, or (F) as may be reasonably necessary in response to any Required Operating Order;

(vi) except as would not result in any increase in Liability to ENG C and/or Purchaser or any Affiliate thereof, increase the salaries, wage rates, target bonus opportunities or equity-based compensation of, grant any severance or termination pay or equity-based compensation to, or loan or advance any money or other property to, any Target Employee in each case except (A) in the ordinary course of business, (B) in connection with the adoption or amendment of Benefit Plans (or other practices) that are applicable generally to Pilgrim Employees in the relevant jurisdictions or generally applicable to employees of Affiliates of Entergy, (C) as required (1) to comply with applicable Law; (2) to comply with any Collective Bargaining Agreement or any collective bargaining obligation, including any grievance or arbitration process resolution, or as contemplated in Section 6.1(b)(ii); (3) by the terms of any Benefit Plan in effect on the date hereof; or (4) by the terms of any agreement of any Seller Party or any of their Affiliates in effect on the date hereof, the existence of which agreement does not constitute a breach of any representation, warranty or covenant in this Agreement or (D) as may reasonably be necessary in response to any Required Operating Order;



(vii) except as contemplated by this Agreement, take any action which may result in Purchaser or any ERISA Affiliate thereof (including, following the Closing, ENG C) being a party to, a sponsor of, or required to contribute to, any Benefit Plan following the Closing;

(viii) hire any new employees that will be Target Employees as of the Closing other than employees with an annual base salary of less than [REDACTED] except (A) pursuant to the replacement of existing employees who retire or whose employment is otherwise terminated with compensation and benefits substantially similar to that of the employee(s) being replaced, (B) in the ordinary course of business consistent with Good Industry Practices, or (C) to comply with applicable Law or the requirements or written orders of a Governmental Authority;

(ix) incur any indebtedness for borrowed money or guarantee any such indebtedness other than borrowings that will be paid-off or satisfied prior to the Closing;

(x) settle or compromise any claim or Liability adverse to ENG C for an amount in excess of [REDACTED] that would impose a payment obligation on ENG C after the Closing; or

(xi) authorize, agree or commit to enter into any of the transactions or take any of the actions set forth in the foregoing paragraphs.

(d) Notwithstanding anything to the contrary in this Agreement, nothing in this Section 6.1 shall be deemed to limit or otherwise restrict ENG C's ability to declare and pay cash dividends to Seller during the Interim Period. Purchaser acknowledges and agrees that Seller retains the full right to any cash dividends with a record date on or prior to the Closing.

#### Section 6.2 Transition Advisory Committee; Observers; Information.

(a) The Parties shall establish, as soon as practicable after the date of this Agreement, a committee (the "Transition Advisory Committee") consisting of four (4) persons, with two (2) persons designated by Seller and two (2) persons designated by Purchaser, or such other number of persons as may be agreed to by the Parties. The Transition Advisory Committee shall remain in existence until the expiration of the Interim Period and shall oversee and manage the transition process through the Interim Period. Subject to applicable Laws, the Transition Advisory Committee will be kept apprised in a timely manner by ENG C of all the Facilities' management and operating developments. The Transition Advisory Committee shall have regular access to the management of ENG C and ENOI to discuss the transition process. The Transition Advisory Committee shall have no authority to bind or make agreements on behalf of the Parties or to issue instructions to or direct or exercise authority over ENG C or any of its Representatives or to waive or modify any provision of this Agreement. All activities of the Transition Advisory Committee shall cease no later than one hundred eighty (180) days after Closing or such other period as mutually agreed by the Parties.

(b) During the Interim Period, in the interest of cooperation between Seller and Purchaser, to plan for and facilitate an orderly transition of ownership of ENG C from Seller to Purchaser and to permit informed action by the Parties regarding their rights pursuant to this

Agreement, the Parties agree that, at the sole responsibility and expense of Purchaser, and subject to compliance with all applicable NRC rules and regulations and other applicable Laws, ENG C will permit Purchaser's designated Representatives (the "Observers") to reasonably observe all operations of ENG C that relate to the Facilities, and such observation will be permitted on a cooperative basis in the presence of one or more individuals designated by Seller. Notwithstanding anything in this Section 6.2(b) to the contrary, (i) the Observers may be excluded from access to any material, operations or meeting or portion thereof if Seller determines that such exclusion is reasonably necessary to preserve the attorney-client privilege to protect confidential or proprietary information or for other similar reasons or to not supply Purchaser with any information that ENG C is legally prohibited from supplying; (ii) the Observers and their actions shall not unreasonably interfere with the operation of the Facilities; and (iii) the number of Observers observing at any particular time and the scheduling and duration of their observation shall be subject at all times to the approval of Seller. The Purchaser Parties agree to indemnify and hold the Seller Parties harmless from any and all claims and Liabilities, including costs and expenses for Loss, injury to or death of any Representative of any Purchaser Party or any other Person, and for any Loss, damage to or destruction of any property owned by any Seller Party or others (including claims or Liabilities for Loss of use of any property), in each case arising directly out of the Observer and other rights of the Purchaser Parties as exercised under this Section 6.2 or resulting from the action or inaction of any of the Representatives of any Purchaser Party during any visit to the Facilities prior to the Closing Date, whether pursuant to this Section 6.2 or otherwise, except (i) with respect to all claims and Liabilities arising out of or resulting from any nuclear incident or nuclear damage or (ii) to the extent caused by or resulting from the gross negligence, willful misconduct or violation of Law by the Seller Parties or their Representatives. During any visit to the Facilities, the Purchaser Parties shall, and shall cause their respective Representatives accessing such Facilities to, comply with all applicable Laws and all of the safety and security procedures of the Seller Parties and conduct themselves in a manner that could not be reasonably expected to interfere with the Facilities. Except as provided above, each of the Purchaser Parties and Seller Parties shall be responsible for their own incurred expenses for purposes of this Section 6.2(b).

(c) Between the date of this Agreement and the Closing, the Parties will negotiate in good faith the scope of the services to be provided under the Transition Services Agreement to be entered into at the Closing; provided, however, the terms of any services (i) shall be limited to no more than six (6) months after the Closing and (ii) shall be limited to those services necessary for ENG C to comply immediately after the Closing with its obligations under the NRC License or other NRC requirements, unless as otherwise agreed to by the Parties in writing.

### Section 6.3 Access to Information; Confidentiality.

(a) Subject to all applicable Laws, during the Interim Period, ENG C will use, or cause to be used, commercially reasonable efforts to, during ordinary business hours, upon reasonable notice and subject to compliance with all applicable NRC rules and regulations and other applicable Laws and subject to approval in advance by Seller or one or more individuals designated by Seller (which approval shall not be unreasonably withheld, conditioned or delayed), (i) give Purchaser and Purchaser's Representatives reasonable access to all Pilgrim Employees who are management personnel and all ENG C books, documents and records



(excluding any related to Excluded Assets, Tax Returns, forecasts of ENG C's Affiliates, or any other financial books and records that form part of the general ledger of Seller or any of its Affiliates) and the Facilities; (ii) permit Purchaser to make such reasonable inspections thereof as Purchaser may reasonably request; (iii) furnish Purchaser with such financial and operating data and other information with respect to the Facilities in possession of ENG C as Purchaser may from time to time reasonably request; and (iv) furnish Purchaser a copy of each material report, schedule or other document filed or received by ENG C since the date of this Agreement with respect to the Facilities with the NRC, the FERC, the FCC or any other Governmental Authority having jurisdiction over the Facilities; provided, however, that (A) any such access shall be conducted in such a manner as not to interfere unreasonably with the operation of the Facilities; (B) Seller and its Affiliates shall not be required to take any action which would constitute a waiver of the attorney-client privilege; (C) Seller and its Affiliates need not supply Purchaser with any information that they are legally or contractually prohibited from supplying; provided, however, that Purchaser shall be entitled to require Seller to use commercially reasonable efforts to request a consent from the contractual counterparty to the extent such prohibitions exist; (D) Seller and its Affiliates need not supply Purchaser with any information which they determine in good faith they are required to keep confidential by reason of contracts with Third Parties or is otherwise commercially sensitive to Seller or its Affiliates; provided, however, that Seller and its Affiliates shall use commercially reasonable efforts to provide or communicate such information to Purchaser in a form that is not subject to such sensitivities; and (E) Seller and its Affiliates need not supply Purchaser with forecasts that include information relating to Affiliates of ENG C. Notwithstanding anything in this Section 6.3(a) to the contrary, during the Interim Period, Purchaser may desire to conduct additional environmental sampling at, in, on or underneath the Site; provided that Purchaser acknowledges that Seller has the final authority in allowing such additional sampling; provided further, that Seller agrees to consider reasonable requests and facilitate such sampling and testing without undue conditions or delay.

(b) The Parties acknowledge that all information furnished to or obtained by Purchaser or Purchaser's Representatives pursuant to this Section 6.3 shall be subject to the provisions of the Confidentiality Agreement and shall be treated as Evaluation Material.

(c) During the Interim Period, Purchaser and its Affiliates shall not contact or otherwise communicate with any vendors, suppliers, employees or other contracting parties of ENG C or its Affiliates with respect to any aspect of ENG C, the Facilities or the Contemplated Transactions, without the prior written consent of Seller (which consent shall not be unreasonably withheld, conditioned or delayed); provided, however, that the foregoing shall not apply to the extent (i) the Parties have made or issued any public announcement or statement regarding the Contemplated Transactions or any Party has made any Filing with any Governmental Authority regarding the Contemplated Transactions such that the Contemplated Transactions are made public and (ii) Purchaser or its Affiliates have obtained prior written consent from Seller (which approval shall not be unreasonably withheld, conditioned or delayed).

(d) Upon Purchaser's or ENG C's (as the case may be) prior written approval (which approval shall not be unreasonably withheld, conditioned or delayed), and subject to Section 6.4, ENG C or Purchaser (as the case may be) may provide Evaluation Material or confidential information of the other Party to the NRC, the FERC, the FCC or any other

Governmental Authority having jurisdiction over the Facilities, as may be necessary to obtain or satisfy the Required Regulatory Approvals, or to the extent required to comply with any relevant Law. The disclosing Party shall disclose only that portion of the Evaluation Material or confidential information required to be disclosed and shall seek confidential treatment for the Evaluation Material or confidential information provided to any such Governmental Authority and the disclosing Party shall notify the other Party as far in advance as practical of its intention to release to any Governmental Authority any such Evaluation Material or confidential information and shall identify to the other Party the portion of the Evaluation Material or confidential information the disclosing Party intends to disclose.

#### Section 6.4 Efforts to Close; Third Party Consents; Regulatory Approvals.

(a) Subject to the terms and conditions of this Agreement, during the Interim Period, each of the Parties will use commercially reasonable efforts to take, or cause to be taken, all action, and to do, or cause to be done, all things necessary, proper or advisable under applicable Laws to consummate and make effective the Contemplated Transactions pursuant to this Agreement and the Transaction Documents, including using commercially reasonable efforts to (i) ensure satisfaction of the conditions precedent to each Party's obligations hereunder and thereunder as promptly as reasonably practicable, (ii) obtain all necessary Consents to consummate the Contemplated Transactions as required by the terms of any note, bond, mortgage, indenture, material license, material agreement or contract or other instrument or obligation to which Seller, ENG C, Purchaser or an Affiliate of Purchaser is a party or by which any of them is bound and are required to consummate the Contemplated Transaction (provided that Seller and its Affiliates shall not be required to pay any out-of-pocket costs, expenses or fees or otherwise incur any Liabilities (other than the costs, expenses and fees of Seller's legal advisers), in connection with obtaining such Consents in clause (ii) other than any such expenditures which do not exceed [REDACTED] individually and [REDACTED] and (B) Seller and its Affiliates shall not be required to transfer non-transferable agreements, the Consent of which has not been obtained by Closing, and (iii) execute and deliver any additional instruments necessary to consummate the Contemplated Transactions.

(b) No Party will, without the prior written consent of the other Parties, which consent shall not be unreasonably withheld, conditioned or delayed, advocate or take any action which would reasonably be expected to prevent or materially impede, interfere with or delay the Contemplated Transactions.

(c) As promptly as practicable after the date of this Agreement Purchaser, Seller and ENG C shall, and Seller shall cause ENOI to, jointly prepare and file with the NRC an application requesting consent under Section 184 of the Atomic Energy Act for the transfer of control of the NRC License and the general license for the ISFSI to Purchaser and the transfer of ENOI's operating authority to ENG C, including the approval of any conforming license amendments or other related Consents (including those conforming amendments reflecting ENOI's removal as a co-licensee of the NRC License and ENG C's assumption from ENOI of all rights, responsibilities and obligations previously held by ENOI under the NRC License) and any other Consents from the NRC (the "NRC Application") as may be necessary for consummation of the Contemplated Transactions. In connection with preparing the NRC Application, the

Purchaser Parties will provide such information with respect to the activities and qualifications of ENG C (after giving effect to the Closing) and Purchaser's Affiliates from and after the Closing as may be necessary to obtain the NRC's consent, including (i) Decommissioning cost estimates, cash flow analyses and other financial assurances and instruments necessary to demonstrate financial qualifications, including the adequacy of and ability to adjust funding for Decommissioning, using one or more of the methods identified in 10 C.F.R. § 50.75(e)(1), (ii) organizational information necessary to demonstrate technical qualifications and the absence or mitigation of foreign ownership, control or influence, and (iii) information on its planned Decommissioning activities and schedules. In fulfilling their respective obligations, Seller, Purchaser and ENG C shall, and Seller shall cause ENOI to, use commercially reasonable efforts to effect any such Filing within forty-five (45) days of the date of this Agreement, unless the Parties agree otherwise.

(d) At least thirty (30) Business Days prior to the estimated Closing Date, Seller and Purchaser shall jointly prepare and file with the FCC, an application for approval to transfer any licenses required by the FCC with respect to ENG C from Seller to Purchaser. In fulfilling their respective obligations set forth in this Section 6.4(d), Seller and Purchaser shall use commercially reasonable efforts to effect any such Filing with the FCC as promptly as thereafter practicable, unless the Parties agree otherwise.

(e) As promptly as practicable after the date of this Agreement, Purchaser and Seller will file an application pursuant to Section 203 or Section 205 of the Federal Power Act (the "FERC 203 Approval"), if applicable. Purchaser will cooperate as reasonably requested by Seller and provide any information in connection with such FERC filing as requested by Seller.

(f) Seller and Purchaser shall cooperate with each other, as promptly as practicable after the date of this Agreement, to: (i) prepare and make with any Governmental Authority having jurisdiction over Seller, ENG C, ENOI, Purchaser, any Affiliate of Purchaser or the Facilities, all necessary Filings required to be made with respect to the Contemplated Transactions, including all of the Required Regulatory Approvals; (ii) use commercially reasonable efforts to obtain the transfer, issuance, extension, renewal, reissuance, modification or amendment to the extent necessary of all applicable Permits, the NRC License, and Consents of Governmental Authorities (or any regional transmission organization or independent system operator) (including (x) those approvals necessary to enable Purchaser and ENG C to implement Purchaser's post-Closing Decommissioning and Spent Nuclear Fuel management plans; and (y) the Permits and Consents listed on Section 4.5, Section 4.13(a) and Section 6.4(f) of the Seller Disclosure Schedules), including as needed for Decommissioning activities post-Closing (e.g., the barge slip at the Facilities); and (iii) use commercially reasonable efforts to obtain all necessary Permits and Consents of, and actions or nonactions by, any Governmental Authority. Seller and Purchaser shall jointly determine and implement the overall strategy for obtaining the Required Regulatory Approvals, and if Seller and Purchaser disagree as to the overall strategy for obtaining the Required Regulatory Approvals, Seller and Purchaser shall cause the members of their respective senior management to negotiate in good faith a mutually acceptable strategy; provided, however, that in the event that Seller and Purchaser are unable to reach a mutually acceptable strategy and continue to disagree regarding the determination or implementation of such strategy, Seller shall have the right to determine and implement a mutually beneficial strategy in its reasonable discretion. Seller and Purchaser shall have the right to review in

advance all Filings and Consents contemplated under this Section 6.4(f), (including any Filing or Consent made by Seller or ENGC that may affect Purchaser's Decommissioning activities after Closing) including all characterizations of the information relating to the Contemplated Transactions which appear in any Filing or Consent requests made in connection with the Contemplated Transactions, and the filing or requesting Party shall consider in good faith any revisions reasonably requested by the other Parties prior to submission of such Filing or Consent.

(g) In connection with all Filings and other actions contemplated under this Section 6.4(g), the Parties shall, subject to any applicable limitations under Law: (i) use commercially reasonable efforts to respond promptly to any request for additional information made by any Governmental Authority; (ii) use commercially reasonable efforts to promptly notify the other Parties of, and if in writing, furnish the other Party with copies of (or, in the case of material oral communications, advise the other Parties orally of) any communications from or with any Governmental Authority in connection with any of the Contemplated Transactions; (iii) notify the other Party in advance of any meeting with any Governmental Authority in connection with any of the Contemplated Transactions and, to the extent permitted by such Governmental Authority, give the other Parties the opportunity to attend such meetings when appropriate; (iv) furnish the other Parties with copies of all correspondence, Filings and communications (and memoranda setting forth the substance thereof) between it and any Governmental Authority with respect to any of the Contemplated Transactions, and to the extent reasonably practicable, permit the other Party or its counsel to review in advance any proposed written communication by such Party to any Governmental Authority in connection with any analyses, appearances, presentations, memoranda, briefs, arguments, opinions and proposals made or submitted by or on behalf of any Party in connection with proceedings under or relating to the Required Regulatory Approvals; (v) use commercially reasonable efforts to furnish the other Parties with such necessary information and reasonable assistance as may be reasonably necessary in connection with the preparation of necessary Filings or submission of information to any Governmental Authority and consistent with appropriate confidentiality safeguards; (vi) use commercially reasonable efforts to participate in any hearings, settlement proceedings or other proceedings ordered with respect to such Filings and arrange for Representatives of the other Party to participate to the extent reasonably practicable in any communications, meetings or other contacts with any Governmental Authority; and (vii) use commercially reasonable efforts to cause the Required Regulatory Approvals and all other regulatory Consents to be obtained at the earliest possible date after the date of such Filings. Notwithstanding the foregoing sentence, the Seller Parties may participate in pending proceedings, or proceedings in the ordinary course, that are not directly related to the Contemplated Transactions without the involvement of Purchaser, unless both Parties agree otherwise. In addition, with respect to obtaining the Required Regulatory Approvals, each Party shall, subject to any applicable limitations under Law: (i) dedicate appropriate resources to obtaining such approvals, (ii) respond promptly and completely to material requests of any Governmental Authority, (iii) participate in and comply with all material procedural and disclosure obligations in proceedings of any Governmental Authorities, and (iv) provide such additional information related to each Party's activities and qualifications as may be required. No Party will, without the prior written consent of the other Party, advocate or take any action which would prevent or materially impede, interfere with or delay the Contemplated Transactions or which could cause, or to contribute to causing, another Party to receive less favorable regulatory treatment than that sought by such other Party.

(h) Each of Seller and Purchaser shall (i) give the other Party prompt notice of the commencement or threat of commencement of any Action by or before any Governmental Authority with respect to the Contemplated Transactions, (ii) keep the other Party informed as to the status of any such Action or threat and (iii) reasonably cooperate in all respects with each other and shall use commercially reasonable efforts to contest and resist any such Action or proceeding and to have vacated, lifted, reversed or overturned any decree, judgment, injunction or other order, whether temporary, preliminary or permanent, that is in effect and that prohibits, prevents or restricts consummation of the Contemplated Transactions; provided, however, that this clause (iii) shall not apply to any Required Operating Order. In connection with the Required Regulatory Approvals, no Purchaser Party shall settle any Action that would bind any Seller Party or would be adverse to the interests of Seller or its Affiliates or enter into any consent or order that would bind any Seller Party or would be adverse to the interests of Seller or its Affiliates without the consent of Seller, such consent not to be unreasonably withheld, conditioned or delayed. In connection with the Required Regulatory Approvals, no Seller Party shall settle any Action that would bind any Purchaser Party or, after the Closing, ENG C, or would be adverse to the interests of Purchaser or its Affiliates without the consent of Purchaser, such consent not to be unreasonably withheld, conditioned or delayed.

(i) Notwithstanding anything to the contrary in this Agreement, including with respect to the matters contemplated by this Section 6.4, neither Seller nor any of its Affiliates, including ENG C, shall be required to agree to, consent to or accept any term or condition to, or take any action in connection with, obtaining any of the Required Regulatory Approvals (each a “Regulatory Commitment”) if such Regulatory Commitment, (i) individually or together with all other Regulatory Commitments, would be material in an adverse manner to Seller or any of its Affiliates or (ii) would impose any Liability or obligation on Seller or any of its Affiliates or their respective businesses after the Closing (either (i) or (ii), a “Seller Burdensome Condition”); provided that the Regulatory Commitments contained in the initial regulatory Filings and consistent with the Initial Regulatory Commitments shall not be deemed to constitute and shall not be taken into account in determining a Seller Burdensome Condition.

(j) Notwithstanding anything to the contrary in this Agreement, including with respect to the matters contemplated by this Section 6.4, neither Purchaser nor any of its Affiliates, including, after the consummation of the Contemplated Transactions, ENG C, shall be required to agree to, consent to, accept or take any Regulatory Commitment if such Regulatory Commitment, individually or together with all other Regulatory Commitments would (i) have a material adverse effect on ENG C, after the Closing or (ii) have a material adverse effect on Purchaser or any of its Affiliates after the Closing, (either (i) or (ii) a “Purchaser Burdensome Condition”); provided that the Regulatory Commitments contained in the initial regulatory Filings and consistent with the Initial Regulatory Commitments shall not be deemed to constitute and shall not be taken into account in determining a Purchaser Burdensome Condition.

(k)



(l) (i) Seller and Purchaser agree that the NRC Application shall contain the commitments and agreements of the Parties as set forth in such application (the “Initial Regulatory Commitments”) and subject to the terms and conditions of this Section 6.4, such other commitments and agreements mutually agreed to in writing by the Parties and (ii) Purchaser and Parent shall commit or agree to take, or accept, effective as of the Closing, the actions and conditions set forth in the Initial Regulatory Commitments and shall agree to, consent to, or accept any other condition to, and take any other action in connection with, obtaining any of the Required Regulatory Approvals, subject to the limitations in Section 6.4(j).

(m) During the Interim Period, Purchaser shall not, and neither Parent nor any Subsidiary of Parent shall, without the consent of Seller (which consent shall not be unreasonably withheld) (i) enter into, agree, or consummate any Change of Control Transaction, or (ii) enter into, agree or consummate any transaction (including by merger, consolidation, purchase or sale of securities, businesses or assets, investments, or similar business combination transaction) that would reasonably be expected to prevent, impede or materially delay the consummation of the Closing.

#### Section 6.5 Public Statements; Communications.

(a) During the Interim Period, none of the Parties shall issue any press releases or otherwise make public announcements with respect to the Contemplated Transactions without the prior written consent of the other Parties (which consent shall not be unreasonably withheld, conditioned or delayed) and shall consult with the other Parties and allow a reasonable opportunity to comment prior to, making any such release or announcement, except (a) as may be required by applicable Law or by obligations pursuant to any listing agreement with or applicable rules of any national securities exchange or by the request of any Governmental Authority or (b) as is consistent with previous press releases or public announcements made jointly by the Parties. The restrictions in this Section 6.5 shall not apply to any Seller Party in connection with any press releases or public announcements as a result of or in response to any Required Operating Order.

(b) After the execution of this Agreement, the Parties will execute and cooperate with respect to the communication plan agreed to by the Parties and each of the Seller Parties and the Purchaser Parties will cooperate with each other with respect to such communication plan; provided, however, that Seller shall have overall responsibility for executing and directing such communication plan.

#### Section 6.6 Joint Private Letter Ruling.

(a)

[REDACTED]

[REDACTED]

(b) [REDACTED]

(i) [REDACTED]



(ii)

[REDACTED]

(iii)

[REDACTED]

(iv)

[REDACTED]

Section 6.7 Notification of Significant Changes. During the Interim Period, the Purchaser Parties, on the one hand, and the Seller Parties, on the other hand, shall each promptly, but in any event within ten (10) days, notify the other in writing of the occurrence or discovery of any change or event, described in reasonable detail, that would constitute a material breach of any representation, warranty, covenant or agreement of the advising or other Party under this Agreement such that the Closing conditions in Article 8 hereof would not be satisfied. All such updated notices shall be delivered to the other Party in writing. Except as provided for in Section 6.14(a) with respect to any Schedule Update by Seller, (a) if the Party in potential breach (the “First Party”) advises the other Party (the “Second Party”) of any such matter with respect to the First Party, within ten (10) days thereof the First Party may give written notice of its intent to cure such matter and shall thereafter have sixty (60) days to so cure; provided, however, that if the First Party does not give such notice or fails to cure within such period, then the Second Party shall have the right to terminate this Agreement by written notice within forty-five (45) days following such period in accordance with and subject to the provisions of Section 10.1(e) or Section 10.1(f), as the case may be; and (b) if the Second Party advises the First Party of any such matter with respect to the First Party, within ten (10) days the First Party may give written notice of its intent to cure such matter and shall thereafter have sixty (60) days to so cure;

provided, however, that if the First Party does not give such notice or fails to cure within such period, then the Second Party shall have the right to terminate this Agreement by written notice within forty-five (45) days following such period in accordance with and subject to the provisions of Section 10.1(e) or Section 10.1(f), as the case may be. If a Party fails to exercise its termination right within the time specified under this Section 6.7, such Party will be deemed to have irrevocably and forever waived any termination right or any right to assert the failure to satisfy any conditions to the Closing arising out of such breach of this Agreement.

Section 6.8    Decommissioning Trust Agreement; Decommissioning Trust.

(a)    Neither Seller nor ENG C shall be required to cause the liquidation of any Pilgrim Fund Assets. During the Interim Period, Seller and ENG C shall retain the discretionary authority, acting reasonably, consistent with Good Industry Practices, and in a manner that would not result in disqualification of the Qualified Decommissioning Fund, to liquidate Pilgrim Fund Assets and withdraw them accordingly in order to pay for costs as permitted by Law.

(b)    During the Interim Period, ENG C shall not amend the Decommissioning Trust Agreement for the Pilgrim NPS except as consented to by Purchaser, in its reasonable discretion, or except as required by Law, the NRC, or any other applicable Governmental Authority. Notwithstanding the generality of the foregoing, to the extent ENG C should desire to amend the Decommissioning Trust Agreement, it shall consult with Purchaser, and Purchaser shall have the right to participate in discussions and negotiations related thereto. Each Party shall keep the other Parties apprised of the status of and developments relating to any amendments to the Decommissioning Trust Agreement as well as all communications with Third Parties relating thereto, including Governmental Authorities.

(c)    Purchaser acknowledges and agrees that (i) ENG C may make any withdrawal of Pilgrim Fund Assets at its discretion pursuant to Section 6.8(a) regardless of whether such withdrawal results in, or is a contributing factor to, the Closing condition in Section 8.1(g) not being satisfied and (ii) the amount of funds in the Decommissioning Trust maintained for the Pilgrim NPS is subject to market and investment risk. In the event that all of the conditions to Closing, other than the conditions to Closing in Section 8.1(g), have been satisfied or waived by the Party entitled to the benefit thereof then Purchaser's sole remedy is to not consummate the Closing. Notwithstanding the foregoing, Seller may, in its sole and absolute discretion, elect to pay to the Decommissioning Trust, at or prior to Closing, an amount in cash (to be invested in accordance with Purchaser's instructions, and as agreed upon by Seller) necessary to satisfy the condition to Closing in Section 8.1(g) (a "Shortfall Payment").

(d)    Notwithstanding anything to the contrary in this Agreement, in no event shall Seller or ENG C be required or obligated to make any actual or deemed contributions (in cash or otherwise) to the Decommissioning Trust maintained for the Pilgrim NPS.

(e)    Pilgrim Hypothetical Fund Value; Required Reports.

(i)    Pilgrim Valuation Report.

(1)    Seller shall use commercially reasonable efforts to cause the trustee of the Decommissioning Trust to deliver the Pilgrim Valuation Report to

Seller and Purchaser, no later than 5:00 p.m. Eastern time on the date that is one (1) Business Day after the Pilgrim Valuation Date.

(2) Section 6.8(e)(i) of the Joint Disclosure Schedules sets forth an illustrative example of the Pilgrim Valuation Report containing the Pilgrim Fund Asset Value and the Pilgrim Historical Tax Basis as of the date specified therein.

(ii) Pilgrim Valuation Date Statement.

(1) No later than 10:00 a.m. Eastern time on the next Business Day after the date the trustee delivers the Pilgrim Valuation Report to Seller and Purchaser, Seller shall cause the Pilgrim Valuation Date Statement to be delivered to Purchaser.

(2) The Pilgrim Valuation Date Statement shall be final, binding, and conclusive on the Parties for determining the Pilgrim Hypothetical Fund Value as of the Valuation Date for purposes of determining whether the condition to Closing in Section 8.1(g) has been satisfied.

(3) Section 6.8(e)(ii) of the Joint Disclosure Schedules sets forth an illustrative example of the Pilgrim Valuation Date Statement derived from Section 6.8(e)(i) of the Joint Disclosure Schedules.

(iii) Post-Closing Pilgrim Valuation Report.

(1) Purchaser shall use commercially reasonable efforts to cause the trustee of the Decommissioning Trust to deliver to Seller and Purchaser the Post-Closing Pilgrim Valuation Report no later than seven (7) Business Days after the Closing Date.

(2) The Post-Closing Pilgrim Valuation Report of the trustee shall be final, binding and conclusive upon both Purchaser and Seller and shall not be subject to further review, modification, or contest.

(iv) Post-Closing Pilgrim Valuation Date Statement.

(1) No later than 10:00 a.m. Eastern time on the next Business Day after the date the trustee delivers the Post-Closing Pilgrim Valuation Report to Seller and Purchaser, Seller shall cause the Post-Closing Pilgrim Valuation Date Statement to be delivered to Purchaser. The Post-Closing Pilgrim Valuation Date Statement shall be derived from and be consistent with the information in the Post-Closing Pilgrim Valuation Report.

(2) The Post-Closing Pilgrim Valuation Date Statement shall be final and binding upon both Seller and Purchaser (including for purposes of determining the Pilgrim Hypothetical Fund Value for purposes of determining the

and not subject to contest to the extent the content relies upon and is aligned with the information disclosed in the Post-Closing Pilgrim Valuation Report.

Section 6.9 Expenses.

(a) Except to the extent specifically provided in this Agreement, including Section 1.2, Section 1.4, Section 6.4(k), Section 6.6, Section 6.20, Section 6.21, and Section 7.3 whether or not the Contemplated Transactions are consummated, all costs and expenses incurred in connection with this Agreement and the Contemplated Transactions, including the cost of legal, technical and financial consultants, shall be borne by the Party incurring such costs and expenses; it being understood and agreed that the costs and expenses of Seller in connection with this Agreement and the Contemplated Transactions shall be borne by Seller and not ENG C.

Section 6.10 Termination of Affiliate and Other Agreements; Modification of Certain Agreements; Assignment; Financial Obligations; Multi-Party Contracts.

(a) Effective immediately prior to the Closing, all agreements between ENG C and its Affiliates (other than those agreements involving a Third Party or any agreement that is a Transaction Document), except for those set forth in Section 6.10(a) of the Seller Disclosure Schedules (“Affiliate Agreements”), shall terminate with respect to ENG C without any further action or liability on the part of ENG C or the Parties thereto. Each party to such Affiliate Agreements shall execute and deliver at Closing a release effective as of the Closing with respect to all Liabilities under each such Affiliate Agreement.

(b) Prior to the Closing, all intercompany (between Seller or any of its Affiliates (other than ENG C) on one hand, and ENG C, on the other hand) payables and all intercompany receivables shall be eliminated and shall be zero as of the Closing Date.

(c) At or prior to the Closing, Purchaser and Seller shall, with respect to all guaranties, financial assurances and performance assurances provided by Affiliates of Entergy and in effect at the Closing with respect to ENG C or the Facilities (the “Entergy Affiliate Guarantees”), either (i) obtain a full and unconditional release, novation, termination, return or discharge of all of the obligations of Seller and its Affiliates (other than ENG C) under the Entergy Affiliate Guarantees, in a form reasonably satisfactory to Seller or (ii) if Purchaser and Seller are unable to obtain the applicable regulatory or other approvals to release, novate, terminate, return or discharge the Entergy Affiliate Guarantees, obtain substitute guaranties, letters of credit or other credit support as are necessary to secure such release, novation, termination, return or discharge, effective as of the Closing, so that Purchaser or some other acceptable party is substituted in place of Seller and its Affiliates (other than ENG C), as appropriate, with respect to all of the obligations of Seller and its Affiliates (other than ENG C) under the Entergy Affiliate Guarantees such that Seller and its Affiliates (other than ENG C) may terminate the Entergy Affiliate Guarantees upon notice, without further obligation to or by Seller and its Affiliates (other than ENG C); provided that Seller and its Affiliates shall not be required to pay any consideration or make any post-Closing commitments with respect to (i) and (ii), unless with respect to payment of consideration only, Purchaser commits in writing to reimburse Seller for such payment. Section 6.10(c) of the Seller Disclosure Schedules sets forth the Entergy Affiliate Guarantees in effect on the date of this Agreement. Purchaser acknowledges

that the Entergy Affiliate Guarantees may be amended or otherwise modified by Seller during the Interim Period and that additional Entergy Affiliate Guarantees may be provided by Affiliates of ENG C in connection with the ownership or operation of ENG C or the Facilities and that Seller shall supplement Section 6.10(c) of the Seller Disclosure Schedules from time to time prior to the Closing to reflect the same. In the event that Seller elects to waive the Closing condition in Section 8.2(d), Purchaser shall defend, indemnify and hold harmless Seller and its Affiliates (other than ENG C) and their respective representatives from and against any and all losses, liabilities, damages, obligations, payments, costs, Taxes and expenses (including the costs and expenses of any and all actions, suits, proceedings, assessments, judgments, settlements and compromises relating thereto and reasonable attorneys' fees and reasonable disbursements in connection therewith) incurred by Seller or any of its Affiliates or their respective representatives arising out of or relating to the Entergy Affiliate Guarantees from and after the Closing.

(d) At or prior to the Closing, Purchaser shall replace and use commercially reasonable efforts to obtain a release effective as of the Closing of Entergy and its Affiliates (other than ENG C), with respect to all obligations arising under the ENG C Agreements, NRC License, and settlement agreements, MOUs and similar agreements with Governmental Authorities set forth in Section 6.10(d) of the Seller Disclosure Schedules.

(e) At least twenty (20) Business Days prior to the Closing Date, Seller shall deliver to Purchaser a list in writing of the Multi-Party Contracts that Seller or its relevant Seller Affiliate will retain at the Closing (the "Excluded Multi-Party Contracts") as set out in Section 6.10(e) of the Seller Disclosure Schedules. Subject to this Section 6.10(e), at the Closing, Purchaser and ENG C will assume all Multi-Party Contracts that are not Excluded Multi-Party Contracts (the "Included Multi-Party Contracts"). Prior to the Closing and until such time as the following amendments are obtained, Seller shall, and shall cause its Affiliates to, use commercially reasonable efforts to take such actions as may be reasonably necessary to amend the Excluded Multi-Party Contracts to remove ENG C as a party thereto, and to sever, modify and assign to ENG C effective (or retroactive) upon the Closing the rights and obligations of Seller or any of its Affiliates under such Multi-Party Contract. Prior to the Closing and until such time as the following amendments are obtained, ENG C shall, and shall cause its Affiliates to, use commercially reasonable efforts to amend the Included Multi-Party Contracts to remove the relevant Seller Affiliate as a party thereto, and to sever, modify and assign to the relevant Seller Affiliate effective (or retroactive) upon the Closing the rights and obligations of such Seller Affiliate under such Included Multi-Party Contract. In the event the counterparties to any Multi-Party Contract do not consent or agree to such amendment, severance, modification and assignment or termination at or prior to the Closing, from all times after the Closing (i) each of ENG C and the Seller Affiliates that are a party to such Multi-Party Contract shall continue to perform and discharge their respective obligations under such Multi-Party Contract and (ii) (A), in the case of an Included Multi-Party Contract, without the prior consent of ENG C (such consent not to be unreasonably withheld, delayed or conditioned), the relevant Seller Affiliate shall take no action (or fail to take any action) under, or in connection with, such Included Multi-Party Contract if such action (or failure to take any action) would reasonably be expected to result in any costs, expenses, other Liability to, or additional obligation of, ENG C and (B), in the case of an Excluded Multi-Party Contract, without the prior consent of Seller (such consent not to be unreasonably withheld, delayed or conditioned), ENG C shall take no action (or fail to take any action) under, or in connection with, such Excluded Multi-Party Contract if such action (or

failure to take any action) would reasonably be expected to result in any material costs, expenses, other Liability to, or additional obligation of, Seller or any of its Affiliates under such Multi-Party Contract; provided, however, that in the event that the counter-parties to any such Excluded Multi-Party Contract do not consent or agree to remove ENG C as a party thereto prior to the Closing, (x) from and after the Closing, or the completion or delivery of any such goods or services, as applicable, ENG C shall not be entitled to any further benefit under such Excluded Multi-Party Contract (other than to enforce any rights of ENG C arising under such Excluded Multi-Party Contract for events, facts, or circumstances occurring prior to the Closing or the completion or delivery of such goods or services), and (y) ENG C shall continue to perform and discharge its obligations under such Excluded Multi-Party Contract until such obligations are fulfilled. Purchaser shall, and shall cause its Affiliates to, cooperate with Seller with respect to obtaining any of the amendments contemplated by this Section 6.10(e).

(f) In the event that Seller elects to waive Section 8.2(d), Purchaser shall continue to use commercially reasonable efforts from and after the Closing to (i) obtain a full and unconditional release, novation, termination, return or discharge of all of the obligations of Seller and its Affiliates (other than ENG C) under the Entergy Affiliate Guarantees, in a form reasonably satisfactory to Seller or (ii) obtain substitute guaranties, letters of credit or other credit support as are necessary to secure such release, novation, termination, return or discharge; and (iii) Purchaser shall not permit ENG C to (A) renew or extend the term of, (B) increase the obligations under or (C) transfer to a Third Party, any loan, lease, contract or other obligation for which Seller or any of its Affiliates (other than ENG C) is or would be liable under the Entergy Affiliate Guarantees. To the extent that Seller or any of its Affiliates (other than ENG C) has performance obligations under the Entergy Affiliate Guarantees, Purchaser shall (1) perform such obligations on behalf of Seller or such Affiliates or (2) otherwise take such action as reasonably requested by Seller so as to put Seller or such Affiliates in the same position as if Purchaser, and not Seller or such Affiliates, had performed or was performing such obligations.

(g) Seller agrees that prior to July 6, 2020, it shall use commercially reasonable efforts, in cooperation with Purchaser, to (i) solicit all qualified offers for services comparable to those covered by the agreement referenced in item 4 of Section 9.2(b)(v) of the Seller Disclosure Schedules (the “Legacy Agreement”); and (ii) upon receipt of such offers, cause ENG C to provide notice thereof to the vendor under the Legacy Agreement. In the event that the vendor elects not to match such offers, Seller shall use commercially reasonable efforts and with consultation with Purchaser, to enter into agreements for replacement services.

#### Section 6.11 Indemnification of Directors and Officers.

(a) Indemnification.

[REDACTED]



[REDACTED]

(b) Survival of Indemnification. [REDACTED]

[REDACTED]

(c) Successors. In the event that, after the Closing Date, ENG C or Purchaser or any of their respective successors or assigns (i) consolidates with or merges into any other Person and shall not be the continuing or surviving corporation or entity of such consolidation or merger or (ii) transfers all or a substantial portion of its properties and assets to any Person, then, and in either such case, proper provisions shall be made so that the successors and assigns of Purchaser shall assume the obligations set forth in this Section 6.11.

(d) Limitation. For the avoidance of doubt, the provisions of this Section 6.11 shall not limit the rights of any Purchaser Indemnified Parties under Article 9. Notwithstanding anything contained herein to the contrary, including Section 12.4, the indemnification obligations of this Section 6.11 shall be satisfied solely out of the assets of ENG C.

Section 6.12 Change of Name; Use of Names.

(a) Within fifteen (15) days after the Closing Date, Purchaser shall cause ENG C to change its legal name to remove the word “Entergy,” and within forty-five (45) days after the Closing Date, Purchaser shall cause ENG C to change any other reference or indicia associated with Entergy and any confusingly similar variations, derivations or abbreviations of the foregoing, except where the reference or indicia is not readily visible to the public, or where doing so on a physical structure would be commercially impracticable and that physical structure is to be removed during Decommissioning.

(b) From and after the Closing, Purchaser shall not, and shall cause its Affiliates not to, use the words “Entergy,” any Service Mark, any other reference or indicia



associated with Entergy and any confusingly similar variations, derivations or abbreviations of any of the word “Entergy.”

Section 6.13 Excluded Assets.

(a) Purchaser acknowledges and agrees that from and after the Closing, neither Purchaser nor ENG C shall have any right, title or interest in the assets listed in Section 6.13(a) of the Seller Disclosure Schedules or any other asset expressly retained by Seller or its Affiliates under this Agreement (the “Excluded Assets”). At or prior to the Closing, ENG C shall cause any Excluded Assets owned, held or used by ENG C to be conveyed, assigned or otherwise transferred as directed by Seller without any representation, warranty or further liability or obligation. Without limiting the foregoing, with respect to the Excluded Assets designated as “Excess Inventory” in Section 6.13(a) of the Seller Disclosure Schedules, such Excluded Assets shall be removed from the Facilities (at Seller’s cost) no later than ninety (90) days after the Closing and each of ENG C and Purchaser shall use commercially reasonable efforts to cooperate with Seller with respect to removing such Excluded Assets.

(b) Without limiting the generality of Section 6.13(a), Seller shall have the right to sell, dispose or otherwise transfer any or all of the Excluded Assets without the consent of Purchaser and without any adjustment to the Purchase Price.

(c) Seller shall have the right to sell, dispose or otherwise transfer the Switchyard (and, in such case, the Switchyard shall be deemed an Excluded Asset) (such right, the “Switchyard Option”). In the event that Seller does not exercise the Switchyard Option, the Switchyard shall continue to be owned by ENG C on or after the Closing.

Section 6.14 Supplement to Disclosure Schedules.

(a)

[REDACTED]

[REDACTED]

(i) [REDACTED]

(ii) [REDACTED]

(iii) [REDACTED]

(iv) [REDACTED]

[REDACTED]

(b) From and after the Closing, Purchaser and Parent shall use commercially reasonable efforts to cause the sale of all excess equipment, inventory and supplies owned by ENGC and not reasonably necessary to Decommission the Facilities or otherwise operate the Facilities post-shutdown (such equipment, inventory and supplies, “Excess Assets”) within twenty-four (24) months of the date of Closing (“Excess Asset Sale”). Except with the written consent of Seller, all Excess Asset Sales shall be (i) conducted on an arms-length basis, to non-Affiliate parties of Purchaser and Parent; (ii) shall be on a “as is, where is basis,” for cash, and without any post disposition holdback or escrow; and (iii) shall be without recourse to Seller or any of its Affiliates or other representatives. All proceeds from any Excess Asset Sale, less any reasonable and documented out-of-pocket third party costs and consents incurred by Purchaser and Parent to effect such Excess Asset Sale, shall be paid as follows: (x) [REDACTED] to Seller and (y) [REDACTED] to Purchaser and Parent.

(c) Without limiting the other provisions of this Section 6.14 or Section 12.5, the Parties agree that if, during the ninety (90) days after the date of this Agreement, either Party identifies in good faith a material issue in the Seller Disclosure Schedules in Article 4 arising from or related to documents provided in the Data Room (in a folder to which Purchaser or its Representatives were granted access) on or after July 1, 2018, the Parties’ senior management shall immediately negotiate in good faith to reach a mutually acceptable solution or compromise with respect to any such issues; provided, that, such Seller Disclosure Schedules shall be amended or modified with respect to such issues upon the mutual written agreement of the Parties.

#### Section 6.15 IT; Software Matters; Books and Records.

(a) From and after the Closing, ENGC and its Affiliates shall have no right to use, and Seller shall have removed In-house Software, Fleet-wide Software, Third-party Software licensed through agreements that, by their terms, do not affirmatively allow Purchaser to use it following the Closing, and Service Marks. From and after the Closing, Purchaser shall obtain, or shall have obtained, at its sole cost and expense, any and all IT, Software, related system and maintenance consents, and Intellectual Property, provided that Seller shall execute reasonable consents in connection with transferring such items to Purchaser. Further, if Seller is unable to locate the Third-party Software licenses, then Purchaser shall have no right to use, and shall remove, such applicable Third-party Software. Seller shall work in good-faith with Purchaser during the Interim Period to facilitate the establishment of technological systems sufficient to meet any regulatory safety and security requirements and for operational needs. Seller will provide a list of recommended Phase 1 or Phase 2 IT Software applications, it being understood that Seller makes no representation or warranty with respect to the accuracy of such recommendations, together with a good faith description of how each application is used at each respective site and will work with Purchaser in good faith during the Interim Period to support Purchaser’s IT Transition Plan (the “IT Transition Plan”). Purchaser shall promptly reimburse Seller and its Affiliates for any reasonable out-of-pocket expenses and costs incurred in connection with the foregoing. Purchaser shall provide dedicated, qualified IT resources responsible for developing the IT Transition Plan.

(b) At or prior to the Closing, Seller shall cause ENOI to provide to ENGC, to the extent not already in ENGC’s possession, such books and records of the Pilgrim NPS for the

period prior to the Closing as are necessary for ENG C's compliance after the Closing with its obligations under the NRC License or other NRC requirements, Environmental Permits, or for completion of the Decommissioning, including administration of the Decommissioning Trust and prosecution of any Subsequent DOE Claim or required by Law to be maintained by ENG C immediately after the Closing (such books and records, "Regulatory Books and Records"). From and after the Closing, to the extent Purchaser identifies any books and records constituting Regulatory Books and Records maintained by ENOI that are not in ENG C's possession, at the reasonable request of Purchaser, Seller shall cause ENOI to take commercially reasonable efforts to provide to ENG C such Regulatory Books and Records (at Purchaser's sole cost and expense).

(c) From and after the Closing and subject to Section 12.6, to the extent not prohibited by applicable Law or Entergy's privacy policies (as may be amended or modified from time to time post-Closing), Seller shall permit ENG C (at ENG C's sole cost and expense), during regular business hours and upon reasonable advance notice to Seller, through their Representatives, the right to examine and make copies of books and records of the Pilgrim NPS, not constituting Regulatory Books and Records, in the possession of ENOI or Seller, reasonably necessary in connection with the ownership of the Equity Interests or the Pilgrim NPS, concerning the ownership and operation of the Pilgrim NPS prior to the Closing (other than in connection with a dispute between Seller and Purchaser); provided that (i) any of Seller's or ENOI's books and records or other information that is subject to an attorney-client or other legal privilege or obligation of confidentiality or non-disclosure shall not be made so accessible (provided that in any such event Seller shall notify Purchaser in reasonable detail of the circumstances giving rise to any such privilege or obligation and use commercially reasonable efforts to seek to permit disclosure of such information, to the extent possible, in a manner consistent with such privilege or obligation); and (ii) Seller and ENOI shall not be required to provide access to any financial or tax information of Seller or ENOI or any of their Affiliates (including any such information that forms a part of the general ledger of Entergy or any of its Affiliates); provided, further, that any access to any books and records will not interfere with the normal operation of Seller or any of its Affiliates. Upon the request of Seller, ENG C and its Representatives shall enter into a customary confidentiality agreement (in a form reasonably acceptable to Seller) in connection with the foregoing access.

(d) From and after the Closing, to the extent not prohibited by applicable Law or Purchaser's privacy policies (as may be amended or modified from time to time post-Closing), Purchaser shall permit Seller (at Seller's sole cost and expense), during regular business hours and upon reasonable advance notice to Purchaser, through its Representatives, the right to examine and make copies of books and records of the Pilgrim NPS in the possession of ENG C relating to the ownership and operation of the Pilgrim NPS and the Decommissioning, reasonably necessary for (i) investigating, settling, preparing for the defense or prosecution of, defending or prosecuting any Action (other than in connection with a dispute between Seller and Purchaser), (ii) preparing reports to Governmental Authorities or (iii) such other purposes for which access to such documents is reasonably necessary, including preparing and delivering any accounting or other statement provided for under this Agreement or any of the other Transaction Documents; provided that (x) any of Purchaser's books and records or other information that is subject to an attorney-client or other legal privilege or obligation of confidentiality or non-disclosure shall not be made so accessible (provided that in any such event Purchaser shall notify Seller in reasonable detail of the circumstances giving rise to any such privilege or obligation

and use commercially reasonable efforts to seek to permit disclosure of such information, to the extent possible, in a manner consistent with such privilege or obligation); and (y) Purchaser shall not be required to provide access to any financial or tax information of Purchaser or any of its Affiliates; provided, further, that any access to any books and records will not interfere with the normal operation of Purchaser or any of its Affiliates. Upon the request of Purchaser, Seller and its Representatives shall enter into a customary confidentiality agreement (in a form reasonably acceptable to Purchaser) in connection with the foregoing access.

(e) From and after the Closing, Seller and its Affiliates shall be entitled to retain copies (at the applicable Seller's sole cost and expense) of all books and records relating to its ownership or operation of ENGC and the Facilities; provided, however, that nothing in this Section 6.15 shall require Seller or its Affiliates to retain or preserve any books and records related to the Equity Interests or the ownership or operation of the Pilgrim NPS after the Closing. Seller and its Affiliates shall keep all such books and records confidential except to the extent, in the opinion of counsel, disclosure is required by Law or requested by legal or judicial process.

#### Section 6.16 Insurance Policies.

(a) Effective at the Closing, the Insurance Policies set forth in Part 1 of Section 6.16(a) of the Seller Disclosure Schedules shall terminate with respect to ENGC without any further action or liability on the part of the Parties thereto and ENGC shall be removed as a named insured on all insurance policies of Entergy and its Affiliates. The Insurance Policy set forth in Part 2 of Section 6.16(a) of the Seller Disclosure Schedules (subject to Purchaser obtaining prior to the Closing an endorsement relieving ENOI from any pre-Closing and post-Closing liabilities under such policies effective as of the Closing) shall not be terminated and shall continue in full force and effect after Closing unless and until Purchaser or ENGC determines to terminate said policies in their sole discretion.

(b) From and after the Closing, the Purchaser Parties shall cause ENGC or its Affiliates to have and maintain in effect policies of liability and property insurance with respect to Decommissioning the Facilities which shall afford protection against the insurable hazards and risks with respect to which nuclear facilities of similar size and type to the Facilities customarily maintain insurance, and which meets NRC requirements and any other applicable Law. Such coverage shall include (i) nuclear liability insurance from American Nuclear Insurers in such form and in such amount as will meet the financial protection requirements of the Atomic Energy Act, and an agreement of indemnification as contemplated by the Price-Anderson Act, and (ii) a pollution legal liability policy in the amount of at least [REDACTED], to the extent commercially available on reasonable terms, for the Site to cover applicable Environmental Claims (such legal liability policy, the "PLL Insurance"). Notwithstanding the foregoing, Seller acknowledges that ENGC or its Affiliates will seek approval from the NRC to reduce coverage under the Nuclear Insurance Policies as the Pilgrim NPS undergoes different configurations throughout Decommissioning.

#### Section 6.17 NRC Commitments.

(a) From and after the Closing, ENG C will assume all responsibilities under the NRC License and the general license for the ISFSI, including responsibility for compliance with the current licensing basis of the Facilities.

(b) From and after the Closing, Purchaser shall cause ENG C to conduct licensing activities at the Pilgrim NPS in accordance with the then-current licensing basis of the Facilities, including the NRC License, applicable regulations of the NRC and orders and all written regulatory commitments to the NRC pertaining to the Pilgrim NPS, and with applicable Nuclear Laws.

#### Section 6.18 Decommissioning.

(a) Prior to the Closing, ENG C shall (and Seller shall cause ENG C, as applicable, to) maintain inventory levels at the Site waste storage facilities in the ordinary course of business, consistent with past practice. Following the Closing, Purchaser shall comply with the terms and conditions of the settlement agreements, MOUs and similar agreements with Governmental Authorities with respect to ENG C and the Facilities.

(b) ENG C shall (and Purchaser shall cause ENG C, as applicable, to) complete at its sole cost and expense all Decommissioning activities in accordance with all Laws, including applicable requirements of the Atomic Energy Act, the NRC's rules, regulations, orders and pronouncements thereunder, and the requirements of the Environmental Protection Agency as applicable, including in those orders and agreements issued to or entered into by ENG C in connection with the Contemplated Transactions, and good Decommissioning practice, except that, whether or not permitted by any Law, entombment (or ENTOMB) of structures, components and equipment on the Site shall not be an acceptable form of Decommissioning. Upon removing the Facility (other than the ISFSI) safely from service and reducing residual radioactivity to a level that permits the release of the property for unrestricted use, ENG C shall promptly (and in any event within twelve (12) months thereof) file with the NRC a request pursuant to 10 C.F.R. section 50.83 to release all portions of the Site (other than the ISFSI) for unrestricted use.

(c) Purchaser hereby acknowledges and agrees that from and after the Decommissioning, the disposition of any Owned Real Property will be performed in accordance with all applicable rights of first offer or refusal or other preemptive rights in favor of any Third Party to purchase such Owned Real Property or any portion thereof as set forth in Section 4.9(a) of the Seller Disclosure Schedules.

(d) From and after the Closing, Purchaser hereby agrees that it will take, or cause ENG C to take, all reasonable efforts at its sole cost and expense, to complete the transfer of Spent Nuclear Fuel to the ISFSI as soon as practicable, and will, as promptly as such transfer permits, proceed with decontamination and dismantlement of the Facilities (other than ISFSI). Purchaser further agrees that it will cause ENG C to, as promptly as commercially practicable after all the Spent Nuclear Fuel has been transferred from spent fuel pool storage to the ISFSI: (i) release all portions of the Site other than the ISFSI pursuant to 10 C.F.R. § 50.83, and (ii) dispose of all radioactive waste other than Spent Nuclear Fuel in accordance with all applicable Laws. Purchaser further agrees that it will cause ENG C to, as promptly as reasonably



practicable after the Department of Energy completes its acceptance of the Spent Nuclear Fuel, (i) complete the Decommissioning with respect to the ISFSI and (ii) terminate the NRC License.

(e) The only remedy of Seller with respect to any breach of Purchaser of the covenants in this Section 6.18 and Section 6.17 shall be the right to obtain indemnification against any Losses arising from Third Party Claims against Seller arising from alleged breaches of the covenants of Purchaser in this Section 6.18 and Section 6.17.

Section 6.19 MOUs. From and after the Closing, Purchaser hereby agrees that it will comply, and cause ENGCG to comply, with the terms of all settlement agreements, MOUs and similar agreements between Seller, ENOI, or any of their respective affiliates, and any Governmental Authority, including the Commonwealth of Massachusetts (or any political subdivision thereof) and including those as set forth in Section 6.19 of the Seller Disclosure Schedules. Without limiting the foregoing, as a condition of Seller (on behalf of Entergy Corporation) to enter into this Agreement, Purchaser hereby agrees that it will, and will cause ENGCG to, maintain the Decommissioning Trust in accordance with the regulations of the NRC. The only remedy of Seller with respect to any breach of Purchaser of the covenants in this Section 6.19 shall be the right to obtain indemnification under Section 9.2(a)(vi) against any Losses arising from Third Party Claims against Seller arising from alleged breaches of the covenants of Purchaser in this Section 6.19.

Section 6.20 Department of Energy Claims.

(a) From and after the Closing, ENGCG shall retain all of its rights and obligations under the Standard Spent Fuel Disposal Contract, including claims against the United States or the Department of Energy, subject to the provisions of this Section 6.20.

(b) From and after the Closing, Purchaser shall cause ENGCG to use reasonable best efforts to pursue the Pending DOE Claim in a diligent and timely manner, and Purchaser shall cause ENGCG to engage (or continue to engage) counsel selected by Seller to pursue the Pending DOE Claim. From and after the Closing, Purchaser shall make available its and its Affiliates' employees and agents as witnesses or consultants and provide such information and documents as may be appropriate at any time regarding the Pending DOE Claim. The fees and expenses of such counsel shall be paid by Seller, and Seller shall be responsible for any risk or other out-of-pocket litigation costs, including any required travel expenses, reasonably incurred by ENGCG in connection with pursuing the Pending DOE Claim. To the maximum extent permitted by Law, Seller shall be entitled to control and direct the Pending DOE Claim, including to (at Seller's own expense) control and settle any Pending DOE Claim and Purchaser and ENGCG shall take all actions necessary or requested by counsel selected by Seller in connection therewith. Without limiting the foregoing, subject to applicable Law, Seller shall have the right to require ENGCG to appeal any order or judgment or similar judicial action with respect to the Pending DOE Claim, and Purchaser and ENGCG shall take all actions reasonably requested by Seller in connection therewith. Seller shall have the right to cause ENGCG at, prior to, or after Closing, to file a Pending DOE Claim against the DOE for damages for which Seller bears the risk and to which Seller is entitled.



(c) From and after the Closing, when and if ENG C recovers any awards or damages in connection with the Pending DOE Claim, including awards of costs, ENG C shall, and Purchaser shall cause ENG C to, hold in trust for Seller all such amounts and promptly pay, in immediately available funds, all such amounts to Seller without deduction or offset, and shall promptly (and in any event, no later than one (1) Business Day after receiving such amounts) wire such amounts in immediately available funds to an account designated by Seller from time to time. Purchaser and ENG C shall not assign, transfer, impair, settle or otherwise permit any Encumbrance to exist with respect to the Pending DOE Claim or the right to receive proceeds of any awards or damages in connection therewith, and Purchaser and ENG C shall take any action necessary and requested by Seller, at Seller's cost, to preserve Seller's rights under this Section 6.20, including establishing a segregated account of ENG C, entering into an account control agreement with respect thereto in a form reasonably acceptable to Seller, excluding the Pending DOE Claim and any rights to any proceeds therefrom as collateral under any contract of ENG C or Purchaser, and ensuring that the payment obligations of Purchaser and ENG C are permitted under any contract applicable to Purchaser or ENG C or their respective businesses and assets without Seller's consent. The Parties acknowledge and agree that the rights of Seller under this Section 6.20, including the right to proceeds of any awards or damages, are not an assignment of the Pending DOE Claim to Seller but are a post-Closing payment obligation of Purchaser and ENG C in consideration of the Contemplated Transactions and shall be considered an adjustment to the Purchase Price. From and after the Closing, Purchaser and ENG C shall not settle or compromise the Pending DOE Claim without the written consent of Seller, which consent may be withheld for any or no reason. Neither Seller Parties nor Purchaser Parties shall take, or cause ENG C to take, any action, or fail to take any action, including taking any position in litigation or otherwise, that would impair or adversely affect in any manner the DOE claims or the rights allocated pursuant to this Section 6.20 of the other Party to the proceeds of any awards or damages in connection therewith.

(d) From and after the Closing, (i) ENG C will retain ownership and title to all Spent Nuclear Fuel and all rights and obligations under the Standard Spent Fuel Disposal Contract and (ii) Purchaser and ENG C shall bear the economic risk and benefit of any Subsequent DOE Claim, and Purchaser and ENG C shall have no recourse against Seller for any amounts claimed but not recovered from the United States or the Department of Energy pursuant to such actions. Without limiting the foregoing, and without limiting the rights of Seller and its Affiliates, or the obligations of ENG C or Purchaser, under any other Transaction Document, from and after the Closing, Seller shall not be entitled to any awards or damages recovered by ENG C in connection with any Subsequent DOE Claim, including awards of costs. From and after the Closing, Purchaser and ENG C shall control any litigation at its sole cost and expense (excepting the Pending DOE Claim and any other claims for damages by ENG C or Seller or its Affiliates with respect to the pre-Closing period, which costs shall be borne by Seller), subject to the provisions of this Section 6.20. From and after the Closing, Seller shall make available its and its Affiliates' employees and agents as witnesses or consultants and provide such information and documents as may be appropriate at any time regarding the Subsequent DOE Claim. Purchaser shall be responsible for any out-of-pocket costs associated with Seller personnel's support of the Subsequent DOE Claim, including any required travel expenses reasonably incurred by Seller or its Affiliates, in connection with the foregoing. From and after the Closing, Purchaser and ENG C shall not (i) permit any spent nuclear fuel not generated by the

Pilgrim NPS to be transported to or stored at the Pilgrim NPS for any period of time or (ii) assign any of their rights or obligations under the Standard Spent Fuel Disposal Contract.

(e) From and after the Closing, in the event that Purchaser or ENGCO or any of its permitted successors or assigns (i) consolidates with or merges into any other Person and is not the continuing or surviving entity of such consolidation or merger or (ii) transfers or conveys the Facilities to any Person, then, and in each such case, Purchaser shall cause proper provision to be made so that the successors and assigns of ENGCO or the Facilities, as applicable, shall expressly assume the obligations of Purchaser and ENGCO set forth in this Section 6.20.

Section 6.21 Funding of Qualified Expenses; Advanced Expenses.

(a) During the Interim Period, ENGCO shall be permitted to incur, repay, or refinance any indebtedness to finance Qualified Expenses.

(b) At the Closing, Purchaser shall pay in immediately available funds the amounts for certain expenses of ENGCO and Seller set forth in Section 6.21(b) of the Joint Disclosure Schedules or in such amounts otherwise agreed in writing by the Parties, in accordance with the procedures set forth in Section 6.21(b) of the Joint Disclosure Schedules. After the Closing, Seller and Purchaser shall take the actions set forth in Section 6.21(b) of the Joint Disclosure Schedules with respect to such expenses.

Section 6.22 [Reserved].

Section 6.23 [Reserved].

Section 6.24 Employees.

(a) The Purchaser Parties agree to offer, or cause to be offered, employment with ENGCO, Purchaser or any of Purchaser's Affiliates, commencing as of the Closing, to each Target Employee in the positions set forth on Section 6.24(a) of the Seller Disclosure Schedules. All such offers of employment shall be made at least ninety (90) days prior to the anticipated Closing Date. Purchaser acknowledges that the current employment of certain Target Employees is subject to a Collective Bargaining Agreement (the "Union Employees"). With respect to Union Employees, the Purchaser agrees that the employment offers must be for the same job classifications that the Union Employees are in as of immediately prior to the Closing and for the same wages (including base pay and, as applicable, bonuses), not less than a Union Employee is receiving immediately prior to the Closing. As of the Closing, the Purchaser Parties or the Purchaser Party Affiliates (depending on which entity employs the Transferred Employees) shall recognize the union that is a party to each Collective Bargaining Agreement under which any Transferred Employees were covered with Seller as the exclusive collective bargaining representative of such Transferred Employees and shall honor and assume each Collective Bargaining Agreement from and after the Closing.

(b) Each Target Employee who is offered and accepts such employment (whether as of Closing or, in the case of any "Leave Employee," as defined below, such individual's Leave Return Date) will be referred to herein as a "Transferred Employee." The Seller will retain or assume, or cause one of its Affiliates (other than ENGCO) to retain or assume,

liability for and indemnify Purchaser and its Affiliates (including, following the Closing, ENG C) against the cost of any severance, retention and other compensation and employee benefits payable to any Pilgrim Employee who is not a Transferred Employee.

(c) Except as Purchaser and any Transferred Employee may otherwise mutually agree, and excepting any Union Employees whose terms and conditions of employment are covered by a Collective Bargaining Agreement, for the period commencing on the Closing Date and ending [REDACTED] (the “Compensation Continuation Period”), the Purchaser Parties shall provide, or cause to be provided, to each such Transferred Employee: (i) base pay not less than that received from Seller and its Affiliates immediately prior to the Closing; (ii) target annual incentive compensation opportunities at least equal to those received from Seller and its Affiliates immediately prior to the Closing; (iii) employee benefits that are no less favorable in the aggregate than those provided to similarly situated employees of the Purchaser Parties, provided that the compensation and employee benefits that, taken together as a whole, are provided or made available by the Purchaser Parties to the Transferred Employees during the Compensation Continuation Period shall be no less favorable in the aggregate than those provided by Seller and its Affiliates immediately prior to Closing, whether or not provided in kind; and further provided that, except as provided in clauses (i), (ii) and (iv), the Purchaser Parties shall have no obligation to make available to any Transferred Employee any particular category of employee benefits, including, without limitation, any category of benefits provided by Seller or an Affiliate to such Transferred Employee immediately prior to the Closing Date through a Benefit Plan or Pension Plan; and (iv) an offer of participation in an employer-sponsored group health plan and a Tax-qualified 401(k) plan.

(d) At and after Closing, neither ENG C nor any of the Purchaser Parties or their respective Affiliates shall have any Liability with respect to any Benefit Plan. Furthermore, neither ENG C nor any of the Purchaser Parties or their respective Affiliates shall have any liability or otherwise be obligated to provide any form of payment or employee benefit to any current or former Target Employee who does not become a Transferred Employee. The Seller will retain or assume, or cause one of its Affiliates (other than ENG C) to retain or assume, liability for and indemnify Purchaser and its Affiliates (including, following the Closing, ENG C) against any liability or cost under any Benefit Plan.

(e) As of the Closing or, in the case of any Leave Employee, the applicable Leave Return Date, all Transferred Employees (including their eligible dependents) shall cease to be eligible to participate in the employee welfare benefit plans (as such term is defined in ERISA) maintained or sponsored by Seller or its Affiliates and shall be eligible to participate in the employee welfare benefit plans that are made available to similarly situated employees of Purchaser or its Affiliates, subject to the eligibility and other terms thereof. Seller and its Affiliates shall retain all liabilities under its employee welfare benefit plans for all claims incurred by Transferred Employees on or before Closing or, in the case of any Leave Employee, the applicable Leave Return Date.

(f) Except to the extent the Purchaser Parties and any such Transferred Employee may otherwise mutually agree, and excepting any Union Employees whose terms and conditions of employment are covered by a Collective Bargaining Agreement, the Purchaser Parties shall pay or cause to be paid to each Transferred Employee whose employment with

Purchaser or its Affiliates is involuntarily terminated by the Purchaser Parties without Cause, as determined by the Purchaser Parties, [REDACTED]

(g) The Purchaser Parties (i) shall waive, or cause to be waived, all limitations as to pre-existing condition exclusions and waiting periods with respect to the Transferred Employees (including their eligible dependents) under the welfare benefit plans (as defined in Section 3(1) of ERISA) provided by the Purchaser or an Affiliate thereof to the Transferred Employees after Closing (the “Purchaser Welfare Benefit Plans”), other than limitations or waiting periods that were in effect with respect to such Transferred Employees under the equivalent welfare benefit plans maintained by Seller or its Affiliates and to the extent that they were not satisfied as of the Closing Date or the applicable Leave Return Date, as applicable, and (ii) shall, or in the case of any Purchaser Welfare Benefit Plan that is an insured plan, shall take commercially reasonable efforts to, provide each Transferred Employee with, or cause each Transferred Employee to be provided with, credit for any co-payments, deductibles and co-insurance payments made prior to the Closing Date (or the applicable Leave Return Date, as applicable) during a plan year under a plan of Seller or its Affiliates (as applicable) that has not ended as of the Closing Date (or the applicable Leave Return Date, as applicable), in satisfying any deductible, co-insurance or out-of-pocket limitations or requirements under the Purchaser Welfare Benefit Plans (on a pro-rata basis in the event of a difference in plan years); provided that, if a Transferred Employee does not receive any such credit set forth in this Section 6.24(g)(ii), Purchaser shall, or shall cause one of the Purchaser Parties to, make a cash payment to such Transferred Employee that, after applicable federal, state and local Tax and other applicable withholdings, is equal to the value of the credit not so provided.

(h) Subject to Section 6.24(f), the Purchaser Parties shall give, or cause to be given, all Transferred Employees (other than any Union Employees whose terms and conditions of employment are covered by a Collective Bargaining Agreement) credit for all service with Seller and its Affiliates, including all predecessor employer service, under all employee benefit plans and arrangements and all fringe benefit plans, programs, policies and arrangements (other than severance) maintained at and after the Closing by Purchaser or its Affiliates and made available to such Transferred Employees. Such service credit need be recognized only to the extent that such prior service was recognized under the applicable comparable Benefit Plan immediately prior to the Closing Date, or the applicable Leave Return Date, as applicable. Notwithstanding the foregoing, no service crediting under this Section 6.24(h) shall be required to the extent that it would result in duplication of benefits for the same period of service. Such service credit (whether actual or imputed) shall be recognized solely for purposes of eligibility and vesting under such benefit plans, programs and policies of Purchaser and its Affiliates; provided, however, that, in the case of any vacation and other paid-time-off programs, such service credit shall also be recognized for purposes of benefit accrual.

(i) The Purchaser Parties agree to allow, or cause to be allowed, the Transferred Employees to be eligible to commence participation as of the Closing Date (or, if applicable, the applicable Leave Return Date) in a Tax-qualified 401(k) plan sponsored by

Purchaser or its Affiliates, subject to the eligibility and other terms thereof. To the extent allowable by Law, the Purchaser Parties shall use their commercially reasonable efforts to cause the trustee of the Tax-qualified 401(k) plan(s) of Purchaser or its Affiliates in which any Transferred Employee becomes a participant (“Purchaser Savings Plan”) to accept as a direct rollover (within the meaning of Section 401(a)(31) of the Code) any distribution from any qualified 401(k) plan sponsored by Seller or its Affiliates and as in effect for Transferred Employees immediately prior to the Closing (the “Seller Savings Plan”) to the extent the request of such rollover is initiated by the Transferred Employee and such rollover shall not cause the Purchaser Savings Plan to fail to satisfy the requirements of Section 401(a) of the Code, including, if and to the extent permitted by the terms of the Purchaser Savings Plan and the Seller Savings Plan, any rollover in kind of participant loan balances; provided, that such loan balances are not then in default in accordance with their terms; and provided, further, that the Purchaser Parties need not accept, or cause to be accepted, any other type of distribution in kind.

(j) Notwithstanding Section 6.24(a), any offer of employment to any Target Employee who on the Closing Date is not actively at work due to short-term disability, a leave of absence covered by the Family and Medical Leave Act or the Uniformed Services Employment and Reemployment Rights Act, or due to any other leave of absence with return rights protected by Law (each such Target Employee, a “Leave Employee”) (i) shall be contingent on such Target Employee returning to active full-time work on or prior to the later of (A) the one-year anniversary of the Closing Date and (B) the last day on which Seller or its Affiliates would have been required to offer to re-employ such Target Employee pursuant to any applicable Law if the Contemplated Transactions had not occurred and (ii) shall be effective as of the date that such Target Employee returns to active full-time work (such date, with respect to any Target Employee, such Target Employee’s “Leave Return Date”).

(k) Purchaser or an Affiliate thereof shall be responsible for providing, and shall assume all liabilities in respect of, the provision of continued medical coverage pursuant to its group health plans under COBRA or similar state Law for the Transferred Employees with respect to any “qualifying event” (within the meaning of COBRA) that occurs after the Closing Date. Seller or an Affiliate thereof shall be responsible for providing, and shall assume all liabilities in respect of, the provision of continued medical coverage pursuant to its group health plans under COBRA or similar state Law for the Pilgrim Employees and Target Employees with respect to any “qualifying event” (within the meaning of COBRA) that occurs on or prior to the Closing Date.

(l) Without limiting the generality of Section 12.7, the provisions contained in this Section 6.24 are included for the sole benefit of the applicable Parties and shall not create any right in any other Person, including any Pilgrim Employee or Target Employee (or dependent or beneficiary thereof). Nothing contained herein, express or implied, (i) shall be construed to establish, amend or modify any benefit plan, program, agreement or arrangement, (ii) shall alter or limit the ability of Seller or its Affiliates or the Purchaser Parties or their Affiliates to amend, modify or terminate any benefit plan, program, agreement or arrangement, or (iii) is intended to confer upon any current or former employee any right to employment or continued employment for any period of time by reason of this Agreement or any right to a particular term or condition of employment.



(m) Purchaser covenants to give, and to cause ENG C to give, good faith consideration and preference to the existing Pilgrim Employees and local contractors and employees in hiring for the Facility; provided that final selection of all contractors and employees shall be in the sole discretion of Purchaser and its applicable Affiliates. For the avoidance of doubt, nothing in this Section 6.24(m) is intended to affect or change any of Purchaser's obligations with respect to Section 6.24(a)-(l).

Section 6.25 WARN Act. Neither Purchaser nor Parent shall, with respect to the Pilgrim NPS, engage in a "plant closing" or "mass layoff," as such terms are defined in the WARN Act, within ninety (90) days after the Closing, or shall engage in any similar act or event under any similar applicable state Law. With respect to any "plant closing" or "mass layoff", as such terms are defined in the WARN Act occurring with respect to the Pilgrim NPS on or prior to Closing, Seller and its Affiliates shall be responsible for providing any required notice and/or making any required payment of severance compensation with respect to any of affected employees, including any notice pay and severance pay, to comply with the requirements of the WARN Act or similar applicable state Law or collective bargaining agreement. With respect to any "plant closing" or "mass layoff", as such terms are defined in the WARN Act occurring after Closing with respect to the Transferred Employees, Purchaser and its Affiliates shall be responsible for providing any required notice and/or making any required payment of severance compensation with respect to any of affected Transferred Employees, including any notice pay and severance pay, to comply with the requirements of the WARN Act or similar applicable state Law or collective bargaining agreement.

Section 6.26 [Reserved].

Section 6.27 Foreign Ownership or Control. Each of Purchaser and Parent agrees to abstain from filing any applications with any Governmental Authority in connection with any proposed merger, acquisition or disposition of assets or similar business combination that could result in foreign ownership, control or domination of Purchaser, Parent or their Affiliates that own or control them before the Closing Date.

Section 6.28 [REDACTED]

Section 6.29 Pre-Closing Decommissioning Planning.

(a) Following the execution of this Agreement, each of ENG C and Purchaser shall use commercially reasonable efforts to negotiate the terms and conditions of (i) a contract under which Purchaser or its Affiliates will perform Decommissioning planning activities for ENG C during the Interim Period with an estimated scope of [REDACTED]



[REDACTED] (the “Pre-Planning Contract”) and (ii) a contract under which Purchaser or its Affiliates will perform other Decommissioning activities for ENG C during the Interim Period with an estimated scope of [REDACTED] during the Interim Period (the “Pre-Closing Work Contract” and, together with the Pre-Planning Contract, the “Pre-Closing Contracts”).

(b) The terms and conditions of the Pre-Closing Contracts shall include provisions (i) limiting the scope of activities that are reimbursable from the Decommissioning Trust for actual costs plus reasonable profit and (ii) shall not require payment unless such amounts are withdrawn from the Decommissioning Trust when and as permitted under applicable NRC and IRS regulations.

(c) The Parties shall use commercially reasonable efforts to finalize the Pre-Closing Contracts within ninety (90) days of the date of this Agreement; provided, however, notwithstanding anything to the contrary in this Section 6.29, to the extent applicable, the terms and conditions, and the entry in and performance by ENG C, Purchaser or any of their Affiliates thereunder of, each Pre-Closing Contract shall be subject in all respects to any required internal approvals or reviews of Entergy, Purchaser or its Affiliates (including, if applicable, the Office of Chief Executive or the Entergy Board of Directors).

(d) With respect to any other category and scope of work related to Decommissioning activities anticipated to be performed by Purchaser and ENG C after the Closing (other than as contemplated in the Pre-Closing Contracts), such work may be performed by ENG C or its Affiliate prior to the Closing pursuant to mutual written agreement of the Parties; provided, however, nothing in this Section 6.29(d) shall relieve ENG C or Purchaser or any pre-Closing obligation, or result in any reduction to the Pilgrim Target Value, in connection with the performance of any Decommissioning activities required to be undertaken by ENG C or its Affiliates prior to Closing in connection with satisfying the condition to Closing in Section 8.1(e) or any of Seller’s or ENG C’s obligations under this Agreement, including operation and maintenance of the Facilities consistent with all Permits and Governmental Approvals and with Good Industry Practices.

Section 6.30 Deferred Closing.

(a) [REDACTED]

(b) [REDACTED]

[REDACTED]

(c) [REDACTED]

(d) [REDACTED]

(e) [REDACTED]

**ARTICLE 7**  
**TAX MATTERS**

Section 7.1

[REDACTED]

Section 7.2 Straddle Period. In the case of any taxable period that includes, but does not end on, the day prior to the Closing Date (“Straddle Period”), (a) the amount of any Taxes based on or measured by income or receipts, sales or use Taxes, employment Taxes or withholding Taxes of ENG C or the Qualified Decommissioning Fund that are attributable to the Pre-Closing Tax Period shall be determined based on an interim closing of the books as of the close of business on the day preceding the Closing Date and (b) the amount of any other Taxes of ENG C and the Qualified Decommissioning Fund for a Straddle Period that relates to the Pre-Closing Tax Period shall be deemed to be the amount of such Tax for the entire taxable period, multiplied by a fraction the numerator of which is the number of days in the portion of the Straddle Period up to the Closing Date and the denominator of which is the number of days in such entire Straddle Period.

Section 7.3 Transfer Taxes.

[REDACTED] Purchaser shall timely file, to the extent required by applicable Law, all necessary Tax Returns and other documentation with respect to all such Transfer Taxes, and Seller will be entitled to review such returns in advance and, if required by applicable law, will join in the execution of any such Tax Returns or other documentation. Prior to the Closing Date, Purchaser will provide to Seller, to the extent possible, an appropriate exemption certificate in connection with this Agreement and the Contemplated Transactions, due from each applicable taxing authority. [REDACTED]

Section 7.4 Tax Matters.

(a) Each of the Parties shall provide the other Party with such assistance as may reasonably be requested by the other Party in connection with the preparation of any Tax Return, any audit or other examination by any taxing authority. Any information obtained relating to Taxes shall be kept confidential by the Parties hereto, except to the extent such information is required to be disclosed by Law.

(b) Seller shall have the right to control, at its own expense, any audit, litigation or other proceeding with respect to Taxes and Tax Returns for which Seller may be required to indemnify the Purchaser Indemnified Parties under Section 7.1 (a “Tax Contest”). Purchaser shall provide Seller with prompt notice of any written inquiries by any taxing authority relating to a Tax Contest within five (5) days of the receipt of such notice. If Seller elects not to control such Tax Contest, then Purchaser shall control such matter; provided, however, that (i) Seller shall have the right to participate (at its own expense) in any such matter and (ii) Purchaser shall keep Seller reasonably informed of the details and status of such matter (including providing Seller with copies of all written correspondence regarding such matter). Purchaser shall not settle any such proceedings without the prior written consent of Seller (which consent shall not be unreasonably withheld, conditioned or delayed) if such settlement or compromise would have the effect of increasing the Tax Liability of ENG C for which Seller is required to indemnify the Purchaser Indemnified Parties under Section 7.1.

## ARTICLE 8

### CONDITIONS

Section 8.1 Conditions to Obligations of Each Party. The respective obligation of each Party to consummate the Contemplated Transactions is subject to the satisfaction or (to the extent permitted by Law) waiver by Purchaser and Seller on or prior to the Closing Date of the following conditions:

(a) Subject to Section 6.7, the Required Regulatory Approvals shall have been obtained, and such approvals shall be in full force and effect, and such approvals (other than the FERC 203 Approval) shall have become Final Orders. With respect to the FERC 203 Approval, all conditions in the FERC order required to be satisfied before Closing shall have been satisfied. “Final Order” means any action taken or approval entered or issued by the relevant Governmental Authority that has not been reversed, stayed, enjoined, set aside, annulled or suspended before the Contemplated Transactions may be consummated, with respect to which any waiting period or opportunities for rehearing or appeal prescribed by Law have been exhausted, and as to which all conditions to the consummation of the Contemplated Transactions prescribed by Law, regulation or order required to be satisfied at or prior to the Closing have been satisfied.

(b) No preliminary or permanent injunction or Governmental Order shall be in effect which prohibits or makes illegal the consummation of the Contemplated Transactions.

(c) No Final Order referred to in Section 8.1(a) shall require, contain or contemplate any undertaking, term, condition, liability, obligation, commitment or sanction that, individually or in the aggregate, constitutes or imposes a Purchaser Burdensome Condition.

(d) The delivery by ENG C of written notice to NRC of the permanent cessation of operations of the Pilgrim NPS.

(e) The Pilgrim NPS shall have been permanently shut down and all Nuclear Fuel shall have been removed from the Pilgrim NPS reactor vessel and placed in the Pilgrim NPS spent nuclear fuel pool.

(f) The receipt of the favorable Private Letter Ruling in a form reasonably satisfactory to each of Seller and Purchaser.

(g) The sum of the Pilgrim Hypothetical Fund Value (measured as of the Pilgrim Valuation Date and calculated pursuant to Section 6.8(e)) of the Pilgrim Fund Assets held by the Qualified Decommissioning Fund as of the Closing, plus the amount of any Shortfall Payment by Seller to the Decommissioning Trust pursuant to Section 6.8, shall be in an amount no less than the Pilgrim Target Value (determined in accordance with Section 1.2); [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Section 8.2 Conditions to Obligations of Purchaser and Parent. The obligation of Purchaser and Parent to consummate the Contemplated Transactions shall be subject to the satisfaction or (in Purchaser's and Parent's sole discretion) waiver on or prior to the Closing Date of the following conditions:

(a) The representations and warranties of Seller set forth in this Agreement (i) that are not Fundamental Representations shall, after taking in to account and subject to the provisions of Section 6.14, be true and correct as of the Closing Date, as though made at and as of the Closing Date (or if made as of a specified date, as of such date), except where the failure of such representations and warranties to be true and correct (without giving effect to any limitation as to "material", "materiality", or Seller Material Adverse Effect or similar qualifiers in Article 3) would not have a "Seller Material Adverse Effect"; and (ii) that are Fundamental Representations shall be true and correct in all respects as of the Closing Date, in each case as though made at and as of the Closing Date (or if made as of a specified date, as of such date).

(b) The representations and warranties of ENG C set forth in this Agreement (i) that are not Fundamental Representations shall, after taking in to account and subject to the provisions of Section 6.14, be true and correct in all respects as of the Closing Date as though made at and as of the closing date (or if made as of a specified date, as of such date), except where the failure of such representations and warranties to be true and correct (without giving effect to any limitation as to "material", "materiality" or ENG C Material Adverse Effect or similar qualifiers in Article 4) would not have an ENG C Material Adverse Effect; and (ii) that are Fundamental Representations shall be true and correct in all respects as of the Closing Date, in each case as though made at and as of the Closing Date (or if made as of a specified date, as of such date).

(c) Each of ENG C and Seller shall have performed and complied with, in all material respects, the covenants and agreements contained in this Agreement that are required to be performed and complied with by it on or prior to the Closing Date.

(d) All of the ENG C Consents shall have been obtained, other than those which, if not obtained, would not create, individually and in the aggregate, an ENG C Material Adverse Effect.

(e) Purchaser shall have received a certificate from an authorized officer of each of Seller and ENG C, dated the Closing Date, to the effect that, to such officer's Knowledge, the conditions set forth in Section 8.2(a), Section 8.2(b) and Section 8.2(c) have been satisfied by such Party.

**Section 8.3 Conditions to Obligations of Seller.** The obligation of Seller and ENG C to consummate the Contemplated Transactions shall be subject to the satisfaction or (in Seller's and ENG C's sole discretion) waiver on or prior to the Closing Date of the following conditions:

(a) The representations and warranties of Purchaser and Parent (i) set forth in this Agreement (other than Section 5.1 (Organization; Qualification), Section 5.2 (Authority) and Section 5.10 (Brokers; Finders)) shall be true and correct in all material respects as of the Closing Date as though made at and as of the Closing Date (or if made as of a specified date, as of such date) and (ii) set forth in Section 5.1 (Organization; Qualification), Section 5.2 (Authority) and Section 5.10 (Brokers; Finders) shall be true and correct in all respects as of the Closing Date, as though made at and as of the Closing Date (or if made as of a specified date, as of such date).

(b) Each of Purchaser and Parent shall have performed and complied with, in all material respects, the covenants and agreements contained in this Agreement that are required to be performed and complied with by it on or prior to the Closing Date.

(c) No Final Order referred to in Section 8.1(a) shall require, contain or contemplate any undertaking, term, condition, liability, obligation, commitment or sanction that, individually or in the aggregate, constitutes or imposes a Seller Burdensome Condition.

(d) Entergy and its Affiliates shall have been removed from any obligations under the settlement agreements, MOUs and similar agreements with Governmental Authorities.

(e) All of the Entergy Affiliate Guarantees and credit support and other similar commitments set forth in Section 8.3(e) of the Seller Disclosure Schedules shall have been fully and unconditionally released, novated, terminated, returned or discharged, in a form reasonably satisfactory to Seller and Purchaser.

(f) Seller shall have received certificates from an authorized officer of each of Purchaser and Parent, dated the Closing Date, to the effect that, to such officer's Knowledge, the conditions set forth in Section 8.3(a) and Section 8.3(b) have been satisfied by such Party.

(g)



occurred. (h) If the Switchyard Option has been exercised, the Switchyard Transfer has

(i)

## ARTICLE 9

### SURVIVAL AND INDEMNIFICATION

#### Section 9.1 Survival.

(a)

(i)

(ii)

(1)

(2)

(iii)

(iv)

[REDACTED]

(b) [REDACTED]

[REDACTED]

(c) [REDACTED]

[REDACTED]

Section 9.2 Indemnification.

(a) [REDACTED]

[REDACTED]

(i) [REDACTED]

[REDACTED]

(ii) [REDACTED]

[REDACTED]

(iii)

[REDACTED]  
[REDACTED]  
[REDACTED]

(iv)

[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]

(v)

[REDACTED]

(vi)

[REDACTED]  
[REDACTED]  
[REDACTED]

(vii)

[REDACTED]  
[REDACTED]

(b)

[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]

(i)

[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]

(ii)

[REDACTED]  
[REDACTED]  
[REDACTED]

(iii)

[REDACTED]  
[REDACTED]  
[REDACTED]

(iv)

[REDACTED]  
[REDACTED]  
[REDACTED]

(v)

[REDACTED]  
[REDACTED]

(vi)

(c)

Section 9.3 Limitations on Indemnification.

(a)

(b)

(i)

(ii)

(c)

(d)

[REDACTED]

(e)

[REDACTED]

(f)

[REDACTED]

Section 9.4 Defense of Claims.

(a)

[REDACTED]

(b)

[REDACTED]



[REDACTED]

(c) [REDACTED]

(d) [REDACTED]

(e) [REDACTED]

Section 9.5 Exclusivity. [REDACTED]

Section 9.6 Tax Treatment. [REDACTED]

## ARTICLE 10

### TERMINATION

Section 10.1 Termination. This Agreement may only be terminated pursuant to this Section 10.1.

(a) This Agreement may be terminated at any time prior to the Closing Date by mutual written consent of the Parties.

(b) This Agreement may be terminated by Seller or Purchaser, upon written notice at any time prior to the Closing, if the Closing shall have not occurred on or before July 31, 2020 (the “Termination Date”); provided, however, that the right to terminate this Agreement under this Section 10.1(b) shall not be available to any Party whose failure to fulfill any obligation under this Agreement has been the cause of, or resulted in, the failure of the Closing to occur on or before the Termination Date.

(c) Subject to Section 6.7 and Section 12.10(b), this Agreement may be terminated by Purchaser, upon written notice at any time prior to the Closing, if the Closing conditions set forth in Section 8.1(a) are not capable of being met; provided, however, that the right to terminate this Agreement under this Section 10.1(c) shall not be available to Purchaser to the extent its delay or failure to fulfill any obligation under this Agreement has been the cause of, or resulted in, the inability of the Required Regulatory Approvals to be obtained.

(d) Subject to Section 6.7, this Agreement may be terminated by Seller, upon written notice at any time prior to the Closing, if the Closing conditions set forth in Section 8.1(a) are not capable of being met; provided, however, that the right to terminate this Agreement under this Section 10.1(d) shall not be available to Seller to the extent its delay or failure to fulfill any obligation under this Agreement has been the cause of, or resulted in, the inability of the Required Regulatory Approvals to be obtained.

(e) Subject to Section 6.7, this Agreement may be terminated by Purchaser, by written notice to Seller, if there has been a material violation or breach by ENGC or Seller of any applicable representation, warranty, covenant or agreement contained in this Agreement and such violation or breach (i) would result in a failure of a condition set forth in Section 8.2 and (ii) has not been cured within the applicable period set forth in Section 6.7.

(f) Subject to Section 6.7, this Agreement may be terminated by Seller, by written notice to Purchaser, if there has been a material violation or breach by Purchaser of any applicable representation, warranty, covenant or agreement contained in this Agreement and such violation or breach (i) would result in a failure of a condition set forth in Section 8.3 and (ii) has not been cured within the applicable period set forth in Section 6.7.

(g) This Agreement may be terminated by Purchaser, by written notice to Seller, pursuant to and in compliance with Section 6.14(a)(ii) or by Seller by written notice to Purchaser pursuant to Section 6.14(a)(iv).

(h) Subject to Section 6.7, this Agreement may be terminated by either Party by written notice to the other Party at any time prior to the Closing, if the Non-Breaching Party breaches in a material respect (after written notice and a reasonable opportunity to cure) any of its obligations to be set forth in this Agreement with respect to obtaining the Required Regulatory Approvals, including the Non-Breaching Party's obligations under Section 6.4(g) to use commercially reasonable efforts, subject to any applicable limitations under Law, to:

(i) dedicate appropriate resources to obtaining such approvals, (ii) respond reasonably promptly and completely to material requests of any Governmental Authority, (iii) participate in and comply with all material procedural and disclosure obligations in proceedings of any Governmental Authorities, and (iv) provide such additional information related to Purchaser's activities and qualifications as may be required.

(i) [REDACTED]

(j) This Agreement may be terminated by either Party by written notice to the other Party pursuant to Section 6.30(c).

#### Section 10.2 Effect of Termination.

(a) In the event of a termination of this Agreement by any Party as provided in Section 10.1, this Agreement shall immediately become void and have no effect, and none of Purchaser, Parent, Seller, ENG C, any of their respective Affiliates or any of the officers, managers or directors of any of them shall have any liability or obligation of any nature whatsoever hereunder or in connection with the Contemplated Transactions, except that Section 6.3(b) (Confidentiality), Section 6.5 (Public Statements; Communications), Section 6.9 (Expenses), this Section 10.2 (Effect of Termination), Article 11 (Definitions), Article 12 (Miscellaneous Provisions), the Confidentiality Agreement and all other obligations of the Parties specifically intended to be performed after the termination of this Agreement shall survive any termination of this Agreement, provided that none of Parent, Purchaser, Seller or ENG C shall be relieved or released from any Liabilities or damages arising out of such Party's intentional breach of any provision of this Agreement or any Transaction Document; provided, however, that the failure of Purchaser or Parent to pay the Purchase Price in respect of the Equity Interests pursuant to the terms of this Agreement at the Closing in the event that all conditions contained in Article 8 have been satisfied or, to the extent permitted, waived as of the Closing, shall be deemed an intentional breach by Purchaser and Parent of this Agreement, and Purchaser and Parent shall be liable to Seller for such breach notwithstanding any termination of this Agreement.

(b) A terminating Party shall provide written notice of termination to the other Parties specifying with particularity the basis for such termination and including supporting documentation, as applicable. If more than one provision in Section 10.1 is available to a terminating Party in connection with a termination, a terminating Party may rely on any or all available provisions in Section 10.1.

## ARTICLE 11

### DEFINITIONS

Section 11.1 Definitions. As used in this Agreement, the following terms have the meanings specified in this Section 11.1.

- (1) “2017 Balance Sheet” has the meaning provided in Section 4.21(a).
- (2) “Accounting Expert” has the meaning set forth in Section 1.4(a)
- (3) “Action” has the meaning set forth in Section 6.11(a).
- (4) “Actual Net Adjustment Amount” has the meaning set forth in Section 1.4(a).
- (5) “Actual Purchase Price” has the meaning set forth in Section 1.4(c).
- (6) “Actual Target Value” has the meaning set forth in Section 1.4(a).
- (7) “Adverse Development” has the meaning set forth in Section 6.14(a).
- (8) “Adverse Tax Event” has the meaning set forth in Section 6.6(b)(i).
- (9) “Affiliate” has the meaning set forth in Rule 12b-2 of the General Rules and Regulations under the Exchange Act.
- (10) “Affiliate Agreements” has the meaning set forth in Section 6.10(a).
- (11) “Agreement” has the meaning set forth in the preamble.
- (12) “Allocation” has the meaning set forth in Section 1.3(b).
- (13) “Allocation Dispute Notice” has the meaning set forth in Section 1.2(b).
- (14) “Atomic Energy Act” means the Atomic Energy Act of 1954, as amended, and implementing regulations issued by the NRC thereafter.
- (15) “Bankruptcy and Equity Exception” has the meaning set forth in Section 3.3.
- (16) “Beneficial Interest” has the meaning set forth in Section 6.6(a).
- (17) “Benefit Plan” has the meaning set forth in Section 4.15(a).
- (18) “Business Day” means any day other than Saturday, Sunday and any day on which banking institutions in the State of New York are authorized by Law or other Governmental Order to close.

(19) “Byproduct Material” means any radioactive material (except Special Nuclear Material) yielded in, or made radioactive by, exposure to the radiation incident to the process of producing or utilizing Special Nuclear Material.

(20) “Cap” has the meaning set forth in Section 9.3(b).

(21) “Cause” means (i) the willful and continuing failure by a Transferred Employee to substantially perform his or her duties (other than such failure resulting from the Transferred Employee’s incapacity due to physical or mental illness); provided that any such failure has not been cured by the Transferred Employee within thirty (30) days after a written demand for substantial performance is delivered to the Transferred Employee by Purchaser, which demand specifically identifies the manner in which the Purchaser believes that the Transferred Employee has not substantially performed; (ii) the willful engaging by the Transferred Employee in conduct which is injurious to any Purchaser Party, monetarily or otherwise; (iii) a Transferred Employee’s conviction of or entrance of a plea of guilty or nolo contendere to a felony or other crime which has or may have an adverse effect on the Transferred Employee’s ability to carry out his or her duties or upon the reputation of any Purchaser Party; or (iv) a violation by the Transferred Employee of any agreement that the Transferred Employee has with a Purchaser Party or an Affiliate of a Purchaser Party.

(22) “Change of Control Transaction” shall mean, (i) the direct sale, transfer, conveyance or other disposition (including by merger, consolidation, purchase or sale of securities, investments, or similar business combination transaction), in one or a series of related transactions, of substantially all of the properties or assets of Purchaser, or (ii) the consummation of any transaction (including by merger, consolidation, purchase or sale of securities, investments, or similar business combination transaction) the result of which any “person” or “group” (as that term is used in Section 13(d) of the Exchange Act), other than Parent or a Subsidiary of Parent, becomes the direct owner or has the direct right to vote [REDACTED] or more of the voting or equity securities of Purchaser.

(23) “Claim” means any demand, claim, action, investigation, legal proceeding (whether at law or in equity) or arbitration.

(24) “Claim Notice” means written notification of a Claim (including a Third Party Claim), specifying the nature of and basis for such Claim, together with the amount or, if not then reasonably determinable, the estimated amount, determined in good faith, of the Loss arising from such claim, and such other information as is reasonably available.

(25) “Closing” has the meaning set forth in Section 2.1.

(26) “Closing Date” has the meaning set forth in Section 2.1.

(27) “Closing Statement” has the meaning set forth in Section 1.4(a).

(28) “COBRA” means the Consolidated Omnibus Budget Reconciliation Act of 1985 or similar state Law.

(29) “Code” means the Internal Revenue Code of 1986, as amended.

(30) “Collective Bargaining Agreements” means all current, effective, unexpired and written contracts or agreements and successor agreements, as modified or amended, with the collective bargaining representatives of Pilgrim Employees that set forth the terms and conditions of the Pilgrim Employees’ employment including all agreements listed in Section 4.14(a) of the Seller Disclosure Schedules and any successor agreements.

(31) “Communications Act” means the Communications Act of 1934, as amended, or its regulatory successor, as applicable.

(32) “Compensation Continuation Period” has the meaning set forth in Section 6.24(c).

(33) “Confidentiality Agreement” means the Mutual Nondisclosure Agreement, dated as of August 21, 2017, by and among Entergy Enterprises, Inc. (on behalf of itself and certain affiliates), Atkins Energy, Inc. and Newport News Energy Company, and that certain Mutual Nondisclosure Agreement dated August 21, 2017, by and among Entergy Enterprises, Inc. (on behalf of itself and certain affiliates), Holtec International, and Team Holtec, LLC.

(34) “Consent” means consent, approval, authorization or waiver of any Person.

(35) “Contemplated Transactions” means the sale of the Equity Interests by Seller to Purchaser, the purchase of the Equity Interests by Purchaser from Seller and the execution, delivery and performance of and compliance with this Agreement, the Transaction Documents and all other agreements to be executed and delivered pursuant to this Agreement.

(36) “Conversion” means a change in corporate form of ENGEC from a Massachusetts corporation to a Massachusetts limited liability company pursuant to M.G.L. ch.156C §69.

(37) “Converted Company” means the limited liability company resulting from a Conversion of ENGEC or as a result of an internal restructuring of ENGEC.

(38) “Data Room” means the electronic data room for the Contemplated Transaction on the Merrill Datasite and maintained by Seller for purposes of the Contemplated Transactions.

(39) “Debt” means, with respect to ENGEC, any of the following: (a) any indebtedness for borrowed money in any form, together with any breakage costs, prepayment premiums or penalties becoming due as a result of the Contemplated Transactions, (b) any obligations evidenced by bonds, debentures, notes or other similar instruments, (c) any obligations to pay the deferred purchase price of property or services, except trade accounts payable arising in the ordinary course of business, (d) any obligations as lessee under capitalized leases, (e) any indebtedness created or arising under any conditional sale or other title retention agreement with respect to acquired property, (f) any indebtedness secured by any Encumbrance on any property or asset held by ENGEC, (g) any obligations under acceptance credit, letters of credit or similar facilities to the extent drawn or called prior to the Closing, (h) any accrued

interest, fees and charges with respect to the foregoing, (i) a guarantee of the obligations of any other Person, (j) any obligation under a synthetic lease, tax retention operating lease, off-balance sheet loan or similar off-balance sheet financing product where such transaction is considered borrowed money indebtedness for tax purposes but is classified as an operating lease in accordance with GAAP, and (k) any guaranty of any of the foregoing.

(40) “Decommissioning” means the retirement and removal of the Facilities from service and the restoration of the Site, as well as any planning and administrative activities incidental thereto, including: (a) reducing residual radioactivity at the Site to levels meeting the Radiological Release Criteria including those Criteria that may reflect or incorporate State mandates for residual radioactivity and the management of coterminous Hazardous Substances (including Mixed Wastes) and any other actions necessary to obtain termination of the NRC License; and (b) management and storage of Spent Nuclear Fuel until, and transfer upon, acceptance by the Department of Energy. Decommissioning shall also include compliance with any and all terms and conditions of the settlement agreements, MOUs and similar agreements with Governmental Authorities related to the foregoing.

(41) “Decommissioning Trust” means the nuclear decommissioning trust maintained by ENGEC since 1999 dedicated to the Decommissioning of the Pilgrim NPS under the Decommissioning Trust Agreement with the independent fiduciary trustee. The Decommissioning Trust is a validly existing trust under the Laws of the Commonwealth of Pennsylvania, with all requisite authority to conduct its affairs as it now does. The assets of the Pilgrim NPS Decommissioning Trust are held in the Qualified Decommissioning Fund and the Non-qualified Decommissioning Fund.

(42) “Decommissioning Trust Agreement” means the Master Decommissioning Trust Agreement, made as of January 1, 1995, as amended, between Boston Edison Company and Mellon Bank, N.A. as successor trustee to the Bank of New York. ENGEC succeeded to all rights, obligations and beneficial interests of Boston Edison Company in the Master Decommissioning Trust Agreement in Amendment No. 3 thereof effective July 13, 1999.

(43) “Deductible” has the meaning set forth in Section 9.3(a).

(44) “Department of Energy” or “DOE” means the United States Department of Energy and any successor agency thereto.

(45) “Direct Claim” has the meaning set forth in Section 9.4(d).

(46) “Disclosure Schedules” mean the Joint Disclosure Schedules, the Seller Disclosure Schedules, or the Purchaser Disclosure Schedules, as applicable.

(47) “Dispute Notice” has the meaning set forth in Section 1.4(a).

(48) “Eligible Union Employee” means each Union Employee who is expected to be a Target Employee and who will become eligible for OPEB Benefits after Closing and prior to the expiration of such Union Employee’s applicable Collective Bargaining Agreement that is in effect at the time of Closing.



(49) “Encumbrances” means any mortgages, pledges, liens, security interests, conditional and installment sale agreements, activity and use limitations, conservation easements, deed restrictions, easements, charges and other encumbrances of any kind.

(50) “Energy Reorganization Act” means the Energy Reorganization Act of 1974, as amended.

(51) “ENG C” has the meaning set forth in the preamble.

(52) “ENG C Agreement Consents” has the meaning set forth in Section 4.16(b).

(53) “ENG C Agreements” has the meaning set forth in Section 4.16(a).

(54) “ENG C Consents” means the ENG C Agreement Consents, the Lease Consents and the Environmental Permit Consents.

(55) [REDACTED]

[REDACTED]

(56) “ENOI” means Entergy Nuclear Operations, Inc., a Delaware corporation, an affiliate of Seller and the operator and co-licensee with ENGEC under the NRC License.

(57) “Entergy” means Entergy Corporation, a Delaware corporation.

(58) “Entergy Affiliate Guarantees” has the meaning set forth in Section 6.10(c).

(59) “Environmental Claim” means any and all written claims, administrative or judicial actions, suits, orders, liens, notices of violation, notices of responsibility, complaints, requests for information, or other written communication, whether criminal, civil or administrative, asserted or threatened against Seller, ENOI or ENGEC pursuant to or relating to any applicable Environmental Law by any Governmental Authority alleging, asserting or claiming any actual or potential (a) violation of, or Liability under any Environmental Law, (b) violation of any Environmental Permit or (c) Liability for investigatory costs, cleanup costs, removal costs, remedial costs, response costs, natural resource damages, property damage, personal injury, strict liability, negligence, fines, or penalties arising out of, based on, resulting from, or related to the presence, Release or threatened Release of any Hazardous Substances, Nuclear Materials or Mixed Substances at any location related to the Pilgrim NPS, including any Off-Site Location to which Hazardous Substances, Nuclear Materials or Mixed Substances or materials containing Hazardous Substances, Nuclear Materials or Mixed Substances, were sent for handling, storage, treatment or disposal.

(60) “Environmental Clean-up Site” means any location which is listed or formally proposed for listing on the National Priorities List or on any preliminary or similar federal or state list of sites requiring response, investigation or cleanup, or which is the subject of

any action, suit, proceeding or investigation under Environmental Law which has been disclosed in writing to Seller.

(61) “Environmental Laws” means all federal, state and local, civil and criminal Laws, and all principles of common law, regarding pollution or protection of the environment or human health (as it relates to exposure to Hazardous Substances, Nuclear Materials or Mixed Substances), the conservation and management of natural resources and wildlife, including Laws relating to the manufacture, processing, distribution, use, treatment, storage, Release, transport, disposal or handling of Hazardous Substances, Nuclear Materials or Mixed Substances. “Environmental Laws” include the Comprehensive Environmental Response, Compensation and Liability Act (42 U.S.C. §§ 9601 et seq.), the Hazardous Materials Transportation Act (49 U.S.C. §§ 5101 et seq.), the Resource Conservation and Recovery Act (42 U.S.C. §§ 6901 et seq.), the Federal Water Pollution Control Act (33 U.S.C. §§ 1251 et seq.), the Clean Air Act (42 U.S.C. §§ 7401 et seq.), the Toxic Substances Control Act (15 U.S.C. §§ 2601 et seq.), the Endangered Species Act (16 U.S.C. §§ 1531 et seq.), the Safe Drinking Water Act (42 U.S.C. §§ 300f et seq.), the Oil Pollution Act (33 U.S.C. § 2701 et seq.), the Emergency Planning and Community Right-to-Know Act (42 U.S.C. §§ 11001 et seq.), the Occupational Safety and Health Act (29 U.S.C. §§ 651 et seq.) as it relates to exposure to Hazardous Substances, Nuclear Materials or Mixed Substances, and all applicable state Laws analogous to any of the above. Notwithstanding the foregoing, “Environmental Laws” shall not include Nuclear Laws.

(62) “Environmental Permit” means any federal, state or local permit, certificate, license, Consent or registration required by any Governmental Authority under or in connection with any Environmental Law but excluding the NRC License.

(63) “Environmental Permit Consents” has the meaning set forth in Section 4.13(g).

(64) “Environmental Reports” has the meaning set forth in Section 4.13(h).

(65) “Equity Interests” means 100% of the issued and outstanding common stock of ENGCG, (or, if the Conversion is effectuated, all of the limited liability company interests of ENGCG).

(66) “ERISA” means the Employee Retirement Income Security Act of 1974 and the applicable rules and regulations promulgated thereunder.

(67) “ERISA Affiliate” means any Person that together with Seller or ENGCG would be treated as a single employer under Section 414(b), (c), (m) or (o) of the Code or Section 4001(b) of ERISA.

(68) “ESI” means Entergy Services, Inc., a Delaware corporation.

(69) “Estimated Closing Net Liabilities Amount” has the meaning set forth in Section 1.2(b).

(70) “Estimated Closing Statement” has the meaning set forth in Section 1.2(b).

- (71) “Estimated Net Adjustment Amount” has the meaning set forth in Section 1.2(b).
- (72) “Estimated Purchase Price” has the meaning set forth in Section 1.2(d).
- (73) “Estimated Qualified Expenses Adjustment Amount” has the meaning set forth in Section 1.2(b).
- (74) “Estimated Target Value” has the meaning set forth in Section 1.2(b).
- (75) “Evaluation Material” has the meaning set forth in the Confidentiality Agreement.
- (76) [REDACTED]
- (77) “Excess Asset Sale” has the meaning set forth in Section 6.14(b).
- (78) “Excess Assets” has the meaning set forth in Section 6.14(b).
- (79) “Exchange Act” means the Securities Exchange Act of 1934, as amended, including the rules and regulations promulgated thereunder.
- (80) “Excluded Assets” has the meaning set forth in Section 6.13(a).
- (81) “Excluded Multi-Party Contracts” has the meaning set forth in Section 6.10(e).
- (82) “Excluded Real Property” has the meaning set forth in Section 4.9.
- (83) “Expected Final Treasury Regulation” has the meaning set forth in Section 6.6(b)(i).
- (84) “Extended Required Operating Order” has the meaning set forth in Section 6.30(c).
- (85) “Facility” or “Facilities” means the Site, ISFSI, plant, facilities, equipment, supplies and improvements in which ENG C has an ownership interest and which are used at the Pilgrim NPS.
- (86) “FCC” means the Federal Communications Commission as established by the Communications Act.
- (87) “Federal Power Act” means the Federal Power Act, as amended.

(88) “Federal Trade Commission” means the United States Federal Trade Commission or any successor agency thereto.

(89) “FERC” means the United States Federal Energy Regulatory Commission or any successor agency thereto.

(90) “FERC 203 Approval” has the meaning set forth in Section 6.4(e).

(91) “Filing” means any registration, declaration, notice, application, petition, certification or filing with any Governmental Authority.

(92) “Final Determination” means the resolution for the taxable year in question by (A) the expiration of the applicable statute of limitations on assessments for the year, as extended by agreement, (B) a decision, judgment, decree or other order by a court of competent jurisdiction, which has become final and unappealable or (C) a closing agreement or an accepted offer in compromise under Section 7121 or Section 7122 of the Code (or any similar provisions of state or local Law).

(93) “Final Order” has the meaning set forth in Section 8.1(a).

(94) “First Party” has the meaning set forth in Section 6.7.

(95) “Fleet-wide Software” means Software owned or licensed by ENOI, ESI or their Affiliates, used at or in connection with the Pilgrim NPS and at one or more other locations, or used by several or all of Entergy’s Affiliates for common purposes (e.g., timekeeping software), that is set forth in Section 11.1(95) of the Seller Disclosure Schedules.

(96) “Fundamental Representations” has the meaning set forth in Section 9.1(a)(i).

(97) “GAAP” means accounting principles generally accepted in the United States.

(98) “Good Industry Practices” means any of the practices, methods and activities engaged in or approved by a significant portion of the nuclear generating industry in the United States during recent time periods for a nuclear generating facility that has ceased operating in anticipation of decommissioning, or any of the practices, methods or activities which, in the exercise of reasonable judgment in light of the facts known at the time the decision was made (other than the fact that such person is in the process of selling the Facilities), would reasonably be expected to accomplish the desired result at a reasonable cost in a manner consistent with good business practices, reliability, safety, expedition and applicable Laws. “Good Industry Practices” is not intended to be limited to the optimal practices, methods or acts to the exclusion of all others, but rather is intended to include acceptable practices, methods or acts generally accepted in the United States.

(99) “Governmental Authority” means any federal, state, tribal or local government, governmental, regulatory or administrative agency, taxing authority, commission,

department, board or other governmental or political subdivision, court, tribunal, judicial or arbitral or other governmental authority (including an antitrust agency).

(100) “Governmental Order” means any order, writ, judgment, injunction, decree, stipulation, determination, settlement agreement or similar written agreement, or award entered by or with any Governmental Authority.

(101) “Greater than Class C Waste” means all radioactive waste located at the Pilgrim NPS that contains radionuclide concentrations exceeding the values in Table 1 or Table 2 of 10 C.F.R. § 61.55, and therefore is currently not generally acceptable for disposal at existing (near surface) low level radioactive waste disposal facilities and any such radioactive waste created during the course of Decommissioning.

(102) “Hazardous Substances” means (a) any petroleum, asbestos, asbestos-containing material, urea formaldehyde foam insulation, lead based paint and polychlorinated biphenyls and transformers or other equipment that contains polychlorinated biphenyls or polychlorinated biphenyl-containing equipment, (b) any chemicals, wastes, materials or substances defined as or included in the definition of, or regulated as, “hazardous substances,” “hazardous wastes,” “hazardous materials,” “hazardous constituents,” “restricted hazardous materials,” “extremely hazardous substances,” “toxic substances,” “contaminants,” “pollutants,” “toxic pollutants,” “hazardous air pollutants” or words of similar meaning and regulatory effect under any applicable Environmental Law, and (c) any other chemical, material or substance, the exposure to which is prohibited, limited or regulated by an applicable Environmental Law; excluding, however, any Nuclear Material to the extent regulated under any Nuclear Laws.

(103) “High Level Waste” means (a) irradiated nuclear reactor fuel, (b) liquid wastes resulting from the operation of the first cycle solvent extraction system, or its equivalent, and the concentrated wastes from subsequent extraction cycles, or their equivalent, in a facility for reprocessing irradiated reactor fuel, (c) solids into which such liquid wastes have been converted, or (d) any other material containing radioactive nuclides in concentrations or quantities that exceed NRC requirements for classification as Low Level Waste.

(104) “High Level Waste Repository” means a facility which is designed, constructed and operated by or on behalf of the Department of Energy for the storage and disposal of Spent Nuclear Fuel and other High Level Waste in accordance with the requirements set forth in the Nuclear Waste Policy Act or subsequent legislation.

(105) “In-house Software” means Software created by or on behalf of ENOI or ESI, owned by ENOI or ESI and used at or in connection with the Pilgrim NPS that is set forth in Section 11.1(105) of the Seller Disclosure Schedules.

(106) “Included Multi-Party Contracts” has the meaning set forth in Section 6.10(e).

(107) “Income Tax” means any federal, state, local or foreign Tax (a) based upon, measured by or calculated with respect to net income, profits or receipts (including, capital gains Taxes and minimum Taxes) or (b) based upon, measured by or calculated with respect to multiple bases (including corporate franchise Taxes) if one or more of the bases on which such

Tax may be based, measured by or calculated with respect to, is described in clause (a), in each case together with any interest, penalties or additions to such Tax.

(108) [REDACTED]

(109) [REDACTED]

(110) [REDACTED]

(111) “Initial Regulatory Commitments” has the meaning set forth in Section 6.4(l).

(112) “Insurance Policies” has the meaning set forth in Section 4.12.

(113) “Intellectual Property” means all United States intellectual property rights, including (a) all patents and inventions (whether patentable or unpatentable, draft, pending or abandoned, and whether or not reduced to practice); (b) all trademarks, service marks, trade names, trade dress, domain names, logos or other source indicators, and the goodwill of the business symbolized thereby; (c) all copyrights and copyrightable works (including all website content, documentation, advertising copy, marketing materials, specifications, translations, drawings, graphics and software); (d) all registrations, applications, provisionals, continuations, continuations-in-part, divisional, re-examinations, re-issues, renewals, foreign counterparts and similar rights with respect to any of the foregoing in (a) through (c); and (e) all trade secrets (including ideas, source code, object code, invention disclosure statements, databases, research and development, processes, know-how, technology, tools, methods, product road maps, technical data, designs, specifications, customer and supplier lists, pricing and cost information and business and marketing plans and proposals).

(114) “Interest Rate” means, for any date, the lesser of (a) the per annum rate of interest equal to the prime lending rate as may from time to time be published in *The Wall Street Journal* under “Money Rates” on such day (or if not published on such day on the most recent preceding day on which published) and (b) the maximum rate permitted by applicable Law.

(115) “Interim Period” has the meaning set forth in Section 6.1(a).

(116) “IRS” means the United States Internal Revenue Service or any successor agency thereto.

(117) “ISFSI” means the Independent Spent Fuel Storage Installation designed and constructed for the interim storage of Spent Nuclear Fuel in casks located or to be located at the Site, including all the components and systems associated with the containers in which the Spent Nuclear Fuel is stored.

(118) “IT Transition Plan” has the meaning set forth in Section 6.15(a).



(119) “Joint Disclosure Schedules” means the Disclosure Schedules delivered jointly by Seller and Purchaser on the date of this Agreement.

(120) “Knowledge” or “Know” or words of similar effect means the following: with respect to Seller, the actual knowledge (after reasonable inquiry) of a particular fact or other matter by any of the individuals as set forth in Section 11.1(120) of the Seller Disclosure Schedules; with respect to ENGC, the actual knowledge (after reasonable inquiry) of a particular fact or other matter by any of the individuals as set forth in Section 11.1(120) of the Seller Disclosure Schedules; and with respect to Purchaser, the actual knowledge (after reasonable inquiry) of a particular fact or other matter by any of the individuals as set forth in Section 11.1(120) of the Purchaser Disclosure Schedules. References to the “Knowledge of Seller” and similar phrases shall include the Knowledge of Seller and ENGC.

(121) “Law” means all laws (including under the common law), rules, regulations, codes, statutes, ordinances, judgments, decrees, treaties and Governmental Orders.

(122) “Lease” has the meaning set forth in Section 4.10.

(123) “Lease Consents” has the meaning set forth in Section 4.10.

(124) “Leave Employee” has the meaning set forth in Section 6.24(j).

(125) “Leave Return Date” has the meaning set forth in Section 6.24(j).

(126) “Legacy Agreement” has the meaning set forth in Section 6.10(g).

(127) [REDACTED]

(128) [REDACTED]

(129) “Low Level Waste” means radioactive material that: (a) is neither High Level Waste nor Spent Nuclear Fuel and (b) the NRC, consistent with existing Law and in accordance with clause (a) of this definition, classifies as low-level radioactive waste.

(130) “made available” means that such information or documentation was provided in the Data Room in a folder to which Purchaser or its Representatives had access as of one (1) Business Day prior to the execution of this Agreement, an index of which is attached hereto as Exhibit A.

(131) “Material Licensed Intellectual Property” has the meaning set forth in Section 4.11(a).

(132) “Mixed Substances” means any Hazardous Substance that has been combined with or mixed with any Nuclear Material.

(133) “MOUs” means the documents designated as “MOUs” in Section 6.19 of the Seller Disclosure Schedules.

(134) “Multi-Party Contracts” means the ENG C Agreements to which ENG C, an Affiliate of ENG C and a Third Party are each a party.

(135) “Negotiation Period” has the meaning set forth in Section 6.14(a)(i).

(136) “Net Adjustment Amount” (which may be a positive or negative number) shall mean the sum of the Qualified Expenses Adjustment Amount plus the Net Liabilities Amount.

(137) [REDACTED]

(138) “Net Liabilities Amount” means the amount of Net Liabilities outstanding as of the Closing.

(139) “Next Refueling Cycle” has the meaning set forth in Section 6.30(d).

(140) “Non-qualified Decommissioning Fund” means a fund authorized by the Decommissioning Trust Agreement to be held within the Decommissioning Trust that does not meet the requirements of Code § 468A and Treas. Reg. § 1.468A-5 and is treated as a grantor trust for Income Tax purposes under Treas Reg. §§ 1.671-1.678. The Non-qualified Decommissioning Fund is construed as a separate state law trust that is maintained by ENG C with respect to the Facilities prior to the Closing.

(141) “NRC” means the United States Nuclear Regulatory Commission and any successor agency thereto.

(142) “NRC Application” has the meaning set forth in Section 6.4(c).

(143) “NRC License” means Renewed Facility Operating License No. DPR-35 and any amendments thereto on the basis of which ENGCG and ENOI are authorized to own, possess and operate the Facilities and Nuclear Material prior to the Closing Date, and on the basis of which ENGCG, under the ownership of Purchaser and subject to the approval contemplated under Section 6.4(c), are authorized to own and possess the Facilities and Nuclear Material on and after the Closing Date.

(144) “Nuclear Fuel” means any Source Material, Special Nuclear Material or Byproduct Material, including any ores, mined or un-mined, uranium concentrates, natural or enriched uranium hexafluoride or any other material in process containing uranium, and any fuel assemblies or parts thereof, any of which are required for the generation of electricity.

(145) “Nuclear Insurance Policies” means the insurance policies designated as “Nuclear” in Section 4.12 of the Seller Disclosure Schedules.

(146) “Nuclear Laws” means all Laws relating to the regulation of nuclear power plants, Source Material, Byproduct Material and Special Nuclear Materials; the regulation of Low Level Waste and High Level Waste; the transportation and storage of Hazardous Substances, Nuclear Materials or Mixed Substances; the regulation of Safeguards Information; the regulation of Nuclear Fuel; the enrichment of uranium; the disposal and storage of High Level Waste, Low Level Waste and Spent Nuclear Fuel; contracts for and payments into the Nuclear Waste Fund; and, as applicable, the antitrust laws and the Federal Trade Commission Act to specified activities or proposed activities of certain licensees of commercial nuclear reactors, but shall not include Environmental Laws. “Nuclear Laws” include the Atomic Energy Act, the Price-Anderson Act; the Energy Reorganization Act (42 U.S.C. § 5801 et seq.); Convention on the Physical Protection of Nuclear Material Implementation Act of 1982 (Public Law 97-351; 96 Stat. 1663); the Foreign Assistance Act of 1961 (22 U.S.C. § 2429 et seq.) the Nuclear Waste Policy Act (42 U.S.C. § 10101 et seq. as amended); the Low-Level Radioactive Waste Policy Amendments Act of 1985 (42 U.S.C. § 2021d, 471); the Energy Policy Act of 1992 (4 U.S.C. § 13201 et seq.); the Energy Policy Act of 2005; the provisions of 10 C.F.R. § 73.21; and any state or local Law analogous to the foregoing.

(147) “Nuclear Material” means Source Material, Special Nuclear Material, Low Level Waste, Greater than Class C Waste, High Level Waste, Byproduct Material and Spent Nuclear Fuel.

(148) “Nuclear Waste Fund” means the fund established by the Department of Energy under the Nuclear Waste Policy Act in which the Spent Nuclear Fuel Fees to be used for the design, construction and operation of a High Level Waste Repository and other activities related to the storage and disposal of Spent Nuclear Fuel and/or High Level Waste are deposited.

(149) “Nuclear Waste Policy Act” means the Nuclear Waste Policy Act of 1982, as amended.

(150) “Observers” has the meaning set forth in Section 6.2(b).

(152) 

(153)

A horizontal bar chart with 30 bars. The bars are black and have varying lengths. The longest bar is approximately 150 units long, and the shortest is approximately 100 units long. The bars are arranged in a single column, with each bar starting from the left edge of the chart area.

[REDACTED]

(154) [REDACTED]

[REDACTED]

(155) “Organizational Documents” means a Person’s charter, articles of organization, certificate of incorporation, certificate of formation, limited liability company agreement, partnership agreement, by-laws or other similar organizational documents, as applicable.

(156) “Owned Intellectual Property” has the meaning set forth in Section 4.11(a).

(157) “Owned Real Property” has the meaning set forth in Section 4.9.

(158) [REDACTED]

[REDACTED]

(159) [REDACTED]

[REDACTED]

(160) [REDACTED]

[REDACTED]

(161) [REDACTED]

[REDACTED]

(162) [REDACTED]

[REDACTED]

(163) [REDACTED]

[REDACTED]

(164) [REDACTED]

[REDACTED]

(165) “Parent” has the meanings set forth in the preamble.

(167) “Partial Decommissioning Date” means the date the approval is obtained to release pursuant to 10 C.F.R. section 50.83 all portions of the Site other than the ISFSI after submission of a request submitted pursuant to 10 C.F.R. section 50.12 to be exempted from the requirements of 10 C.F.R. 50.82(a)(8)(i)(A).

(168) “Party” (and the corresponding term “Parties”) has the meaning set forth in the preamble.

(169) “PBGC” means the Pension Benefit Guaranty Corporation.

(170) “Pending DOE Claim” means the claim filed by ENG C against the Department of Energy for damages incurred by ENG C from December 31, 2008 through June 30, 2015 against the United States before the U.S. Court of Federal Claims (Case No. 14-1248C) resulting from the Department of Energy’s failure to commence removal, transportation, acceptance or any delay in accepting Spent Nuclear Fuel pursuant to the Standard Spent Fuel Disposal Contract and the Nuclear Waste Policy Act and any subsequent claim filed on behalf of, or judgment in favor of, ENG C for damages incurred from June 30, 2015 up to and through the Closing, including damages resulting from liabilities arising prior to the Closing, but which are paid by Seller on a date after the Closing.

(171) “Pension Plan” means each employee benefit plan (whether or not qualifying as a Benefit Plan) maintained by any entity that, prior to Closing, is an ERISA Affiliate of ENG C, or to which any entity that, prior to Closing, is an ERISA Affiliate of ENG C contributes or has an obligation to contribute, or with respect to which ENG C has any Liability, that is a “defined benefit plan” subject to Section 302 of ERISA or Section 412 of the Code, excluding for this purpose any such plan that is sponsored or maintained by Purchaser or ENG C or any of its or their Affiliates following the Closing.

(172) “Permits” means any permit, certificate, license, Consent, approval, exemption, registration, franchise or similar authorization issued, made, required or rendered by any Governmental Authority that possesses competent jurisdiction, other than the NRC Licenses and Environmental Permits.

(173) “Permitted Encumbrances” means: (a) those exceptions to title to Owned Real Property set forth in Section 4.9(a) of the Seller Disclosure Schedules with respect to Owned Real Property; (b) statutory liens for Taxes or other governmental charges or assessments not yet due or delinquent or the validity of which is being contested in good faith and for which adequate reserves have been specifically set aside on ENG C’s financial statements; (c) mechanics’, materialmen’s, carriers’, workers’, repairers’ and other similar liens arising or incurred in the ordinary course of business as do not materially impair the present use and enjoyment of the asset or property subject thereto or affected thereby; (d) zoning, entitlement, conservation restriction and other land use and environmental regulations imposed by Governmental Authorities as do not, individually or in the aggregate, materially impair the present use and enjoyment of the asset or property subject thereto or affected thereby;

(e) easements, restrictions, covenants and other matters of record as do not, individually or in the aggregate, materially impair the present use and enjoyment of the asset or property subject thereto or affected thereby, and the covenants and restrictions set forth in this Agreement or in any of the Transaction Documents; and (f) those Encumbrances identified on the deeds, mortgages, deeds of trust, surveys and title insurance policies or commitments with respect to the Owned Real Property (including the standard printed exceptions).

(174) “Person” means any individual, partnership, limited liability company, joint venture, corporation, trust, unincorporated organization, association or other entity, or Governmental Authority or any department or agency thereof.

(175) “Phase 1” means the period of time after the permanent shutdown of the Pilgrim NPS until the commencement of Phase 2.

(176) “Phase 2” means the period of time commencing after the beginning of Phase 1 at which, at Pilgrim NPS, it would take ten (10) hours or more for a zirconium fire to start or for significant fission product releases to begin once fuel was fully uncovered and the fuel was cooled by an air flow of about two building volumes per hour.

(177) “Pilgrim Employee” means as of any relevant time (a) an employee of ENGEC, ENOI or any of their Affiliates employed at the Pilgrim NPS or the Site and (b) the individuals identified on Section 11.1(177) of the Seller Disclosure Schedules.

(178) “Pilgrim Fund Assets” means the cash, investment securities and other assets of the Qualified Decommissioning Fund and the Non-qualified Decommissioning Fund held in the Decommissioning Trust maintained for the Pilgrim NPS.

(179) “Pilgrim Historical Tax Basis” means the historical Income Tax cost basis of the assets of the Qualified Decommissioning Fund and the Non-qualified Decommissioning Fund held in the Decommissioning Trust maintained for the Pilgrim NPS as of the close of business on the Pilgrim Valuation Date.

(180) “Pilgrim Hypothetical Fund Value” means the Pilgrim Fund Asset Market Value of the Pilgrim Fund Assets on the Pilgrim Valuation Date, less the Pilgrim Hypothetical Tax Liability of the Pilgrim Fund Assets.

(181) “Pilgrim Hypothetical Tax Liability” means the sum of the hypothetical amount of Income Tax imposed (A) under Code § 468A and the related regulations, on the net gain under Code § 1001 as if all assets of the Qualified Decommissioning Fund were sold or otherwise disposed of on the Pilgrim Valuation Date in market transactions and notionally incurred as of the close of business on that date plus (B) under general principles of Tax Law, on the net gain or loss as if all assets of the Non-qualified Decommissioning Fund were sold or otherwise disposed of on the Pilgrim Valuation Date and notionally incurred as of the close of business on that date.

(182) “Pilgrim NPS” has the meaning set forth in the recitals.



(183) [REDACTED]

(184) “Pilgrim Valuation Date” means the date that is the fourth (4th) Business Day prior to the anticipated Closing Date, or another date mutually agreed by the Parties in writing.

(185) “Pilgrim Valuation Date Statement” means a written computation, prepared by Seller, of the Pilgrim Hypothetical Fund Value derived from and consistent with the amounts reported by the trustee in the Pilgrim Valuation Report.

(186) “Pilgrim Valuation Report” means a written report by the trustee of the Decommissioning Trust setting forth as of the close of business on the Pilgrim Valuation Date (i) the Pilgrim Fund Asset Value and (ii) the Pilgrim Historical Tax Basis, in each case as determined and calculated by the trustee in accordance with the Pricing Methodologies.

(187) “PLL Insurance” has the meaning set forth in Section 6.16(b).

(188) “Post-Closing Pilgrim Valuation Date Statement” means Seller’s update of the Pilgrim Valuation Date Statement derived from and consistent with the Post-Closing Pilgrim Valuation Report.

(189) “Post-Closing Pilgrim Valuation Report” means a written report by the trustee of the Decommissioning Trust containing the trustee’s final determination of the Pilgrim Fund Asset Value and the Pilgrim Historical Tax Basis as of the Valuation Date, in each case as determined and calculated by the trustee in accordance with the Pricing Methodologies.

(190) “Post-Signing Event” has the meaning set forth in Section 6.14(a).

(191) “Pre-Closing Contracts” has the meaning set forth in Section 6.29(a).

(192) “Pre-Closing Guaranteed Obligations” has the meaning set forth in Section 12.4.

(193) [REDACTED]

(194) “Pre-Closing Tax Period” has the meaning set forth in Section 7.1.

(195) “Pre-Closing Work Contract” has the meaning set forth in Section 6.29(a).

(196) “Pre-Planning Contract” has the meaning set forth in Section 6.29(a).

(197) “Pre-Signing Event” has the meaning set forth in Section 6.14(a).

(198) “Price-Anderson Act” means section 170 of the Atomic Energy Act and related provisions of Section 11 of the Atomic Energy Act.

(199) “Pricing Methodologies” means the methodologies and procedures of the trustee of the Decommissioning Trust set forth on Exhibit C, as the same may be amended or modified by the trustee in accordance with law or in the ordinary course after the date of this Agreement.

(200) “Private Letter Ruling” has the meaning set forth in Section 6.6(a).

(201) “Protected Area” means the portions of the Site enclosed by the 10 C.F.R. § 73.55(e)(8) protected area boundary, as such boundary exists on the execution date of this Agreement.

(202) “Public Utility Holding Company Act” means the Public Utility Holding Company Act of 2005, enacted as part of the Energy Policy Act of 2005, Pub. L. No. 109-58, as codified at Section 1261 et seq., and the regulations adopted thereunder as amended, modified, supplemented or replaced from time to time.

(203) “Purchase Price” has the meaning set forth in Section 1.2(a).

(204) “Purchaser” has the meaning set forth in the preamble.

(205) “Purchaser Burdensome Condition” has the meaning set forth in Section 6.4(j).

(206) “Purchaser Disclosure Schedules” means the Disclosure Schedules delivered by Purchaser to Seller on the date of this Agreement.

(207) [REDACTED]

(208) [REDACTED]

(209)

(210) “Purchaser Parties” means Purchaser and Parent.

(211) “Purchaser Savings Plan” has the meaning set forth in Section 6.24(i).

(212) “Purchaser Welfare Benefit Plans” has the meaning set forth in Section 6.24(g).

(213) “Qualified Decommissioning Fund” means a fund that meets the requirements of Code § 468A and Treas. Reg. § 1.468A-5 and maintained in accordance with Treas. Reg. §§ 1.468A-1 through 1.468A-9, which is authorized by the Decommissioning Trust Agreement to be held within the Decommissioning Trust. The Qualified Decommissioning Fund is construed as a separate state law trust that is maintained by ENG C with respect to the Facilities prior to the Closing.

(214) “Qualified Expenses” means all expenses, fees, costs (including financing expenses, fees and costs, and pre-paid costs and expenses) incurred or expected to be incurred by ENG C or its Affiliates as illustrated on Section 11.1(214) of the Joint Disclosure Schedules (the “Qualified Expenses Adjustment Schedule”) (or as otherwise agreed to in writing by the Parties) for work performed or costs incurred during any period at or prior to Closing that are reimbursable from the Decommissioning Trust pursuant to and in accordance with 10 C.F.R. § 50.82(a)(8) and that are reimbursable under Section 468A of the Code from the Qualified Decommissioning Fund.

(215) “Qualified Expenses Adjustment Amount” means the absolute value of the aggregate amount (without duplication) of all Qualified Expenses having a negative Purchase Price adjustment as identified on the Qualified Expenses Adjustment Schedule, or otherwise agreed to in writing by the Parties.

(216) “Radiological Release Criteria” means (i) the levels of radioactivity that permit release of the Site for unrestricted release pursuant to 10 C.F.R. § 20.1402 and (ii) any lower levels of radioactivity to which the Pilgrim NPS must be remediated in accordance with all applicable Laws and agreements with Governmental Authorities.

(217) “Reactor Building” means the Pilgrim NPS structures housing the reactor and spent nuclear fuel pool as of the date of this Agreement.

(218) “Regulatory Books and Records” has the meaning set forth in Section 6.15(b).

(219) “Regulatory Commitment” has the meaning set forth in Section 6.4(i).

(220) “Release” means any spilling, leaking, pumping, pouring, emitting, migration, emptying, discharging, injecting, escaping, leaching, dumping or disposing of a material into the environment.

(221) “Representatives” of a Person means, collectively, such Person’s Affiliates and its and their managers, directors, officers, employees, agents, partners, representatives, advisors (including accountants, counsel, environmental consultants, engineering consultants, financial advisors and other authorized representatives) and parents and other controlling Persons.

(222) “Required Operating Order” has the meaning set forth in Section 6.30(a).

(223) “Required Regulatory Approvals” means, collectively, the Filings and Consents of all Governmental Authorities set forth in Section 3.4(b) of the Seller Disclosure Schedules necessary for the Parties to execute and deliver this Agreement and the Transaction Documents, as applicable, and for the Parties to consummate the Contemplated Transactions.

(224) “Resolution Period” has the meaning set forth in Section 1.2(b).

(225) “Safeguards Information” means information not otherwise classified as national security information or restricted data under NRC’s regulations which specifically identifies an NRC licensee’s detailed (a) security measures for the physical protection of Special Nuclear Material or (b) security measures for the physical protection and location of certain plant equipment vital to the safety of production or utilization facilities.

(226) “Schedule of Deduction Amounts” has the meaning set forth in Section 4.20(d).

(227) “Schedule of Ruling Amounts” has the meaning set forth in Section 4.20(c).

(228) “Schedule Update” has the meaning set forth in Section 6.14(a).

(229) “Scheduled Intellectual Property” has the meaning set forth in Section 4.11(a).

(230) “Schedules” means the Seller Disclosure Schedules, the Purchaser Disclosure Schedules or the Joint Disclosure Schedules.

(231) “Second Party” has the meaning set forth in Section 6.7.

(232) “Securities Act” means the Securities Act of 1933, as amended.

(233) [REDACTED]

(234) [REDACTED]

(235) “Seller” has the meaning set forth in the preamble.

(236) “Seller Burdensome Condition” has the meaning set forth in Section 6.4(i).

(237) “Seller Disclosure Schedules” means the Disclosure Schedules delivered by Seller to Purchaser on the date of this Agreement.

(238) “Seller Guarantee” means that certain guarantee by Entergy Northeast Holding Inc. in substantially the form attached hereto as Exhibit G.

(239) [REDACTED]

(240) [REDACTED]

(241) “Seller Parties” means ENGEC and Seller.

(242) “Seller Savings Plan” has the meaning set forth in Section 6.24(i).

(243) “Service Marks” means the service marks, trademarks, graphics and copyrights that are set forth in Section 11.1(243) of the Seller Disclosure Schedules.

(244) “Shortfall Payment” has the meaning set forth in Section 6.8(c).

(245) “Site” means the parcels of land included in the Owned Real Property. Any reference to the Site shall include, by definition, the surface and subsurface elements, including the soils and groundwater present at the Site and any references to items “at the Site” shall include all items “at, in, on, upon, over, across, under and within” the Site.

(246) “Skadden” has the meaning set forth in Section 12.3(a).

(247) “Software” means computer programs (in object code form only) and may include related documentation such as user manuals and training materials.

(248) “Source Material” means: (a) uranium or thorium, or any combination thereof, in any physical or chemical form or (b) ores which contain by weight one-twentieth of one percent (0.05%) or more of (i) uranium, (ii) thorium or (iii) any combination thereof. Source Material does not include Special Nuclear Material.

(249) “Special Nuclear Material” means plutonium, uranium-233, uranium enriched in the isotope-233 or in the isotope-235, and any other material that the NRC

determines to be “Special Nuclear Material.” Special Nuclear Material also refers to any material artificially enriched by any of the above-listed materials or isotopes.

(250) “Spent Fuel Support Areas” means areas, structures, and systems within the Protected Area that house, encompass, or contain systems or components that are necessary to maintain operation of the spent fuel pool in accordance with applicable safety and regulatory requirements, but excluding the Reactor Building.

(251) “Spent Nuclear Fuel” means fuel that has been permanently withdrawn from the Pilgrim NPS nuclear reactor following irradiation, Nonfuel Components as defined in the Standard Spent Fuel Disposal Contract, and any material generated at the Pilgrim NPS classified as High Level Radioactive Waste. Spent Nuclear Fuel includes the Special Nuclear Material, Byproduct Material, Source Material and other radioactive materials associated with Nuclear Fuel assemblies. For purposes of this Agreement, Spent Nuclear Fuel also includes Greater than Class C Waste.

(252) “Spent Nuclear Fuel Fees” means those fees assessed on electricity generated at nuclear power electric generation facilities and sold pursuant to the Standard Spent Fuel Disposal Contract, as provided in Section 302 of the Nuclear Waste Policy Act and 10 C.F.R. Part 961, as the same may be amended from time to time.

(253) “Standard Spent Fuel Disposal Contract” means the Contract for Disposal of Spent Nuclear Fuel and/or High Level Radioactive Waste, No. DE-CR01-83NE44368, dated as of June 17, 1983, entered into between the Pilgrim NPS and the United States, represented by the Department of Energy, as amended and assigned to ENGCO by the Pilgrim NPS on July 13, 1999.

(254) “Stock Power” means the Stock Power substantially in the form set out in Exhibit B.

(255) “Straddle Period” has the meaning set forth in Section 7.2.

(256) “Subsequent DOE Claims” means any action for damages incurred by ENGCO from the Closing Date thereafter against the United States resulting from the Department of Energy’s failure to commence removal, transportation, acceptance or any delay in accepting Spent Nuclear Fuel pursuant to the Standard Spent Fuel Disposal Contract and the Nuclear Waste Policy Act (which may, for the avoidance of doubt, include any action thereto filed by ENGCO prior to the Closing); provided, however, that the Subsequent DOE Claims shall not include the Pending DOE Claim.

(257) “Subsidiary” means, with respect to any Person, any other Person of which at least a majority of the securities or other ownership interests having by their terms ordinary voting power to elect a majority of the board of directors or other persons performing similar functions is directly or indirectly owned or controlled by such Person and/or by one or more of its Subsidiaries; provided, however, that the Decommissioning Trust (including the Qualified Decommissioning Fund) shall not be deemed ENGCO’s Subsidiary for the purpose of this Agreement.

(258) “Switchyard” means the FERC-jurisdictional switchyard at the Facilities.

(259) “Switchyard Option” has the meaning set forth in Section 6.13(c).

(260) “Switchyard Transfer” means the transfer, conveyance or other disposition of the Switchyard by ENG C pursuant to the Switchyard Option.

(261) “Tangible Personal Property” means all machinery, mobile or otherwise, equipment (including computer hardware and software and communications equipment), vehicles, tools, spare parts, fixtures, furniture and furnishing and other personal property owned by ENG C relating to the Facilities or otherwise used in the ordinary course of business.

(262) “Target Employee” means, subject to Section 6.24(j), (i) any employee of ENG C, ENOI or any of their Affiliates employed at the Pilgrim NPS or the Site immediately prior to the Closing and required for the ownership and maintenance of the Facilities during Phase 1 or thereafter, as determined by Seller, and (ii) each Pilgrim Employee in the positions set forth on Section 6.24(a) of the Seller Disclosure Schedules who is employed by Seller, ENOI, ESI or any of their Affiliates immediately prior to the Closing.

(263) “Tax” or “Taxes” means all taxes, charges, fees, levies, penalties or other assessments imposed by any federal, state, local, provincial or foreign taxing authority, including Income Tax, gross receipts, excise, real or personal property, sales, use, transfer, customs, duties, franchise, payroll, withholding, social security, receipts, license, stamp, occupation, employment, or any tax based upon, measured by or calculated with respect to the generation of electricity or other taxes, including any interest, penalties or additions attributable thereto, and any payments to any state, local, provincial or foreign taxing authorities in lieu of any such taxes, charges, fees, levies or assessments.

(264) “Tax Contest” has the meaning set forth in Section 7.4(b).

(265) “Tax Return” means any return, report, information return, declaration, claim for refund or other document (including any schedule or related or supporting information) required to be supplied to any Governmental Authority with respect to Taxes, including amendments thereto, including any return filed by the Decommissioning Trust or the Qualified Decommissioning Fund.

(266) “Termination Date” has the meaning set forth in Section 10.1(b).

(267) “Third Party” means any Person other than Purchaser, Parent, Seller, ENG C and their respective Affiliates.

(268) “Third Party Claim” has the meaning set forth in Section 9.4(a).

(269) “Third-party Software” means Software licensed to ENG C from Third Parties and used at or in connection with the Pilgrim NPS that is set forth in Section 11.1(269) of the Seller Disclosure Schedules.



(270) “Transaction Documents” means the Stock Power, the Transition Services Agreement and each other agreement, document, certificate or instrument required to be delivered by the Parties pursuant to this Agreement.

(271) “Transfer Taxes” means any real property transfer, sales, use, value added, stamp, documentary, recording, registration, conveyance, equity transfer, intangible property transfer, personal property transfer, gross receipts, registration, duty, securities transactions or similar fees or Taxes or governmental charges (together with any interest or penalty, addition to Tax or additional amount imposed) as levied by any Governmental Authority in connection with the Contemplated Transactions, including any payments made in lieu of any such Taxes or governmental charges which become payable in connection with the Contemplated Transactions.

(272) “Transferred Employee” has the meaning set forth in Section 6.24(b).

(273) “Transition Advisory Committee” has the meaning set forth in Section 6.2(a).

(274) “Transition Services Agreement” means the Transition Services Agreement, substantially in the form of Exhibit D, to be entered into by ENG C and ENOI at the Closing.

(275) “Union Employees” has the meaning set forth in Section 6.24(a).

(276) “WARN Act” means the Worker Adjustment and Retraining Notification Act of 1988, as amended.

Section 11.2 Construction. In construing this Agreement, together with the Schedules and Exhibits hereto, the following principles shall be followed:

- (a) capitalized terms used shall have the meanings specified in this Article 11;
- (b) the singular shall include the plural, the plural shall include the singular, and the masculine shall include the feminine and neuter;
- (c) except as otherwise set forth herein, references to Articles, Sections, Schedules, Exhibits and other subdivisions refer to the Articles, Sections, Schedules, Exhibits and other subdivisions of this Agreement;
- (d) the terms “herein,” “hereof,” “hereby,” “hereunder” and other similar terms refer to this Agreement as a whole and not only to the particular Article, Section or other subdivision in which any such terms may be employed;
- (e) the terms “includes” and “including” and their syntactical variants mean “includes, but is not limited to” and “including, without limitation,” and corresponding syntactical variant expressions;
- (f) when calculating the period of time before which, within which or after which any act is to be done or step taken pursuant to this Agreement, (i) the date that is the

reference date in calculating such period shall be excluded and (ii) if the last day of such period is not a Business Day, the period in question shall end on the next succeeding Business Day. All references in this Agreement to a number of days are to such number of calendar days unless Business Days are specified;

(g) references to any Person (including any Governmental Authority) shall include such Person's predecessors, successors and permitted assigns unless otherwise specifically provided herein;

(h) examples shall not be construed to limit, expressly or by implication, the matter they illustrate; and

(i) references herein to any Law or to any contract or other agreement shall be to such Law, contract or other agreement as amended, supplemented or modified from time to time unless otherwise specifically provided herein.

Section 11.3 U.S. Dollars. When used herein, the term "dollars" and the symbol "\$" refer to the lawful currency of the United States.

Section 11.4 Exhibits and Disclosure Schedules. The Exhibits to this Agreement and the Disclosure Schedules are hereby incorporated and made a part of this Agreement and are an integral part of this Agreement. Each of the Seller and the Purchaser may, at its option, include in the Seller Disclosure Schedules or the Purchaser Disclosure Schedules, respectively, items that are not material in order to avoid any misunderstanding, and such inclusion, or any references to dollar amounts in this Agreement or in the Disclosure Schedules, shall not be deemed to be an acknowledgement or representation that such items are material, to establish any standard of materiality or to define further the meaning of such terms for purposes of this Agreement or otherwise. Each of the Disclosure Schedules shall be organized by section, with each section of such Disclosure Schedules corresponding to a Section of this Agreement. Any matter set forth in any section of the Disclosure Schedules shall be deemed to be referred to and incorporated in any section of such Disclosure Schedules to which it is specifically referenced or cross-referenced and also in any other sections of the such Disclosure Schedules where the applicability of such matter is reasonably apparent on the face of the disclosure. Any capitalized term used in any Exhibit or any Disclosure Schedule but not otherwise defined therein shall have the meaning given to such term in this Agreement.

## **ARTICLE 12**

### **MISCELLANEOUS PROVISIONS**

Section 12.1 Notices. Any notice, request, instruction or other document to be given hereunder by any Party to another Party shall be in writing and delivered personally or sent by registered or certified mail, postage prepaid, by facsimile or by overnight courier:

(a) If to the Seller Parties (but excluding ENG C after the Closing), to:

Entergy Nuclear Holding Company #1  
c/o Entergy Corporation  
639 Loyola Avenue  
New Orleans, LA 70113  
Attention: General Counsel  
Facsimile: (504) 576-4150

with a copy (which shall not constitute notice), to:

Skadden, Arps, Slate, Meagher & Flom LLP  
1440 New York Avenue, N.W.  
Washington, D.C. 20005  
Attention: Pankaj K. Sinha, Esq.  
J.A. Glaccum, Esq.  
Facsimile: (202) 661-8238

(b) if to the Purchaser Parties (or ENG C after the Closing), to:

Nuclear Asset Management Company, LLC  
c/o Holtec International  
Krishna P. Singh Technology Campus  
1 Holtec Boulevard  
Camden, NJ 08104  
Attention: Andrew R. Ryan, Esq.  
Facsimile: (856) 797-0909

with a copy (which shall not constitute notice), to:

Balch & Bingham, LLP  
1710 Sixth Avenue North  
Birmingham, AL 35203  
Attention: Alan D. Lovett, Esq.  
Peter D. LeJeune, Esq.  
Facsimile: (205) 488-5751

or to such other persons or addresses as may be designated in writing by the Party to receive such notice as provided above. Any notice, request, instruction or other document given as provided above shall be deemed given to the receiving Party (a) upon actual receipt, if delivered personally; (b) three (3) Business Days after deposit in the mail, if sent by registered or certified mail; (c) upon confirmation of successful transmission if sent by facsimile and received by 5:00 p.m. Eastern time on a Business Day (otherwise the next Business Day) (provided that, if given by facsimile such notice, request, instruction or other document shall be followed up within one (1) Business Day by dispatch pursuant to one of the other methods described herein); or (d) on the next Business Day after deposit with an overnight courier, if sent by an overnight courier.

Section 12.2 Disclaimers; As-Is Sale; Release; Acknowledgement; Due Diligence; Non-Recourse.

(a) EXCEPT FOR THE REPRESENTATIONS AND WARRANTIES EXPRESSLY SET FORTH HEREIN AND IN THE OTHER TRANSACTION DOCUMENTS, THE EQUITY INTERESTS ARE SOLD “AS-IS, WHERE-IS,” AND SELLER AND ENGC EXPRESSLY DISCLAIM ANY AND ALL OTHER REPRESENTATIONS AND WARRANTIES OF ANY KIND OR NATURE, EXPRESS OR IMPLIED, AS TO SELLER, ENGC OR THEIR AFFILIATES, THE EQUITY INTERESTS OR THE PILGRIM NPS. WITHOUT LIMITING THE GENERALITY OF THE FOREGOING, EXCEPT FOR THE REPRESENTATIONS AND WARRANTIES EXPRESSLY SET FORTH IN THIS AGREEMENT AND IN THE OTHER TRANSACTION DOCUMENTS, SELLER AND ENGC EXPRESSLY DISCLAIM ALL OTHER REPRESENTATIONS AND WARRANTIES REGARDING LIABILITIES, OWNERSHIP, LEASE, MAINTENANCE OR OPERATION OF THE PILGRIM NPS, THE TITLE, CONDITION, VALUE OR QUALITY OF THE PILGRIM NPS, THE EQUITY INTERESTS OR THE PROSPECTS (FINANCIAL AND OTHERWISE), RISKS AND OTHER INCIDENTS OF THE PILGRIM NPS; AND SELLER AND ENGC EXPRESSLY DISCLAIM ALL REPRESENTATIONS AND WARRANTIES OF MERCHANTABILITY, USAGE, SUITABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE WITH RESPECT TO THE PILGRIM NPS OR ANY PART THEREOF, OR AS TO THE WORKMANSHIP THEREOF, OR THE ABSENCE OF ANY DEFECTS THEREIN, WHETHER LATENT OR PATENT, OR COMPLIANCE WITH ENVIRONMENTAL LAWS OR ANY OTHER ENVIRONMENTAL, HEALTH OR SAFETY REQUIREMENTS, OR THE APPLICABILITY OF ANY GOVERNMENTAL AUTHORITY, INCLUDING ANY OF THE FOREGOING RELATING TO ENVIRONMENTAL LAWS. EXCEPT FOR THE REPRESENTATIONS AND WARRANTIES EXPRESSLY SET FORTH HEREIN AND IN THE OTHER TRANSACTION DOCUMENTS, SELLER AND ENGC FURTHER EXPRESSLY DISCLAIM ALL REPRESENTATIONS AND WARRANTIES REGARDING THE ABSENCE OF HAZARDOUS SUBSTANCES, NUCLEAR MATERIALS, NUCLEAR SUBSTANCES, RADIOLOGICAL SUBSTANCES OR OTHER SUBSTANCES OR MATERIALS, WHETHER KNOWN OR UNKNOWN, THAT COULD RESULT IN LIABILITY OR POTENTIAL LIABILITY ARISING UNDER OR RELATING TO ENVIRONMENTAL LAWS WITH RESPECT TO THE PILGRIM NPS AND THE SITE. WITHOUT LIMITING THE GENERALITY OF THE FOREGOING, EXCEPT AS OTHERWISE EXPRESSLY PROVIDED HEREIN AND IN THE OTHER TRANSACTION DOCUMENTS, SELLER AND ENGC EXPRESSLY DISCLAIM ALL REPRESENTATIONS AND WARRANTIES OF ANY KIND REGARDING THE CONDITION OF THE PILGRIM NPS OR OTHERWISE, AND NO OTHER MATERIAL OR INFORMATION PROVIDED, OR COMMUNICATIONS MADE, BY SELLER OR ENGC OR THEIR AFFILIATES OR THEIR RESPECTIVE REPRESENTATIVES, INCLUDING ANY BROKER OR INVESTMENT BANKER, SHALL CONSTITUTE OR CREATE ANY SUCH REPRESENTATION OR WARRANTY, EXPRESS OR IMPLIED, AS TO THE TITLE, CONDITION, VALUE OR QUALITY OF THE PILGRIM NPS. WITHOUT LIMITING THE GENERALITY OF THE FOREGOING, EXCEPT AS OTHERWISE EXPRESSLY PROVIDED HEREIN AND IN ANY TRANSACTION DOCUMENT, PURCHASER SHALL ACCEPT TITLE TO THE OWNED REAL PROPERTY SUBJECT TO ALL PRESENT AND FUTURE ZONING, BUILDING, LAND USE, ENVIRONMENTAL AND OTHER LAWS HAVING JURISDICTION WITH RESPECT TO THE OWNED REAL PROPERTY.

(b) EXCEPT FOR (I) THE OBLIGATIONS OF SELLER PARTIES UNDER THIS AGREEMENT AND (II) ANY OBLIGATIONS UNDER ANY OTHER TRANSACTION DOCUMENT TO BE PERFORMED FROM AND AFTER THE CLOSING, FOR AND IN CONSIDERATION OF THE TRANSFER OF THE EQUITY INTERESTS, EFFECTIVE AS OF THE CLOSING DATE, PURCHASER AND PARENT HEREBY ABSOLUTELY AND UNCONDITIONALLY RELEASE, ACQUIT AND FOREVER DISCHARGE, AND SHALL CAUSE EACH OF THEIR AFFILIATES (INCLUDING ENGC) TO ABSOLUTELY AND UNCONDITIONALLY RELEASE, ACQUIT AND FOREVER DISCHARGE, THE SELLER PARTIES AND THEIR AFFILIATES AND EACH OF THEIR RESPECTIVE FORMER OR PRESENT REPRESENTATIVES AND EACH OF THEIR RESPECTIVE HEIRS, EXECUTORS, ADMINISTRATORS, SUCCESSORS AND ASSIGNS, FROM ANY AND ALL COSTS, EXPENSES, DAMAGES, DEBTS, OR ANY OTHER OBLIGATIONS, LIABILITIES AND CLAIMS WHATSOEVER, WHETHER KNOWN OR UNKNOWN, BOTH IN LAW AND IN EQUITY, INCLUDING ANY CLAIMS UNDER ENVIRONMENTAL LAWS, IN EACH CASE TO THE EXTENT ARISING OUT OF OR RESULTING FROM THE DIRECT OR INDIRECT OWNERSHIP OR OPERATION OF ENGC, OR THE ASSETS, BUSINESS, OPERATIONS, CONDUCT, SERVICES, PRODUCTS OR EMPLOYEES (INCLUDING FORMER EMPLOYEES) OF THE SELLER PARTIES AND THEIR AFFILIATES (AND ANY LEGAL PREDECESSORS), RELATED TO ANY PERIOD OF TIME BEFORE THE CLOSING, EXCEPT IN THE CASE OF ACTUAL AND INTENTIONAL FRAUD IN CONNECTION WITH THIS AGREEMENT.

(c) EXCEPT FOR (I) THE OBLIGATIONS OF PURCHASER UNDER THIS AGREEMENT AND (II) ANY OBLIGATIONS OF PURCHASER UNDER ANY OTHER TRANSACTION DOCUMENT TO BE PERFORMED FROM AND AFTER THE CLOSING, FOR AND IN CONSIDERATION OF THE TRANSFER OF THE EQUITY INTERESTS, EFFECTIVE AS OF THE CLOSING DATE, SELLER HEREBY ABSOLUTELY AND UNCONDITIONALLY RELEASES, ACQUITS AND FOREVER DISCHARGES, AND SHALL CAUSE EACH OF ITS AFFILIATES TO ABSOLUTELY AND UNCONDITIONALLY RELEASE, ACQUIT AND FOREVER DISCHARGE, THE PURCHASER PARTIES AND THEIR AFFILIATES (INCLUDING WITHOUT LIMITATION ENGC FROM AND AFTER CLOSING) AND EACH OF THEIR RESPECTIVE FORMER OR PRESENT REPRESENTATIVES AND EACH OF THEIR RESPECTIVE HEIRS, EXECUTORS, ADMINISTRATORS, SUCCESSORS AND ASSIGNS, FROM ANY AND ALL COSTS, EXPENSES, DAMAGES, DEBTS, OR ANY OTHER OBLIGATIONS, LIABILITIES AND CLAIMS WHATSOEVER, WHETHER KNOWN OR UNKNOWN, BOTH IN LAW AND IN EQUITY, INCLUDING ANY CLAIMS UNDER ENVIRONMENTAL LAWS, IN EACH CASE TO THE EXTENT ARISING OUT OF OR RESULTING FROM THE DIRECT OR INDIRECT OWNERSHIP OR OPERATION OF ENGC, OR THE ASSETS, BUSINESS, OPERATIONS, CONDUCT, SERVICES, PRODUCTS OR EMPLOYEES (INCLUDING FORMER EMPLOYEES) OF THE PURCHASER PARTIES AND THEIR AFFILIATES (AND ANY PREDECESSORS), RELATED TO ANY PERIOD OF TIME BEFORE THE CLOSING, EXCEPT IN THE CASE OF ACTUAL AND INTENTIONAL FRAUD IN CONNECTION WITH THIS AGREEMENT.

(d) PURCHASER AND PARENT ACKNOWLEDGE AND AGREE THAT THE SELLER PARTIES HAVE NOT MADE ANY REPRESENTATION OR WARRANTY,

EXPRESS OR IMPLIED, AS TO THE ACCURACY OR COMPLETENESS OF ANY INFORMATION REGARDING THE PILGRIM NPS NOT INCLUDED IN THIS AGREEMENT AND THE SCHEDULES. EACH OF PURCHASER AND PARENT FURTHER ACKNOWLEDGES AND AGREES THAT: (A) PURCHASER AND PARENT, EITHER ALONE OR TOGETHER WITH ITS REPRESENTATIVES, HAS KNOWLEDGE AND EXPERIENCE IN TRANSACTIONS OF THIS TYPE AND IN THE DECOMMISSIONING OF NUCLEAR POWER PLANTS AND IS THEREFORE CAPABLE OF EVALUATING THE RISKS AND MERITS OF ACQUIRING THE EQUITY INTERESTS AND CONSUMMATING THE CONTEMPLATED TRANSACTIONS; (B) IT HAS RELIED ON ITS OWN INDEPENDENT INVESTIGATION, AND HAS NOT RELIED ON ANY INFORMATION OR REPRESENTATIONS OR WARRANTIES, WHETHER EXPRESSED OR IMPLIED, AT COMMON LAW OR STATUTE, FURNISHED BY THE SELLER PARTIES OR ANY OF THEIR AFFILIATES OR THEIR RESPECTIVE REPRESENTATIVES (EXCEPT AS SPECIFICALLY SET FORTH IN THIS AGREEMENT AND THE OTHER TRANSACTION DOCUMENTS), IN DETERMINING TO ENTER INTO THIS AGREEMENT AND THE OTHER TRANSACTION DOCUMENTS; (C) NEITHER THE SELLER PARTIES NOR ANY OF THEIR AFFILIATES OR THEIR RESPECTIVE REPRESENTATIVES HAS GIVEN ANY INVESTMENT, LEGAL OR OTHER ADVICE OR RENDERED ANY OPINION AS TO WHETHER THE PURCHASE OF THE EQUITY INTERESTS ARE PRUDENT AND ENTERING INTO THE CONTEMPLATED TRANSACTIONS, AND PURCHASER AND PARENT IS NOT RELYING ON ANY REPRESENTATION OR WARRANTY BY THE SELLER PARTIES OR ANY REPRESENTATIVE OF THE SELLER PARTIES EXCEPT AS SET FORTH IN THIS AGREEMENT OR IN ANY OTHER TRANSACTION DOCUMENT; (D) EACH OF PURCHASER AND PARENT HAS CONDUCTED EXTENSIVE DUE DILIGENCE, INCLUDING A REVIEW OF THE DOCUMENTS PROVIDED BY OR ON BEHALF OF THE SELLER PARTIES; AND (E) TO THE KNOWLEDGE OF SELLER, THE SELLER PARTIES HAVE MADE AVAILABLE OR DELIVERED TO PURCHASER ALL DOCUMENTS, RECORDS AND BOOKS PERTAINING TO THE EQUITY INTERESTS AND THE PILGRIM NPS THAT PURCHASER AND PARENT AND THEIR RESPECTIVE REPRESENTATIVES HAVE REQUESTED, AND PURCHASER AND PARENT AND THEIR RESPECTIVE REPRESENTATIVES HAVE HAD THE OPPORTUNITY TO VISIT THE PILGRIM NPS AND TO ASK QUESTIONS AND RECEIVE ANSWERS CONCERNING THE EQUITY INTERESTS, FACILITIES, THE PILGRIM NPS AND THE TERMS AND CONDITIONS OF THIS AGREEMENT AND ANY OTHER TRANSACTION DOCUMENT. ALL SUCH QUESTIONS HAVE BEEN ANSWERED TO PURCHASER'S AND PARENT'S SATISFACTION. THE PROVISIONS OF THIS SECTION HAVE BEEN NEGOTIATED BY THE PARTIES AFTER DUE CONSIDERATION AND ARE INTENDED TO BE A COMPLETE EXCLUSION AND NEGATION AND NONRELIANCE OF ANY REPRESENTATIONS AND WARRANTIES, WHETHER EXPRESS OR IMPLIED OR STATUTORY, OTHER THAN THOSE REPRESENTATIONS AND WARRANTIES EXPRESSLY SET FORTH IN THIS AGREEMENT OR ANY OTHER TRANSACTION DOCUMENT.

(e)

, NO REPRESENTATIVE



OF PURCHASER OR PARENT (AS THE TERM “REPRESENTATIVE” IS DEFINED IN THIS AGREEMENT) SHALL HAVE ANY LIABILITY TO ANY OTHER PARTY UNDER THIS AGREEMENT, INCLUDING FOR THE PAYMENT OF ANY AMOUNTS HEREFTER OWING OR FOR THE PERFORMANCE OF ANY OBLIGATIONS HEREIN, AND EACH PARTY HERETO AGREES THAT ALL OF THE OBLIGATIONS OF PURCHASER AND PARENT UNDER THIS AGREEMENT SHALL BE OBLIGATIONS SOLELY OF PURCHASER AND PARENT AND RECOURSE IN ENFORCING SAID OBLIGATIONS SHALL ONLY BE HAD AGAINST THE ASSETS OF PARENT AND PURCHASER AND NOT AGAINST PURCHASER’S REPRESENTATIVES. EXCEPT WITH RESPECT TO AND WITHOUT LIMITING THE OBLIGATIONS OF THE GUARANTOR UNDER THE SELLER GUARANTEE, NO REPRESENTATIVE OF A SELLER PARTY (AS THE TERM “REPRESENTATIVE” IS DEFINED IN THIS AGREEMENT) SHALL HAVE ANY LIABILITY TO ANY OTHER PARTY UNDER THIS AGREEMENT, INCLUDING FOR THE PAYMENT OF ANY AMOUNTS HEREFTER OWING OR FOR THE PERFORMANCE OF ANY OBLIGATIONS HEREIN, AND EACH PARTY HERETO AGREES THAT ALL OF THE OBLIGATIONS OF THE SELLER PARTIES UNDER THIS AGREEMENT SHALL BE OBLIGATIONS SOLELY OF THE SELLER PARTIES AND RECOURSE IN ENFORCING SAID OBLIGATIONS SHALL ONLY BE HAD AGAINST THE ASSETS OF SELLER PARTIES AND NOT AGAINST SELLER PARTIES’ REPRESENTATIVES.

### Section 12.3 Waiver.

(a) It is acknowledged by the Parties that Seller and ENG C have retained Skadden, Arps, Slate, Meagher & Flom LLP (“Skadden”) to act as their counsel in connection with the Contemplated Transactions and that Skadden has not acted as counsel for any other Person in connection with the Contemplated Transactions for conflict of interest or any other purposes. Purchaser and ENG C agree that any attorney-client privilege and the expectation of client confidence attaching as a result of Skadden’s representation of Seller and ENG C related to the preparation for, and negotiation and consummation of, the Contemplated Transactions, including all communications among Skadden and Seller, ENG C and/or their respective Affiliates in preparation for, and negotiation and consummation of, the Contemplated Transactions, shall survive the Closing and shall remain in effect. Furthermore, effective as of the Closing, (i) all communications (and materials relating thereto) between ENG C, on the one hand, and Skadden or any other legal counsel or financial advisor, on the other hand, related to the preparation for, and negotiation and consummation of, the Contemplated Transactions are hereby assigned and transferred to Seller, (ii) ENG C hereby releases all of its rights and interests to and in such communications and related materials, and (iii) ENG C hereby releases any right to assert or waive any privilege related to the communications referenced in this Section 12.3.

(b) Purchaser and ENG C agree that, notwithstanding any current or prior representation of ENG C by Skadden, Skadden shall be allowed to represent Seller or any of its Affiliates in any matters and disputes adverse to Purchaser and/or ENG C that either is existing on the date hereof or arises in the future and relates to this Agreement and the transactions contemplated hereby; and Purchaser and ENG C hereby waive any conflicts or claim of privilege that may arise in connection with such representation. Further, Purchaser and ENG C agree that, in the event that a dispute arises after the Closing between Purchaser or ENG C and Seller or any



of its Affiliates, Skadden may represent Seller or its Affiliate in such dispute even though the interests of Seller or its Affiliate may be directly adverse to Purchaser or ENG C and even though Skadden may have represented ENG C in a matter substantially related to such dispute.

(c) Purchaser acknowledges that any advice given to or communication with Seller or any of its Affiliates (other than ENG C) shall not be subject to any joint privilege and shall be owned solely by Seller or its Affiliates. Purchaser and ENG C each hereby acknowledge that each of them has had the opportunity to discuss and obtain adequate information concerning the significance and material risks of, and reasonable available alternatives to, the waivers, permissions and other provisions of this Agreement, including the opportunity to consult with counsel other than Skadden.

#### Section 12.4

[REDACTED]

Section 12.5 Amendment. This Agreement may be amended, modified and supplemented in any and all respects any time prior to or after the Closing with respect to any of

the terms of this Agreement; provided that, subject to Section 6.14, any such amendment, modification or supplement shall be effective only if it is set forth in an instrument in writing executed by each Party.

Section 12.6 Waiver. At any time prior to the Closing, any Party may (a) extend the time for the performance of any of the obligations or other acts of another Party, (b) waive any inaccuracies in the representations and warranties contained in this Agreement or in any document delivered pursuant to this Agreement, or (c) waive compliance with any of the covenants or agreements or satisfaction of conditions contained in this Agreement. Any such extension or waiver shall be valid only if set forth in an instrument in writing signed by the Party to be bound thereby. The waiver by a Party of a breach of any term or provision of this Agreement shall not be construed as a waiver of any subsequent breach or waiver of any similar term or provision of this Agreement.

Section 12.7 Assignment. This Agreement and all of the provisions hereof shall be binding upon and inure to the benefit of the Parties and their respective successors and permitted assigns, but neither this Agreement nor any of the rights, interests or obligations hereunder shall be assigned by any Party, by operation of law or otherwise, without the prior written consent of each other Party (which consent shall not be unreasonably withheld, conditioned or delayed); provided, however, that Seller may assign all of its rights, interests and obligations under this Agreement prior to Closing to a subsidiary or Affiliate of Seller without consent of Purchaser, in connection with any internal restructurings or changes in corporate form. Nothing in this Agreement shall be intended (except as specifically provided in Section 6.11 (Indemnification of Directors and Officers), Section 7.1 (Tax Indemnification), Section 9.2 (Indemnification) and Section 12.2 (Disclaimers; As-Is Sale; Release; Acknowledgement; Due Diligence; Non-Recourse)) to confer upon any Person other than the Parties any rights, interests, obligations or remedies hereunder. Any assignment in contravention of this Section 12.7 shall be null and void and without legal effect on the rights and obligations of the Parties hereunder.

Section 12.8 Governing Law. This Agreement shall be governed by and construed in accordance with the laws of the State of Delaware, without giving effect to any choice or conflict of law provision or rule (whether of the State of Delaware or any other jurisdiction) that would cause the application of the laws of any jurisdiction other than the State of Delaware. Each of the Parties irrevocably and unconditionally agrees that any legal action or proceeding with respect to this Agreement and the rights and obligations arising hereunder, or for recognition and enforcement of any judgment in respect of this Agreement and the rights and obligations arising hereunder brought by the other Party hereto or its successors or assigns, shall be brought and determined exclusively in the Delaware Court of Chancery and any state appellate court therefrom within the State of Delaware (or, if the Delaware Court of Chancery declines to accept jurisdiction over a particular matter, any state or federal court within the State of Delaware). Each of the Parties hereby irrevocably submits with regard to any such action or proceeding for itself and in respect of its property, generally and unconditionally, to the personal jurisdiction of the aforesaid courts and agrees that it will not bring any action relating to this Agreement or any of the Contemplated Transactions in any court other than the aforesaid courts. Each of the Parties hereby irrevocably waives, and agrees not to assert, by way of motion, as a defense, counterclaim or otherwise, in any action or proceeding with respect to this Agreement, (a) any claim that it is not personally subject to the jurisdiction of the above named courts for any reason

other than the failure to serve in accordance with this Section 12.8, (b) any claim that it or its property is exempt or immune from jurisdiction of any such court or from any legal process commenced in such courts (whether through service of notice, attachment prior to judgment, attachment in aid of execution of judgment, execution of judgment or otherwise), and (c) to the fullest extent permitted by the applicable Law, any claim that (i) the suit, action or proceeding in such court is brought in an inconvenient forum, (ii) the venue of such suit, action or proceeding is improper or (iii) this Agreement, or the subject matter hereof, may not be enforced in or by such courts. EACH OF THE PARTIES HERETO IRREVOCABLY WAIVES ITS RIGHT TO A JURY TRIAL WITH RESPECT TO ANY ACTION OR CLAIM ARISING OUT OF ANY DISPUTE IN CONNECTION WITH THIS AGREEMENT OR THE CONTEMPLATED TRANSACTIONS.

#### Section 12.9 Specific Performance.

(a) The Parties agree that irreparable damage would occur in the event that any of the provisions of this Agreement were not performed by the Parties in accordance with their specific terms or were otherwise breached. It is accordingly agreed that the Purchaser Parties, on the one hand, and the Seller Parties, on the other hand, shall be entitled to an injunction, or injunctions, to prevent breaches of this Agreement by the other (as applicable) and to enforce specifically the terms and provisions of this Agreement exclusively in any state or federal court within the State of Delaware and this right shall include the right of the Seller Parties to cause the Contemplated Transactions to be consummated on the terms and subject to the conditions thereto set forth in this Agreement. Each of the Parties agrees that it will not oppose the granting of an injunction, specific performance and other equitable relief sought in accordance with this Section 12.9 on the basis that any other Party has an adequate remedy at Law or that any award of specific performance is not an appropriate remedy for any reason at Law or in equity. Any Party seeking an injunction, or injunctions, in accordance with this Agreement to prevent breaches of this Agreement and to enforce specifically the terms and provisions of this Agreement shall not be required to provide any bond or other security in connection with any such order or injunction. If any Party brings any action to enforce specifically the performance of the terms and provisions of this Agreement by any other Party, the Termination Date shall automatically be extended by (i) the amount of time during which such action is pending, plus twenty (20) Business Days or (ii) such other time period established by the court presiding over such action.

(b) For the avoidance of doubt, a Party may contemporaneously commence an action for specific performance and seek any other form of remedy at Law or in equity that may be available for breach under this Agreement or otherwise in connection with this Agreement or the Contemplated Transactions (including monetary damages). If a court of competent jurisdiction has declined to specifically enforce the obligations of the Purchaser Parties or the Seller Parties to cause the Contemplated Transactions to be consummated pursuant to a claim for specific performance brought against the Purchaser Parties or Seller Parties, as the case may be, in connection with this Agreement, any award of damages may be granted by such court for such breach by the Purchaser Parties in accordance with the provisions of Section 10.2 (Effect of Termination)

#### Section 12.10 Change in Law; Alternative Structures.

(a) Except with respect to the matters described in Section 12.10(b), if, and to the extent that, any Law governing any aspect of this Agreement shall change so as to make any aspect of the Contemplated Transactions unlawful, then the Parties shall make such modifications to this Agreement as may be reasonably necessary for this Agreement to accommodate any such changes, to the extent it is possible to do so without materially changing the overall benefits or consideration expected hereunder by any Party.

(b) In the event any Governmental Authority (i) issues a final and non-appealable order denying any of the Required Regulatory Approvals or (ii) issues a Final Order that has become non-appealable that contains a Purchaser Burdensome Condition that has not been waived by Seller and Purchaser or a Seller Burdensome Condition that has not been waived by Seller, in the event of either (i) or (ii), the Parties agree to use commercially reasonable efforts to negotiate in good faith for a reasonable period of time (not to exceed the earlier of thirty (30) Business Days or the Termination Date, unless otherwise agreed to in writing by the Parties) an alternative structure (including any modifications to this Agreement) that would place the Parties in the same economic position in order to obtain such Required Regulatory Approval (or, to the extent permitted under Law, so that such Required Regulatory Approval is not required to consummate the Contemplated Transactions) or to mitigate such Purchaser Burdensome Condition or Seller Burdensome Condition such that the terms and conditions of such Final Order, when taken together with such modifications, no longer give rise to or have the effect of a Purchaser Burdensome Condition or Seller Burdensome Condition, as the case may be. Nothing in this Section 12.10(b) shall limit the obligations of the Parties under Section 6.4 or require Purchaser or Seller to accept a Purchaser Burdensome Condition or require Seller to accept a Seller Burdensome Condition, as the case may be.

Section 12.11 Interpretation. The articles, section and schedule headings contained in this Agreement are solely for the purpose of reference, are not part of the agreement of the Parties and shall not in any way affect the meaning or interpretation of this Agreement. Any item or other matter referenced or disclosed in one section of the Seller Disclosure Schedules or Purchaser Disclosure Schedules, as the case may be, shall be deemed to have been referenced or disclosed in all sections of such Schedule where such reference or disclosure is required.

Section 12.12 Schedules and Exhibits. Except as otherwise provided in this Agreement, all Exhibits and Schedules referred to herein are intended to be and hereby are specifically made a part of this Agreement. Any fact or item disclosed on any Schedule to this Agreement shall be deemed disclosed with respect to each other Schedule to this Agreement to the extent that such disclosure includes sufficient detail to enable a Party to reasonably identify the relevance of such fact or item to such other Schedule to which it applies. Any fact or item disclosed on any Schedule hereto shall not by reason only of such inclusion be deemed to be material and shall not be employed as a point of reference in determining any standard of materiality under this Agreement.

Section 12.13 Entire Agreement. This Agreement, the Confidentiality Agreement and the Transaction Documents, including the Exhibits, Schedules, documents, certificates and instruments referred to herein or therein, embody the entire agreement and understanding of the Parties in respect of the Contemplated Transactions and shall supersede all prior agreements and

understandings, both written and oral, between the Parties with respect to the subject matter of this Agreement, the Confidentiality Agreement and the Transaction Documents.

Section 12.14 Counterparts. This Agreement may be executed in two or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument.

*[Signature Page Follows]*

IN WITNESS WHEREOF, the Parties have caused this Equity Purchase and Sale Agreement to be signed by their respective duly authorized officers as of the date first above written.

NUCLEAR ASSET MANAGEMENT  
COMPANY, LLC

By: IX P Singh  
Name: KRISHNA P. SINGH  
Title: PRESIDENT + CEO

HOLTEC INTERNATIONAL

By: IX A Singh  
Name: KRISHNA P. SINGH  
Title: PRESIDENT + CEO

ENTERGY NUCLEAR HOLDING COMPANY #1

By: \_\_\_\_\_  
Name:  
Title:

ENTERGY NUCLEAR GENERATION  
COMPANY

By: \_\_\_\_\_  
Name:  
Title:

IN WITNESS WHEREOF, the Parties have caused this Equity Purchase and Sale Agreement to be signed by their respective duly authorized officers as of the date first above written.

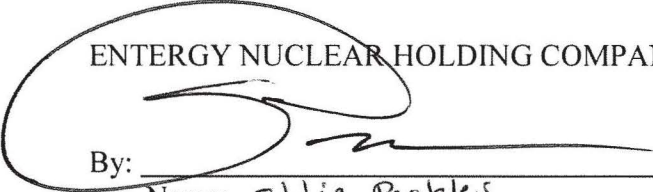
NUCLEAR ASSET MANAGEMENT  
COMPANY, LLC

By: \_\_\_\_\_  
Name:  
Title:

HOLTEC INTERNATIONAL

By: \_\_\_\_\_  
Name:  
Title:

ENTERGY NUCLEAR HOLDING COMPANY #1

  
By: \_\_\_\_\_  
Name: Eddie Peebles  
Title: Vice President

ENTERGY NUCLEAR GENERATION  
COMPANY

By: \_\_\_\_\_  
Name:  
Title:



IN WITNESS WHEREOF, the Parties have caused this Equity Purchase and Sale Agreement to be signed by their respective duly authorized officers as of the date first above written.

NUCLEAR ASSET MANAGEMENT  
COMPANY, LLC

By: \_\_\_\_\_  
Name:  
Title:

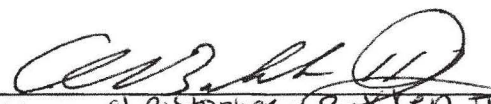
HOLTEC INTERNATIONAL

By: \_\_\_\_\_  
Name:  
Title:

ENTERGY NUCLEAR HOLDING COMPANY #1

By: \_\_\_\_\_  
Name:  
Title:

ENTERGY NUCLEAR GENERATION  
COMPANY

By:  \_\_\_\_\_  
Name: Christopher Bakken III  
Title: President and Chief Executive Officer

**ATTACHMENT C**  
**GENERAL CORPORATE INFORMATION**

**REGARDING**

**HOLTEC INTERNATIONAL, HOLTEC POWER, INC., NUCLEAR ASSET  
MANAGEMENT COMPANY, LLC, HOLTEC PILGRIM, LLC, AND HOLTEC  
DECOMMISSIONING INTERNATIONAL, LLC AND RESUMES OF KEY  
MANAGEMENT PERSONNEL**

**(58 PAGES)**

**ENCLOSURE 1**

<b>NAME:</b>	Holtec International
<b>STATE OF INCORPORATION:</b>	Delaware
<b>BUSINESS ADDRESS:</b>	Krishna P. Singh Technology Campus 1 Holtec Boulevard Camden, NJ 08104
<b>DIRECTORS:</b>	Dr. Krishna P. Singh Dr. Eduardo D. Glandt James H. Miller George E. Norcross Jim Saxton Martha J. Singh
<b>EXECUTIVE COMMITTEE:</b>	Dr. Krishna P. Singh, President & Chief Executive Officer Pierre P. Oneid, Senior V.P. & Chief Nuclear Officer Pankaj Chaudhary, Senior V.P. of Operations Robert R. Galvin, Chief Financial Officer Andrew R. Ryan, Esq., General Counsel Joy Russell, V.P., Corporate Business Development

All of the directors and principal officers are U.S. citizens, with the same corporate address as Holtec International.

**ENCLOSURE 1**

<b>NAME:</b>	Holtec Power, Inc.
<b>STATE OF INCORPORATION:</b>	Delaware
<b>BUSINESS ADDRESS:</b>	Krishna P. Singh Technology Campus 1 Holtec Boulevard Camden, NJ 08104
<b>DIRECTORS:</b>	Dr. Krishna P. Singh Dr. Eduardo D. Glandt James H. Miller George E. Norcross Jim Saxton Martha J. Singh
<b>EXECUTIVE COMMITTEE:</b>	Dr. Krishna P. Singh, President & Chief Executive Officer Pierre P. Oneid, Senior V.P. & Chief Nuclear Officer Pankaj Chaudhary, Senior V.P. of Operations Robert R. Galvin, Chief Financial Officer Andrew R. Ryan, Esq., General Counsel Joy Russell, V.P., Corporate Business Development

All of the directors and principal officers are U.S. citizens, with the same corporate address as Holtec Power.

**ENCLOSURE 1**

<b>NAME:</b>	Nuclear Asset Management Company, LLC
<b>STATE OF INCORPORATION:</b>	Delaware
<b>BUSINESS ADDRESS:</b>	Krishna P. Singh Technology Campus 1 Holtec Boulevard Camden, NJ 08104
<b>MANAGING MEMBER:</b>	Holtec Power, Inc.
<b>EXECUTIVE COMMITTEE:</b>	Dr. Krishna P. Singh, President & Chief Executive Officer Pierre P. Oneid, Senior V.P. & Chief Nuclear Officer Pankaj Chaudhary, Senior V.P. of Operations Robert R. Galvin, Chief Financial Officer Andrew R. Ryan, Esq., General Counsel Joy Russell, V.P., Corporate Business Development

All of the directors and principal officers are U.S. citizens, with the same corporate address as NAMCo.

## ENCLOSURE 1

<b>NAME:</b>	Holtec Pilgrim, LLC
<b>STATE OF INCORPORATION:</b>	Massachusetts
<b>BUSINESS ADDRESS:</b>	Krishna P. Singh Technology Campus 1 Holtec Boulevard Camden, NJ 08104
<b>MANAGING MEMBER:</b>	Nuclear Asset Management Company, LLC
<b>EXECUTIVE COMMITTEE:</b>	Dr. Krishna P. Singh, President & Chief Executive Officer Pierre P. Oneid, Senior V.P. & Chief Nuclear Officer Pankaj Chaudhary, Senior V.P. of Operations Robert R. Galvin, Chief Financial Officer Andrew R. Ryan, Esq., General Counsel Joy Russell, V.P., Corporate Business Development

All of the directors and principal officers are U.S. citizens, with the same corporate address as Holtec Pilgrim.

## ENCLOSURE 1

<b>NAME:</b>	Holtec Decommissioning International, LLC
<b>STATE OF INCORPORATION:</b>	Delaware
<b>BUSINESS ADDRESS:</b>	Krishna P. Singh Technology Campus 1 Holtec Boulevard Camden, NJ 08104
<b>MANAGING MEMBER:</b>	Holtec Power, Inc.
<b>EXECUTIVE COMMITTEE:</b>	Pierre P. Oneid, Senior President & Chief Nuclear Officer Pam Cowan, Senior V.P. and Chief Operating Officer Robert R. Galvin, Chief Financial Officer Andrew R. Ryan, Esq., General Counsel Joy Russell, V.P., Corporate Business Development

All of the directors and principal officers are U.S. citizens, with the same corporate address as Holtec Pilgrim.



# Dr. Kris Singh

President and CEO, Holtec International

## Profile

Dr. Singh has been active in the nuclear power industry since 1971 and has served as President and CEO of Holtec International since 1986. In his early career, Dr. Singh participated in the development of design of systems, structures and components, with special focus on critical service heat exchangers and pressure vessels for PWRs and BWRs for scores of nuclear units around the world. After the TMI accident, his professional focus shifted to the introduction and regulatory acceptance of safe and robust technologies to deal with the growing stockpile of used nuclear fuel and high-level waste. Under Dr. Singh's leadership, Holtec International has risen into a complex global organization with an active business presence in 20 countries on five continents and three world class manufacturing plants that produce a whole range of equipment and systems for the nuclear power industry. In recent years, Dr. Singh has been focusing on developing innovative solutions for *proto-prompt decommissioning* of aging nuclear power plants and bring forth a *walk away safe* small modular PWR nuclear reactor (SMR160). Holtec's ongoing efforts to establish world's first *subterranean* consolidated interim fuel storage facility (HI-STORE CIS) in southeastern New Mexico is another focus area of Dr. Singh's business leadership.

## Key experience

- Development and Design of nuclear systems, structures and components
- Defueling and Decommissioning of nuclear power plants
- Structural analysis, heat transfer and mechanical design engineering
- Quality assurance
- Executive management

## Awards and Honors

Elected Member of the National Academy of Engineering (2013)

George Washington Medal, Engineers' Club of Pennsylvania (2014)

Thomas Alva Edison Inventor Award, Public Health and Safety Category (2015); Edison Foundation (NJ)

Elected South Jerseyian of the Year, Rutgers University (2017)

Inducted to University City Science Center's Innovators Walk of Fame, Philadelphia, PA (2017)

Elected to the National Academy of Inventors (2017)

## Qualifications

University of Pennsylvania  
Ph.D. in Mechanical Engineering (1972)

University of Pennsylvania  
M.S. in Engineering Mechanics (1969)

B.I.T. Sindri, Ranchi University (India) B.S. in Mechanical Engineering (1967)

## Professional Associations/ Certifications

Registered Professional Engineer - Pennsylvania (1974-present)

Registered Professional Engineer - Michigan (1980-present)

General Chair, American Nuclear Society, Annual Meeting (2018)

Member, Heat Exchange Institute (1976-86)

Member ASCE (1977-83)

Member, ASME O&M Committee (1991-97)

Chairman, PVP Committee of the ASME, Nuclear Engineering Division (1988-92)

Chairman, TEMA Flow Induced Vibration Committee (1979-86)

Fellow of the ASME (1987); Member since 1973.

Member ANS (1979-present)

### Board Memberships

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- Chairman, Board of Directors, Holtec International (1986–present)
- Member of the Board, Nuclear Energy Institute (1998–present)
- Member, Board of Overseers, School of Engineering and Applied Science, University of Pennsylvania (2003–present)
- Member, Advisory Board, Nuclear Engineering Department, University of California, Berkeley (2015–present)
- Trustee Emeritus, University of Pennsylvania (2017–present); Trustee (2009–2017)
- Member, Board of Trustees, Cooper Health System (2011–present)
- Director, Atlantic Council, Washington, DC (2016–present)
- Member, National Investment Council, Ukraine (2017–present)

### Academic Affiliations and Activities

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- Chair, Advisory Committee on Mechanical Engineering and Mechanics, University of Pennsylvania (1993-1999)
- Professor (Adjunct) in Mechanical Engineering and Mechanics, University of Pennsylvania (1986-92), Offered Graduate and Undergraduate Courses in Heat Transfer Equipment and Pressure Vessel Technology.
- Senior Fellow, Department of Mechanical Engineering, University of Pennsylvania (2014-present)

### Professional Society Memberships

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- Fellow of the ASME (1987); Member since 1973.
- Member ANS (1979–present)
- Chairman, TEMA Flow Induced Vibration Committee (1979–86)
- Chairman, PVP Committee of the ASME, Nuclear Engineering Division (1988–92)
- Member, ASME O&M Committee (1991–97)
- Member ASCE (1977–83)
- Member, Heat Exchange Institute (1976–86)
- General Chair, American Nuclear Society, Annual Meeting (2018)

### Graduate Level Continuing Education Courses Offered to Practicing Engineers (1979-1992)

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- I.I.T. Bombay, One Week Course on Heat Exchanger Design (1979).
- Duke Power Company, Charlotte, NC (1982, 1983, 1986, 1990) - In-house Training Course on Heat Exchanger Design and Testing.
- National Italian Reactor Authority, Genoa, Italy - On Condensers, Steam Generators, and Moisture Separator Re-heaters (1985).
- Mississippi Power & Light Company, Courses on Moisture Separator Re-heaters and Surface Condensers (1987).
- Center for Professional Advancement (1988, New Brunswick, NJ; 1990, Caracas, Venezuela; 1991, Houston, Texas; 1992, Amsterdam, Holland).

### Principal Developer of Technologies with High Industrial Impact

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- Industry's first *free-standing detuned honey comb high-density fuel rack* design which expanded the aggregate wet storage capacity worldwide at nuclear power plants by a factor of three averting the premature closure of nuclear units. Over 120 nuclear units use this technology since mid-1980s.
- Industry's first thermo-siphon enabled *multi-purpose canister* (patented) for storage and transport of used nuclear fuel (1994), Double Wall Canister (2010); worldwide over 100 nuclear plants utilize Holtec's MPC technology.
- Forced Helium Dehydration system to minimize radiation dose and environmental safety, adopted by over 30 nuclear units since 2002.

- Subterranean used fuel storage system for security of stored fuel; in use at several plants; adopted for Consolidated Interim Storage system at the planned site in New Mexico.
- SMR-160, walk away safe nuclear reactor; in development since 2010.
- Essential elements of *Proto-prompt decommissioning* to enable complete deconstruction of a shuttered nuclear unit in less than 7 years (less than half the duration of the current normal).

#### Technical Consulting Experience (1980-1995)

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Technical consulting services rendered to over fifty national and international organizations since 1975, including: Electric Power Research Institute (EPRI); Pressure Vessel Research Council (PVRC); Tubular Exchanger Manufacturers Association (TEMA); Department of Energy (DOE) (Idaho Operations); Department of Energy (DOE) (Chicago Operations); American Electric Power Corporation; Baltimore Gas and Electric; Carolina Power & Light; Commonwealth Edison Company; Detroit Edison Company; Duke Power Company; Entergy Operations; GPU Nuclear; Iowa Electric Light and Power; New York Power Authority; Niagara Mohawk Power Corporation; North Atlantic Energy Services; Northeast Utilities; Northeast Nuclear Energy; Pacific Gas and Electric Company; PECO Energy; Southern Nuclear Operating Company; and Tennessee Valley Authority.

#### Expert Witness and Technology Appraisal Services for ALSB and Legal Proceedings

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1. Pacific Gas & Electric Company vs. National Sierra Club (1986-87) - ASLB Hearings on High Density Fuel Racks for Diablo Canyon, Avila Beach, California (1987).
2. Florida Power & Light Company vs. Stuart Intervenor Group (1990).
3. Pacific Northwest Laboratories, Rockwell International, and U.S. DOE vs. RSI (1994).
4. PFS, LLC vs. State of Utah (2002) – ASLB Hearings on the Skull Valley Away-From-Reactor Facility (Salt Lake City, Utah).

#### Granted Patents in the United States (Patents in Foreign countries not listed)

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1. "Radioactive Fuel Cell Storage Rack" (with M. Holtz), U.S. Patent No. 4,382,060 (May 1983).
2. "Heat Exchanger for Withstanding Cycle Changes in Temperature" (with M. Holtz and A. Soler), U.S. Patent No. 4,207,944 (1980).
3. "Apparatus Suitable for Transporting and Storing Nuclear Fuel Rods and Methods for Using the Apparatus," U.S. Patent No. 5,898,747 (April 1999).
4. "Apparatus Suitable for Transporting and Storing Nuclear Fuel Rods and Methods for Using the Apparatus," U.S. Patent No. 6,064,710 (May 16, 2000).
5. "Cask Mating Device" (with Stephen J. Agace) U.S. Patent No. 6,625,246 (September 23, 2003).
6. "HI-TRAC Operation" (with Stephen J. Agace) U.S. Patent No. 6,587,536 (July 1, 2003).
7. "Duct Photon Attenuator" (with Everett L. Redmond, John C. Wagner, and Stephen J. Agace) U.S. Patent No. 6,519,307 (February 11, 2003).
8. "Improved Ventilator Overpack" (with Stephen J. Agace) U.S. Patent No. 6,718,000 B2 (April 6, 2004).
9. "Below Grade Canister Transfer Facility" (with Stephen Agace) U.S. Patent No. 6,793,450 B2 (September 21, 2004).
10. "Seismic Cask Stabilization Device" (with A.I. Soler) U.S. Patent No. 6,848,223 B2 (February 1, 2005).
11. "Hermetically Sealable Transfer Cask" (with Stephen J. Agace) U.S. Patent No. 6,853,697 (February 8, 2005).
12. "Underground System and Apparatus for Storing Spent Nuclear Fuel," U.S. Patent No. US 7,068,748 B2 (June 27, 2006).
13. "Forced Gas Flow Canister Dehydration," U.S. Patent No. US 7,096,600 (August 29, 2006).
14. "Below Grade Cask Transfer Facility" (with Stephen J. Agace), U.S. Patent No. 7,139,358 B2 (November 21, 2006).
15. "Closed Loop Forced Gas Fuel Dehydration," U.S. Patent No. 7,210,247 B2 (May 1, 2007).
16. "System and Method of Storing High Level Waste," U.S. Patent No. 7,330,526 B2 (February 12, 2008).
17. "Method and Apparatus for Maximizing Radiation Shielding During Cask Transfer Procedures" (with Stephen J. Agace), U.S. Patent No. 7,330,525 B2 (February 12, 2008).

18. "Systems and Methods for Storing Spent Nuclear Fuel Having Protection Design," U.S. Patent No. 7,590,213 B1 (September 15, 2009).
19. "Manifold Systems for the Ventilated Storage of High Level Waste and a Method of Using the Same to Store High Level Waste in a Below-Grade Environment," U.S. Patent No. 7,676,016 B2 (March 9, 2010).
20. "Method and Apparatus for Dehydrating High Level Waste Based on Dew Point Temperature Measurements," U.S. Patent No. 7,707,741 B2 (May 4, 2010).
21. "Apparatus and Method for Supporting Fuel Assemblies in An Underwater Environment Having Lateral Access Loading" (with Evan Rosenbaum) U.S. Patent No. 7,715,517 B2 (May 11, 2010).
22. "Apparatus for Providing Additional Radiation Shielding to a Container Holding Radioactive Materials, and Method of Using the Same to Handle and/or Process Radioactive Materials," U.S. Patent No. 7,786,456 B2 (August 31, 2010).
23. "Apparatus, System and Method for Facilitating Transfer of High Level Radioactive Waste to and/or From a Pool," U.S. Patent No. 7,820,870 B2 (October 26, 2010).
24. "System and Method of Storing and/or Transferring High Level Radioactive Waste," U.S. Patent No. 7,933,374 B2 (April 26, 2011).
25. "Apparatus for Transporting and/or Storing Radioactive Materials Having Jacket Adapted to Facilitate Thermosiphon Fluid Flow," (with Stephen J. Agace) U.S. Patent No. 7,994,380 B2 (August 9, 2011).
26. "Method of Removing Radioactive Materials from Submerged State and/or Preparing Spent Nuclear Fuel for Dry Storage" (with Stephen J. Agace) U.S. Patent No. 8,067,659 B2 (November 29, 2011).
27. "Systems and Methods for Storing Spent Nuclear Fuel," U.S. Patent No. 8,098,790 B1 (January 17, 2012).
28. "Canister Apparatus and Basket for Transporting, Storing, and/or Supporting Spent Nuclear Fuel" (with Stephen J. Agace) U.S. Patent 8,135,107 B2 (March 13, 2012).
29. "Apparatus and Method for Supporting Fuel Assemblies in an Underwater Environment Having Lateral Access Loading" (with Evan Rosenbaum) U.S. Patent 8,139,706 B2 (March 20, 2012).
30. "Single-Plate Neutron Absorbing Apparatus and Method of Manufacturing the Same" (with Evan Rosenbaum and Thomas G. Haynes III). U.S. Patent 8,158,962 B1 (April 17, 2012).
31. "Method and Apparatus for Dehydrating High Level Waste Based on Dew Point Temperature Measurements". U.S. Patent 8,266,823 B2 (September 18, 2012).
32. "Apparatus, System and Method for Facilitating Transfer of High Level Radioactive Waste to and/or From a Pool" (with Stephen J. Agace), U.S. Patent 8,277,746 B2 (October 2, 2012).
33. "Atomized Pico-scale Composite Aluminum Alloy and Method Thereof," (with Thomas G. Haynes, III), U.S. Patent 8,323,373 B2 (December 4, 2012).
34. "Apparatus, System and Method for Low Profile Translation of High Level Radioactive Waste Containment Structure," U.S. Patent 8,345,813 B2 (January 1, 2013).
35. "Method of Storing High Level Waste," U.S. Patent 8,351,562 B2 (January 8, 2013).
36. "Apparatus for Providing Additional Radiation Shielding to a Container Holding Radioactive Materials, and Method of Using the Same to Handle and/or Process Radioactive Materials" (with Stephen J. Agace), U.S. Patent 8,415,521 B2 (April 9, 2013).
37. "Spent Fuel Basket, Apparatus and Method Using the Same for Storing High Level Radioactive Waste" (with Stephen J. Agace), U.S. Patent 8,548,112 B2 (October 1, 2013).
38. "System and Method for Preparing a Container Loaded with Wet Radioactive Elements for Dry Storage" (with John D. Griffiths), U.S. Patent 8,561,318 B2 (October 22, 2013).
39. "Apparatus for Supporting Radioactive Fuel Assemblies and Methods of Manufacturing the Same" (with Stephen J. Agace), U.S. Patent 8,576,976 B2 (November 5, 2013).
40. "Heat Exchanger Apparatus for Accommodating Thermal and/or Pressure Transients," U.S. Patent 8,602,089 B2 (December 10, 2013).
41. "Systems and Methods for Storing Spent Nuclear Fuel," U.S. Patent 8,625,732 (January 7, 2014).
42. "System and Method for the Ventilated Storage of High Level Radioactive Waste in a Clustered Arrangement" (with Stephen J. Agace) U.S. Patent 8,660,230 B2 (February 25, 2014).
43. "Single Plate Neutron Absorbing Apparatus and Method of Manufacturing the Same" (with Evan Rosenbaum and Thomas J. Haynes III), U.S. Patent 8,681,924 B2 (March 25, 2014).
44. "Fuel Basket Spacer, Apparatus and Method Using the Same for Storing High Level Radioactive Waste" (with Stephen Agace), U.S. Patent 8,712,001 B2 (April 29, 2014).
45. "Manifold System for the Ventilated Storage of High Level Waste and a Method of Using the Same to Store High Level Waste in a Below Grade Environment," U.S. Patent 8,718,220 B2 (May 6, 2014).



46. "Method of Transferring High Level Radioactive Materials and System for the Same" (with John D. Griffiths), U.S. Patent 8,718,221 B2 (May 6, 2014).
47. "Method and Apparatus for Preparing Spent Nuclear Fuel for Dry Storage," U.S. Patent 8,737,559 B2 (May 27, 2014).
48. "Apparatus for Storing and/or Transporting High Level Radioactive Waste and Method for Manufacturing the Same," U.S. Patent 8,798,224 B2 (August 5, 2014).
49. "Heat Exchanger Apparatus for Converting A Shell-Side Liquid into a Vapor", U.S. Patent 8,833,437 B2 (September 16, 2014).
50. "Ventilated System for Storing High Level Radioactive Waste" (with John Griffiths), U.S. Patent 8,905,259 B2 (December 9, 2014).
51. "Canister Apparatus and Basket for Transporting, Storing and/or Supporting Spent Nuclear Fuel" (with Stephen J. Agace), U.S. Patent 8,929,504 B2 (January 6, 2015).
52. "System, Method and Apparatus for Providing Additional Radiation Shielding to High Level Radioactive Materials" (with Stephen J. Agace and Paul Stefan Anton), U.S. Patent 8,995,604 B2 (March 31, 2015).
53. "System and Method for Reclaiming Energy from Heat Emanating from Spent Nuclear Fuel" (with John D. Griffiths and Debabrata Mitra-Majumdar), U.S. Patent 9,001,958 B2 (April 7, 2015).
54. "Method for Controlling Temperature of a Portion of a Radioactive Waste Storage System and for Implementing the Same" (with Richard M. Springman), U.S. Patent 9,105,365 B2 (August 11, 2015).
55. "System and Method for Preparing a Container Loaded with Wet Radioactive Elements for Dry Storage" (with John D. Griffiths), U.S. Patent 9,165,690 B2 (October 20, 2015).
56. "System, Method and Apparatus for Providing Additional Radiation Shielding to High Level Radioactive Materials" (with Stephen J. Agace and Paul Stefan Anton), U.S. Patent 9,208,914 B2 (December 8, 2015).
57. "Neutron Shielding Ring, Apparatus and Method Using the Same for Storing High Level Radioactive Waste" (with Stephen J. Agace), U.S. Patent 9,269,464 B2 (February 23, 2016).
58. "Ventilated System for Storing High Level Radioactive Waste" (with John D. Griffiths), U.S. Patent 9,293,229 B2 (March 22, 2016).
59. "Ventilated Transfer Cask with Lifting Feature" (with John D. Griffiths), U.S. Patent 9,466,400 B2 (October 11, 2016).
60. "Method of Storing High Level Radioactive Waste," U.S. Patent 9,443,625 B2 (September 13, 2016).
61. "System and Method for the Ventilated Storage of High Level Radioactive Waste in a Clustered Arrangement" (with Stephen J. Agace), U.S. Patent 9,460,821 B2 (October 4, 2016).
62. "Fail-safe Control Rod Drive System for Nuclear Reactor" (with Leyland Vann), U.S. Patent 9,496,057 B2 (November 15, 2016).
63. "System for Storing High Level Radioactive Waste" (with John D. Griffiths), U.S. Patent 9,514,853 B2 (December 6, 2016).
64. "Passive Reactor Cooling System" (with Joseph Rajkumar), U.S. Patent 9,589,685 B2 (March 7, 2017).
65. "Heat Exchanger Apparatus for Converting a Shell-Side Liquid into a Vapor," U.S. Patent 9,612,058 B2 (April 4, 2017).
66. "Storage System for Nuclear Fuel" (with Richard Springman and Stephen Agace), U.S. Patent 9,640,289 B2 (May 2, 2017).
67. "Cask Apparatus, System and Method for Transporting and/or Storing High Level Waste," U.S. Patent 9,672,948 B2 (June 6, 2017).
68. "Apparatus for Supporting Radioactive Fuel Assemblies and Methods of Manufacturing the Same" (with Stephen Agace), U.S. Patent 9,728,284 B2 (August 8, 2017).
69. "System for Low Profile Translation of High Level Radioactive Waste," U.S. Patent 9,728,286 B2 (August 8, 2017).
70. "Container and System for Handling Damaged Nuclear Fuel, and Method of Making the Same," U.S. Patent 9,748,009 B2 (August 29, 2017).
71. "Method and Apparatus for Preparing Spent Nuclear Fuel for Dry Storage," U.S. Patent 9,761,338 B2 (September 12, 2017).
72. "Manifold System for the Ventilated Storage of High Level Waste and a Method of Using the Same to Store High Level Waste in a Below-Grade Environment," U.S. Patent 9,761,339 B2 (September 12, 2017).

73. Vertical Bundle Air Cooled Heat Exchanger, Method of Manufacturing the Same, and Power Generation Plant Implementing the Same" (with Indresh Rampall and Joseph Rajkumar), U.S. Patent 9,770,794 B2 (September 26, 2017).
74. "Nuclear Reactor Shroud" (with Indresh Rampall and Joseph Rajkumar), U.S. Patent 9,773,576 B2 (September 26, 2017).
75. "Radioactive Material Storage Canister" (with John Griffiths and Joseph Meckley), U.S. Patent 9,779,843 B2 (October 3, 2017).
76. "Passive Reactor Containment Protection System," U.S. Patent 9,786,393 B2 (October 10, 2017).
77. "Component Cooling Water System for Nuclear Power Plant" (with Joseph Rajkumar), U.S. Patent 9,786,394 B2 (October 10, 2017).
78. "Air-Cooled Heat Exchanger and System and Method of Using the Same to Remove Waste Thermal Energy from Radioactive Materials" (with Joseph Rajkumar), U.S. Patent 9,786,395 B2 (October 10, 2017).
79. "Autonomous Self-Powered System for Removing Thermal Energy from Pools of Liquid Heated by Radioactive Materials, and the Method of the Same" (with Indresh Rampall and Joseph Rajkumar), U.S. Patent 9,803,510 B2 (October 31, 2017).
80. "System and Method of Storing and/or Transferring High Level Radioactive Waste," U.S. Patent 9,831,005 B2 (November 28, 2017).
81. "Nuclear Steam Supply System," (with Joseph Rajkumar), U.S. Patent 9,852,820 (December 26, 2017).
82. "High-Density Subterranean Storage System for Nuclear Fuel and Radioactive Waste," U.S. Patent 9,852,822 (December 26, 2017).
83. "Nuclear Fuel Core, Nuclear Fuel Cartridge, and Methods of Fueling and/or Defueling a Nuclear Reactor," (with P. Stefan Anton and Peter Stefanovic), U.S. Patent 9,865,363 B2 (January 9, 2018).
84. "Reactivity Control Device for Storing Nuclear Fuel," (with Stephen Agace), U.S. Patent 9,875,819 B2 (January 23, 2018).
85. "Space Saver Flanged Joint for a Nuclear Reactor Vessel," (with Joseph Rajkumar), U.S. Patent 9,892,806 B2 (February 13, 2018).
86. "Passively-Cooled Spent Nuclear Fuel Pool System and Method Therefor," (with Joseph Rajkumar), U.S. Patent 9,916,910 B2 (March 13, 2018).
87. "Systems and Methods for Storing Spent Nuclear Fuel," U.S. Patent 9,916,911 B2 (March 12, 2018).
88. "Nuclear Power Generation System," (with Joseph Rajkumar), U.S. Patent 9,922,740 B2 (March 20, 2018).
89. "System and Method for Minimizing Movement of Nuclear Fuel Racks During a Seismic Event," (with Charles Bullard), U.S. Patent 9,991,010 B2 (June 5, 2018).
90. "Passively Cooled Spent Nuclear Fuel Pool System," (with Joseph Rajkumar), U.S. Patent 10,008,296 B2 (June 26, 2018).
91. "Canister Apparatus and Basket for Transporting, Storing and/or Supporting Spent Nuclear fuel," (with Stephen Agace), U.S. Patent 10,026,514 (July 17, 2018).
92. "Apparatus for Supporting Spent Nuclear Fuel," (with P. Stefan Anton), U.S. Patent 10,037,826 B2 (July 31, 2018).
93. "Method for Storing Radioactive Waste, and System for Implementing the Same," U.S. Patent 10,049,777 B2 (July 31, 2018).

#### **PENDING PATENTS (Only U.S. patents are listed)**

1. "Storage System for Nuclear Fuel," Application No. 61/579,455 (December 22, 2011)
2. "Component Cooling Water System for Nuclear Power Plant," (with Joseph Rajkumar), Publication No. US 2015/0170772 A1 (June 18, 2015)
3. "Versatile Tubular Heat Exchanger Design Configuration," (with Vytas Maciunas), Publication No. US 2017/00166781 A1 (July 7, 2015)
4. "A Novel Air Cooling Technology for Power Plants," (with Indresh Rampall and Vytas Maciunas), Publication No. US 2017/0051981 A1 (August 20, 2015)
5. "Vertical Ventilated Canister Storage Cask for Storing Canisterized High Level Nuclear Waste," (with Paul Stefan Anton and Robert Mahorter), Application No. 62/311,540 (March 21, 2016)

### Books and Archival Volumes (Authored or Edited)

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1. "Mechanical Design of Heat Exchangers and Pressure Vessel Components" (authored with A. I. Soler), Arcturus Publishers, Cherry Hill, New Jersey, 1100 pages, hardbound (1984).
2. "Theory and Practice of Heat Exchanger Design" (sole author) (In preparation)
3. "Feedwater Heater Workshop Proceedings" (edited with Tom Libs), EPRI 78-123 (1979).
4. "Feedwater Heater Technology: State-of-the-Art" (sole author), EPRI - cs - 4155 (1985).
5. "Analytical Correlations of Fluid Drag of Fuel Assemblies in Fuel Rack Storage Locations" (sole author), EPRI Project RP-2124.
6. "Thermal/Mechanical Heat Exchanger Design" (edited), ASME, PVP - Vol. 118 (1986).
7. "Time Dependent and Steady State Characterization of the CAES Recuperator" (principal author), EPRI TR-104224 (July 1994).
8. "Pressure Vessels, Heat Exchangers and Piping" (editor), Proc. ASME, IEEE Joint Power Generation Conference, NE-14 (1994).

### Publications

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1. "A Method for Solving Ill-Posed Integral Equations of the First Kind" (with B. Paul), Computer Methods in Applied Mechanics and Engineering 2 (1973) 339-348.
2. "Numerical Solutions of Non-Hertzian Elastic Contact Problems" (with B. Paul), Journal of Applied Mechanics, Vol. 41, No. 2, 484-490, June 1974.
3. "On the Inadequacy of Hertzian Solution of Two-Dimensional Line Contact Problems," Journal of the Franklin Institute, Vol. 298, No. 2, 139-141 (1974).
4. "Stress Concentration in Crowned Rollers" (with B. Paul), Journal of Engineering for Industry, Trans. ASME, Vol. 97, Series B, No. 3, 990-994 (1975).
5. "Application of Spiral Wound Gaskets for Leak Tight Joints," Journal of Pressure Vessel Technology, Trans. ASME, Vol. 97, Series J, No. 1, 91-93 (1975).
6. "Contact Stresses for Multiply-Connected Regions - The Case of Pitted Spheres" (with B. Paul and W. S. Woodward), Proceedings of the IUTAM Symposium on Contact Stresses, August 1974, Holland, Delft University Press, 264-281 (1976).
7. "Design of Skirt-Mounted Supports: Hydrocarbon Processing, Vol. 4," 199-203, April 1976.
8. "Predicting Flow Induced Vibration in U-Bend Regions of Heat Exchangers - An Engineering Solution," Journal of the Franklin Institute, Vol. 302, No. 2, 195-205, August 1976.
9. "A Method to Design Shell-side Pressure Drop Constrained Tubular Heat Exchangers" (with Mr. Holtz), Journal of Engineering for Power, Trans. of the ASME, Vol. 99, No. 3 July 1977, pp 441-448.
10. "An Efficient Design Method for Obround Pressure Vessels and Their End Closures," International Journal of Pressure Vessel and Piping, Vol. 5, 1977, pp 309-320.
11. "Analysis of Vertically mounted Through-Tube Heat Exchangers," Journal of Engineering for Power, Trans. ASME, Vol. 100, No. 2, April 1978, pp 380-390.
12. "Study of Bolted Joint Integrity and Inter-Tube-Pass Leakage in U-Tube Heat Exchangers: Part I - Analysis," Journal of Engineering for Power, Trans. ASME, Vol. 101, No. 1, pp 9-15 (1979).
13. "Study of bolted Joint Integrity and Inter-Tube-Pass Leakage in U-Tube Heat Exchangers, Part II - Applications," Journal of Engineering for Power, Trans. ASME, Vol. 101, No. 1, pp 16-22 (1979).
14. "On Thermal Expansion Induced Stresses in U-Bends of Shell-and-Tube Heat Exchangers" (with Maurice Holtz), Trans. ASME, Journal of Engineering for Power, Vol. 101, No. 4, October 1979, pp. 634-639.
15. "Heat Transfer Characteristics of a Generalized Divided Flow Heat Exchanger," Proceedings of the Conference on Industrial Energy Conservation Technology, Houston, Texas, pp. 88-97 (1979).
16. "An Approximate Analysis of Foundation Stresses in Horizontal Pressure Vessels" (with Vincent Luk), Paper No. 79-NE-1, Trans. ASME, Journal of Engineering for Power, Vol. 102, No. 3, pp. 555-557, July 1980.



17. "Generalization of the Split Flow Heat Exchanger Geometry for Enhanced Heat Transfer" (with Michael Holtz), AIChE. Symposium Series 189, Vol. 75, pp 219-226 (1979).
18. "Analysis of Temperature Induced Stresses in the Body Bolts of Single Pass Heat Exchangers," ASME Winter Annual Meeting, Paper No. 79 QA/NE-7, New York, NY, 1979.
19. "Optimization of Two-Stage Evaporators for Minimizing Rad-Waste Entrainment" (with Maurice Holtz), Journal of Mechanical Design, Trans. of the ASME, Vol. 102, No. 4, pp. 804-806 (1980).
20. "A Comparison of Thermal Performance of Two and Four Tube Pass Designs for Split Flow Shells" (with M. J. Holtz), Journal of Heat Transfer, Trans. of the ASME, Vol. 103, No. 1, pp 169-172, February 1981.
21. "A Method for Maximizing Support Leg Stress in a Pressure Vessel Mounted on Four Legs Subject to Moment and Lateral Loadings," International Journal of Pressure Vessels and Piping, Vol. 9, No. 1, pp. 11-25 (1981).
22. "Design, Stress Analysis and Operating Experience in Feedwater Heaters," (with Tom Libs), Proceedings of the Conference on Industrial Energy Conservation Technology, Houston, pp. 113-118 (1980).
23. "On the Necessary Criteria for Stream Symmetric Tubular Heat Exchanger Geometries," Heat Transfer Engineering, Vol. 3, No. 1 (1981).
24. "Some Fundamental Relationships for Tubular Heat Exchanger Thermal Performance," Trans. ASME, Journal of Heat Transfer, Vol. 103, pp. 573-578 (1981).
25. "Transient Swelling of Liquid Level During Pool Boiling in an Emergency Condenser" (with J. P. Gupta), Letters in Heat and Mass Transfer, Vol. 8, No. 1, pp. 25-33 (1981).
26. "An Approximate Method for Evaluating the Temperature Field in Tubesheet Ligaments of Tubular Heat Exchangers Under Steady State Conditions" (with M. Holtz), Journal of Engineering for Power, Trans. ASME, Vol. 104, pp. 895-900 (1982).
27. "Feasibility Study of a Multi-Purpose Computer Program for Optimizing Heat Rates in Power Cycles" (with Y. Menuchin and N. Hirota), Proceedings of the Conference on Industrial Energy Conservation Technology, Houston, (1981).
28. "Design Parameters Affecting Bolt Load in Ring Type Gasketed Joints" (with A. I. Soler), Trans. ASME, Journal of Pressure Vessel Technology, Vol 105, pp. 11-13 (1983).
29. "A Design Concept for Minimizing Tubesheet Stress and Tubejoint Load in Fixed Tubesheet Heat Exchangers" (with A. I. Soler), Trans. ASME (1982).
30. "Dynamic Coupling in a Closely Spaced Two-Body System Vibrating in Liquid Medium: The Case of Fuel Racks" (with A. I. Soler), Proceedings of the Third International Conference on "Vibration in Nuclear Plant," Keswick, England, pp. 815-834 (1982).
31. "Effect of Nonuniform Inlet Air Flow on Air Cooled Heat Exchanger Performance" (with A. I. Soler and Lee Ng), Proceedings of the Joint ASME-JSME Heat Transfer Conference, pp. 537-542 (1983).
32. "Seismic Response of Free Standing Fuel Rack Constructions to 3-D Motions," (with A. I. Soler), Nuclear Engineering and Design, Vol. 80, pp. 315-329 (1984).
33. "A Method for Computing Maximum Water Temperature in a Fuel Pool Containing Spent Nuclear Fuel," Heat Transfer Engineering, Hemisphere (1986).
34. "On Minimization of Radwaste Carry-Over in a N-stage Evaporator" (with Maurice Holtz and Vincent Luk), Heat Transfer Engineering, pp. 68-73, Vol. 5, No. 1-1 (1984).
35. "Feedwater Heater Procurement Guidelines - Some New Performance Criteria," Symposium on State-of-the-art Feedwater Heater Technology, EPRI (1984).
36. "Method for Quantifying Heat Duty Derating due to Inter-Pass Leakage in Bolted Flat Cover Heat Exchangers," Heat Transfer Engineering, pp. 19-23, Vol. 4, No. 3-4 (1983).
37. "Foundation Stresses under Support of Freestanding Equipment Subjected to External Loads," (with I. Gottesman), International Journal of Pressure Vessels and Piping, Vol. 20, No. 2, pp. 127-138 (1985).
38. "On Some Performance Parameters for Closed Feedwater Heaters, Journal of Pressure Vessel Technology," Trans. ASME (1987).
39. "A Design Procedure for Evaluating the Tube Axial Load Due to Thermal Effects in Multi-Pass Fixed Tubesheet Heat Exchangers" (with A. I. Soler), Journal of Pressure Vessel Technology, Trans. ASME (1987).
40. "An Elastic-Plastic Analysis of the Integral Tubesheet in U-Tube Heat Exchangers - Towards an ASME Code Oriented Approach," Int. Journal of Vessel and Piping (1987).
41. "Feedwater Heaters," Heat Transfer Equipment Design, R. Shal et. al (editor), Hemisphere (1988).
42. "Surface Condensers," Heat Transfer Equipment Design, R. Shal et. al (editor), Hemisphere (1988).

43. "Flow Induced Vibration," Heat Transfer Equipment Design, R. Shal et. al (editor), Hemisphere (1988).
44. "Mechanical Design of Heat Exchangers," Heat Transfer Equipment Design, R. Shal et. al (editor), Hemisphere (1988).
45. "A Rational Method for Analyzing Expansion Joints" (with A.I. Soler), ASME, Journal of Pressure Vessel Technology (1988).
46. "An Analysis of the Improvement in the Thermal Performance of Surface Condenser Equipped with Tweener Supports," ASME Joint Power Generation Conference, Miami (1987).
47. "Pressure Vessels - Design & Operation," Chemical Engineering, pp. 62-70, Chemical Engineering, McGraw Hill, N.Y (1990).
48. "Spent Fuel Storage Options: A Critical Appraisal," Power Generation Technology, pp. 137-140, Sterling Publications, U.K. (1990-91).
49. "Design Strength of Primary Structural Welds in Free-Standing Structures" (with A.I. Soler and S. Bhattacharya), Journal of Pressure Vessel Technology, Trans. ASME (1991).
50. "Seismic Qualification of Free-Standing Nuclear Fuel Storage Modules - The Chin Shan Experience," Nuclear Engineering International, U.K. (1991).
51. "Transient Response of Large Inertia Cross Flow Heat Exchangers" (with Y. Wang and A.I. Soler), ASME 91-JPGC-NE-27 (1991).
52. "Some Results from Simultaneous Seismic Simulations of All Racks in a Fuel Pool" (with A. I. Soler), INMM Spent Fuel Management Seminar X, Washington, D.C. (1993).
53. "A Case for Wet Storage," INMM Spent Fuel Management Seminar X, Washington, D.C., (1993).
54. "Application of Transient Analysis Methodology to Heat Exchanger Performance Testing" (with I. Rampall and Benjamin H. Scott), ASME Joint Power Generation Conference, (1994).
55. "Predicting Thermal Performance of Heat Exchangers Using In-Situ Testing and Statistical Correlation" (with Benjamin H. Scott), ASME Joint Power Generation Conference (1994).
56. "An Overview of the HI-STAR Technology," INMM Conference, Washington, DC, (1997).
57. "A Structural Assessment of Candidate Fuel Basket Designs for Storage and Transport of Spent Nuclear Fuel" (with Max Delong), INMM Conference, Washington, DC (1998).
58. "Seismic Response Characteristics of HI-STAR 100 Cask System on Storage Pads" (with Mark G. Smith and A.I. Soler), INMM Conference, Washington, DC (1998).
59. "Analysis of Mechanical Impact Events in Spent Fuel Storage Equipment" (with Charles Bullard) (1997).
60. "Predicting the Structural Response of Free-Standing Spent Fuel Storage Casks Under Seismic Events" (with Alan I. Soler and Mark G. Smith), 16<sup>th</sup> Conference on Structural Mechanics in Reactor Technology (SmiRT 16), Washington, DC (2001).
61. "The Multi-Purpose Canister: A Bulwark of Safety in the Post-9/11 Age" (John Zhai), 2003 International High-Level Radioactive Waste Management Conference, Las Vegas, Nevada (2003).
62. "Validation of an Impact Limiter Crush Prediction Model with Test Data: The Case of the HI-STAR 100 Package" (with A.I. Soler, and C. Bullard), PATRAM 2004, Berlin, Germany (2004).
63. "Predicting the Response of the Impact Limiter in the HI-STAR Family of Transport Packages Using a Benchmarked LS-DYNA Dynamic Model" (with John Zhai and A. I. Soler), Proceedings of the 15<sup>th</sup> International Symposium on the Packaging and Transportation of Radioactive Materials, PATRAM 2007, Miami, Florida (2007).
64. "On the Essential Characteristics of Underground Storage of Spent Nuclear Fuel in the HI-STORM 100 System," K.P. Singh, Proceedings of the 15<sup>th</sup> International Symposium on the Packaging and Transportation of Radioactive Materials, PATRAM 2007, Miami, Florida (2007).
65. "Spent Nuclear Fuel" (with Tony Williams), Companion Guide to the ASME Boiler & Pressure Vessel Code," Third Edition, Volume 3, Chapter 56, pp. 433-453 (2009).
66. "On the Environmental Isolation and Seismic Resistance Characterization of the HI-STORM Underground Fuel Storage System" (with C.W. Bullard, J. Zhai, and W.S. Woodward), Proceedings of the PATRAM 2010 Conference, London, United Kingdom (2010).
67. "The Role of Metamic®-HT – Industry's First Nano-Particle Based Material – In Fuel Basket Design," (with Indresh Rampall, Thomas G. Haynes, and Phillip Blue), Proceedings of the PATRAM 2010 Conference, London, UK (2010).
68. "Water Cooled Steam Surface Condensers" Power and Energy Generation Handbook, ASME, Chapter 30, ed. K.R. Rao (2011).

69. "On the Thermal-Hydraulic Essentials of the Holtec Inherently Safe Modular Underground Reactor System" (with Indresh Rampall, and Joseph Rajkumar), ASME Small Modular Reactors Symposium, Washington, DC (2011).
70. "Management of Spent Nuclear Fuel" (with Tony Williams), ASME Boiler & Pressure Vessel Code Third Edition, Chapter 56 (2009).
71. "On-Site Storage, Transport, Consolidated Interim Storage, and Disposal of Used Nuclear Fuel," Continuing and Changing Priorities of ASME B&PV Codes and Standards, Chapter 13 (2014).

# Pierre P. Oneid

## President and Chief Nuclear Officer

### Profile

Pierre Oneid has over thirty-seven years of experience in the Nuclear Industry. As Senior Vice President and Chief Nuclear Officer of Holtec International, he is responsible for the overall success of Holtec Nuclear Projects, and the Safety, Quality, on-time delivery, and productivity of Holtec Fabrication. He has been instrumental in the development and maintenance of the strong Holtec Nuclear Safety Culture. Mr. Oneid's responsibilities also include developing and implementing the Corporate Strategy and Nuclear Marketing and Sales. Mr. Oneid is a member of Holtec Advisory Board.

### Key experience

- Major Projects Executive Oversight
- Marketing Management
- Sales

### Qualifications

E.M.B.A. (Executive Master of Business Administration), Queens University, Kingston, Canada 1998

B.A.S. (Bachelor of Applied Science), Mechanical Engineering with Management Option, University of Ottawa, Ottawa, Canada, 1981

Basics of Marketing Course, Louisiana State University, 1984

### Professional Associations/ Certifications

Civil Engineering Surveying, Marketing Management, French Courses

SONGS Executive Oversight Board

Conceptual Selling, Strategic Selling, and Professional Selling One and Two programs

License and Professional Membership

Registered Professional Engineer, Province of Ontario (PEO)

American Nuclear Society member, 2004

## Prior Experience

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Prior to joining Holtec International in 2005, he served as Vice President and Director of Global Marketing and Sales for Shaw/Stone & Webster Nuclear Division. His responsibilities also included Major Projects Executive Oversight for clients such as TVA, Exelon and Entergy. His twenty-four years career with Shaw/Stone and Webster spanned two major fields within the company.

Mr. Oneid has extensive experience in project management executive oversight. He has held positions on both the SONGS and Vermont Yankee Executive Oversight Boards. Mr. Oneid has twelve years of Marketing Management in charge of Business Development of engineering, construction and consulting in the power/energy markets totaling over \$5 billion in sales. During this time, his roles and responsibilities were to apply technical knowledge and understanding of the power industry with effective business development strategies to achieve and maintain new business, identify potential clients while maintaining current clients, helping them understand their needs and screen opportunities. He also provided strategic and management input to proposals and projects, lead sales and marketing efforts for international and domestic projects, establishing project-teaming agreements and help develop strategic alliances. Mr. Oneid was instrumental in leading contract negotiations and expediting resolutions of open items, being held responsible for "closing the deal." He assessed new business opportunity risks and developed risk mitigation strategies, ensuring that budgets and schedules are established and followed. Mr. Oneid worked with the appropriate Business Sectors to develop winning strategies and managed Client-Stone & Webster interface at all levels. He was instrumental in providing feedback to appropriate business sectors and executive management regarding trends and competitive pressures, always sure to maintain the pulse of Client satisfaction on on-going projects. Additionally, Mr. Oneid was able to develop long-term strategies to achieve business success and provide executive oversight for major nuclear and non-nuclear Projects.

In twelve years of professional engineering experience in mechanical and structural design, Mr. Oneid held senior engineering responsibility, performing efficient and cost reduction designs utilizing engineering judgment, as well as developed and implemented simplified procedures for engineering design changes, prepared design development reviews for Safety Evaluation Reports and is an expert in troubleshooting piping failures during start-up and testing and quick response to design changes requested by operations. As Group Leader, he was responsible for system acceptance and reconciliation reviews - N5 Program and managed the Snubber Reduction Program for a nuclear utility also serving on the Snubber Nuclear Utility Group (SNUG). Since joining Stone & Webster in 1981, assignments have included one year in the Canadian head-office, Toronto, Canada as well as a year in the operation center, Cherry Hill, New Jersey. He spent two years in field assignment in Baton Rouge, Louisiana and a five in Oswego, New York. In addition, he worked three years in the client's headquarters, Syracuse, New York and twelve years in Cherry Hill, New Jersey office. Mr. Oneid joined Raytheon Engineers & Constructors, Inc. for five months in 2000 as Vice President of Global Nuclear Marketing & Sales.

Mr. Oneid's many years in power plant experience include nuclear and non-nuclear systems at several stations, such as Beaver Valley Nuclear Station - Unit 2, Duquesne Power and Light Company (May 1981 - July 1982), River Bend Nuclear Station - Unit 1, Gulf States Utilities (Aug 1983 - July 1985) and Nine Mile Point Nuclear Station - Unit 2, Niagara Mohawk Power Corporation (Aug 1985 - Dec 1992).

## Project Experience

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Mr. Oneid's project experience included Executive Oversight for the Maintenance & Modifications Project for Exelon Nuclear, Entergy Nuclear as well as the successful completion of 240MW Simple Cycle Power Plant for Indianapolis Power & Light and DTE Energy Services. He established General Services Agreements with major Nuclear utilities as well as developed and implemented winning strategy for \$820 Million maintenance and modifications contract for TVA Fleet and Restart services for Browns Ferry Unit #1. Adding to his accomplishments, he also developed and implemented winning strategies to leverage existing nuclear maintenance work to include engineering in nuclear, fossil and T&D divisions for TVA and for the \$120 million maintenance contract for ComEd in Chicago, 1998. The strategy included teaming with a local partner. He formulated and implemented winning strategy for a \$500 million maintenance and modification contract with

Exelon to cover their entire Nuclear fleet (17 units), 2001, developed and implemented winning marketing strategy for \$15 Million Engineering contract with ComEd including opening an office for Stone & Webster in the Chicago area, developed and implemented winning strategy for an EPC contract for 720MW Combined Cycle Power Plant for AES of Virginia and developed and implemented winning strategy for an EpC contract for 240MW Simple Cycle Power Plant for IPL of Indiana and DTE Energy Services of Michigan. He also managed technical teams for the N-5 Program at River Bend Nuclear Station and the Snubber Reduction Program for Nine Mile Point #2.

Mr. Oneid's power plant experience includes nuclear and non-nuclear systems at several plants, such as Beaver Valley Nuclear Station - Unit 2, Duquesne Power and Light Company (May 1981 – July 1982), River Bend Nuclear Station - Unit 1, Gulf States Utilities (Aug 1983 - July 1985), Nine Mile Point Nuclear Station - Unit 2, Niagara Mohawk Power Corporation (Aug 1985 – Dec 1992) and he was responsible for Pipe Stress Analysis, Pipe Support Design, N5 Program, entire systems Hydro Engineering Reviews, Trouble shooting of piping failures.



# Pamela B Cowan

Senior VP and Chief Operating Officer  
Holtec Decommissioning International

## Profile

Pam has been in the commercial nuclear power industry for over 25 years, most of which were in leadership roles at nuclear utilities. She has in depth experience in areas of spent fuel management and decommissioning, and has led industry initiatives, developed and implemented fleet governance, interfaced extensively with regulators and spoken in numerous forums in these areas. Pam's education coupled with her broad operational and technical experience, provide a strong foundation from which to effectively provide comprehensive assessment of situations and leadership in developing safe, efficient strategies and solutions.

## Key experience

- Management
- Decommissioning Governance, Oversight and Trust Fund Financial Reporting
- Used Fuel Management and DOE Recovery
- Fleet Licensing and Regulatory Affairs
- Nuclear Oversight including QA & Employee Concerns
- Plant Engineering
- Plant Operations/Control Room
- Emergency Operations Facility Emergency Director

## Qualifications

Master of Science in Engineering Management, June 2000 DREXEL UNIVERSITY, Philadelphia, PA

Bachelor of Nuclear Engineering, March 1990 GEORGIA INSTITUTE OF TECHNOLOGY, Atlanta, GA

INPO Senior Nuclear Plant Manager Course 2012

MIT Probabilistic Risk Management Course 2002

Senior Reactor Operator (SRO) License, Salem Generating Station, 1998

## Professional Associations

Executive Sponsor, US Women in Nuclear – 2017-2018

Board of Trustees, Delaware Valley Science Fairs – 2015-2016

NEI Decommissioning Transition Task Force Decommissioning Rulemaking Lead, 2015-2016

Vice Chair, EPRI Technical Advisory Committee for Used Fuel and High-Level Waste, 2015-2016

Steering Committee Member, Decommissioning Plant Coalition 2012-2016



### Experience with Holtec International (Present)

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- Provide strategic direction and oversight of license transition activities including standardized governance development to support transition and HDI as a nuclear plant licensed operator upon license transfer

### Experience with Nuclear Energy Institute (2016-2018)

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#### **Vice President, Nuclear Generation Group**

- Responsible executive for regulatory initiatives in spent fuel, decommissioning, licensing, new and advanced reactors, digital instrumentation and control, license renewal, and accident tolerant fuel
- Frequently meet with NRC executives, congressional staff and DOE on regulatory and industry initiatives
- NEI executive lead for the National Nuclear Energy Strategy Innovate Initiative, focused on new and advanced reactors

### Experience with Exelon Generation (2004-2016)

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#### **Senior Director, Decommissioning**

- Responsible for fleet decommissioning planning activities, including Oyster Creek, Zion transition, "what if" scenarios for potential shutdowns and all decommissioning cost estimates
- Performed as a Corporate Emergency Director in the joint Emergency Operations Facility supporting Limerick, Peach Bottom and TMI
- Industry lead for NEI decommissioning rule-making team

#### **Director, Spent Fuel & Decommissioning**

- Responsible for strategy for wet and dry spent fuel for the Exelon fleet, including managing spent fuel pool criticality issues and the DOE settlement agreements
- Worked with the NEI and EPRI on a successful strategy to gain NRC approval of ISFSI license renewal for Calvert Cliffs
- Developed the Exelon decommissioning management model, a comprehensive governance and oversight model including organizational, financial, regulatory and technical aspects
- Performed quarterly oversight of the Zion nuclear plant decommissioning as per the asset sale agreement

#### **Director, Work Management**

- Responsible for oversight and implementation of online and outage work management functions for Peach Bottom Atomic Power Station
- Provided overall station leadership as a Station Duty Manager (SDM), such as approving risk reviews for emergent activities, decision-making on priorities and directing Outage Control Center activities.
- Performed oversight of Peach Bottom site supply operations including procurement engineering and warehouse operations

#### **Director, Licensing and Regulatory Affairs**

- Directed and provided oversight for all licensing and regulatory affairs activities for the mid-Atlantic Exelon stations: Peach Bottom, Limerick, Oyster Creek and TMI
- Cognizant director for licensing guidance on the security and emergency preparedness ROP and licensing submissions for the Exelon fleet
- Led teams as an Executive Issues Manager on high profile issues including the Peach Bottom inattentive security issue and Oyster Creek tritium

**Nuclear Oversight Manager**

- Managed quality assurance assessment and auditing activities as well as provided oversight of the implementation of the employee concerns program for Peach Bottom Atomic Power Station

**Experience with American Electric Power (2000-2004) System Engineering Manager**

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**Engineering Manager**

- Managed a group of over 40 engineers as the senior plant engineering manager for the Nuclear Steam Supply System, Balance of Plant, Electrical and I&C, Maintenance Rule, Reactor Engineering and Rotational Engineer Program groups

**Licensing Supervisor/Lead**

- Lead for the significance determination appeal on the essential service water (ESW) silt intrusion event

**Experience with PSEG Nuclear (1992-2000)**

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**Control Room Supervisor**

- Supervised control room and field operations of Salem Generating Station pressurized water reactors as an **NRC licensed Senior Reactor Operator (SRO)**

**Senior Engineer & Contractor, Nuclear Fuels & Safety Analysis**

- Built numerous thermal-hydraulic computer models to simulate reactor transient response using the RETRAN code

**Experience with Westinghouse Electric Corporation (1990-1992)**

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**Associate Engineer**

- Performed licensing basis thermal hydraulic, fuel rod and point kinetics calculations for Westinghouse reactors

# Mark Soler

## Vice President of Quality Assurance and Nuclear Oversight

### Profile

Mr. Soler currently serves as Vice President of Quality Assurance and is responsible for Holtec International's overall Quality Assurance Program. He has over 30 years of experience in project management and quality assurance. He is the custodian of Holtec's QA program established in 1986 and approved by the NRC in docket number 71-0784. Mr. Soler has provided QA oversight on hundreds of Holtec projects involving design and fabrication of structures, systems and components. His experience includes securing NRC approval of QA programs that meet the requirements of 10 CFR 50, 71, 72, and NQA-1. Mr. Soler takes a pragmatic approach to his role based on his experience as Manager of Projects (1986-90), during which he was responsible for managing spent fuel storage projects. In this position, his QA background was a critical element in addressing subsequent NRC Information Notice 95-29 for overseeing design and fabrication activities for metal components used in spent fuel dry storage equipment. Prior to joining Holtec in 1987, Mark served as Quality Engineer and Associate for General Electric.

### Key experience

- Quality Assurance and Implementation
- Project Engineering

### Qualifications

University of Pennsylvania  
BS, Mechanical Engineering, 1986  
  
Extensive training in QA/QC  
Requirements for Manufacturing

## Relevant Experience

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As QA Director, Mr. Soler unified the QA programs across Holtec International, Holtec Manufacturing Division and Nanotec Metals Division. He developed and implemented an Excellence Program covering FME, Calculation Packages, Manufacturing, and Corrective Actions to establish the highest possible levels of safety across Holtec's divisions by minimizing human performance issues. Mr. Soler is also responsible for quality oversight at overseas fabricating facilities subcontracted by Holtec in China, Spain, and Korea to support localization mandates.

In his role as QA Manager, Mr. Soler prepared and implemented Holtec's QA program, plans, and procedures, as well as surveyed and evaluated vendor facilities and audited vendor QA programs and procedures. He maintained corporate QA program, updated required QA training, supervised QA activities, and managed 20+ successful audits of Holtec's QA Program, including several by NUPIC.

Additionally, as Quality Implementation Manager, Mr. Soler verified the quality of fabricated products met Holtec's procurement requirements, reviewed vendor documents for compliance, conducted audits of external suppliers, and surveyed activities at suppliers' facilities.

Mr. Soler began his quality management career at GE as a Quality Engineer and Associate Engineer in an entry-level position. Here, he received extensive in-class and on-the-job training in several GE divisions.

## Professional Experience

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- 1989 – Present, Various Positions, Holtec International, Marlton, NJ
- 1986 – 1989, Quality and Project Engineering Positions, General Electric

# Stefan Anton

## Vice President for Licensing

### Profile

Dr. Stefan Anton has 30 years of experience in the design and licensing of structures, systems and components for the nuclear industry, with a focus on spent fuel storage and transport systems. His technical specialties are nuclear criticality, shielding and applied thermo-hydraulics. He has led design and licensing activities of nuclear components with a seminal contribution on burnup credit and criticality safety for spent fuel racks and spent fuel storage and transport casks. As part of corporate engineering, he has produced more than 100 industry reports, and provided management and leadership in complex technical programs including of first-of-a-kind projects for the domestic and international nuclear market. In addition, Dr. Anton oversees all criticality and shielding evaluations performed at Holtec. Under his leadership, Holtec's engineers have developed wet storage racks for nearly 1/5 of all operating nuclear power plants and have led the design licensing of 20 different multi-purpose canisters based dry storage and transport systems around the world. He developed the licensing strategy for wet storage and dry storage and transport projects, including the methodology to bound a wide array of fuel types and site conditions for the general licenses granted under US 10 CFR 72 and 10 CFR 71 for dry storage and transport.

Before joining Holtec, Dr. Anton was a member of the design team that developed CASTOR spent fuel transport cask system in Germany.

### Professional experience

- 2008-Present, Vice President of Engineering and Licensing, **Holtec International**
- 2007-2008, Director of Technical Services and Licensing, **Holtec International**
- 2004-2007, Licensing Manager, **Holtec International**
- 1998-2004, Senior/Principal Engineer, **Holtec International**
- 1982-1992, Senior Engineer, WTI GmbH, **West Germany**

### Qualifications

RWTH Aachen, Germany, Dr. -Ing., Mechanical/Nuclear Engineering, 1997

Dipl. -Ing, Mechanical/Thermal Engineering, 1982

### Professional Associations

VDI Verein Deutscher Ingenieure (German Society of Engineers)

ANS American Nuclear Society

ASME American Society of Mechanical Engineers

### Selected Projects at Holtec

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Mr. Anton is involved in the development and oversight of several projects at Holtec, such as HI-STAR 100 (US 10 CFR 71 Transport License). Where he helped developed the first U.S. NRC approved burnup credit methodology for transport of spent nuclear fuel, taking partial credit for fission products. This included a five-year program to determine calculational biases for fission products based on benchmarking using Commercial Reactor Criticals (CRCs). He is also responsible for the development of Initial Criticality Safety and Radiation Shielding Design for numerous transport, transfer and storage cask systems for spent nuclear fuel, including

- HI-STAR 180, Dual Purpose cask for 32 to 37 PWR assemblies. Responsible for the overall design and licensing of the cask, in addition to direct responsibility for all the shielding and criticality evaluations. Actinide-only burnup credit for the 37-assembly version.
- HI-STAR 180D, Dual Purpose cask for 32 to 37 PWR assemblies, based on the HI-STAR 180
- HI-STAR 60, Transport cask for 12 PWR assemblies
- HI-STAR 80, Transport cask for 12 PWR or 28 BWR assemblies
- STC, Shielded Transfer Canister for wet transfer of 12 PWR assemblies
- HI-STORM MIC / MPC-24DW, storage cask for 24 PWR assemblies with optimized critically safety design and ultra-low external dose rates.

In addition, Dr. Anton is also responsible for the development of Cask Loading Strategies to minimize fuel pool residence time after plant shutdown for various clients as well as the Spent Fuel Pool loading strategies to address neutron absorber degradation for various clients.

### Experiences and Achievements at Holtec

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Among his impressive list of achievements at Holtec, Mr. Anton also represents Holtec at national and international conferences, where he gives numerous presentations to US and international nuclear regulators, has exceptional command over nuclear criticality and shielding codes including MCNP and CASMO as well as development of methodologies for criticality and shielding analyses, and he is a Member of the ANS 8.27 Standard Committee Working Group on Burnup Credit.

# Robert R. Galvin

## Vice President for Treasury & NDT Management

### Profile

A resourceful leader who manages high-impact projects to completion. Possesses strong interpersonal and communication skills and demonstrates integrity and professionalism always.

Achieved success in strategic planning & execution, business development, and operations finance. Experienced in business turnarounds and mergers & acquisitions.

### Key experience

- Financial Management
- Negotiation

### Qualifications

Villanova University – Villanova School of Business, BS Accounting

### Professional Associations

**OneSourceWater, LLC** – Farmington, CT – Audit Committee Chair and Director

**Juvenile Diabetes Research Foundation** – Cherry Hill, NJ – Board of Chancellors; former Stewardship Committee Chair

Experience with Environmental Quality Management, Inc., (2009-2017) Chief Financial Officer and Executive Vice President

### The Argentum Group – Private Equity Investor

*Provider of environmental remediation and engineering services to Federal and private sector clients*

- Negotiated the sale of the company's biofuel business resulting in a \$3 million gain. Subsequently collected another \$1.2 million in reinstated tax credits
- Acquired an engineering company with landfill gas rights. Raised \$4 million to construct and operate a landfill gas to electricity facility
- Managed the acquisition of a biodiesel company, via a reverse merger and SEC registration. Raised \$5 million to complete the merger and provide working capital



Experience with NuCO<sub>2</sub> (NASDAQ: NUCO), Stuart, FL (2002-2009) (Acquired by Aurora Capital) Chief Financial Officer and Executive Vice President

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**J. P. Morgan Partners, The Argentum Group – Private Equity Investors**

*Provider of Bulk CO<sub>2</sub> equipment and distributor of Bulk CO<sub>2</sub> to 120,000 food and beverage customers in 45 states*

- Increased market capitalization from \$30 million in 2003 to \$500 million in 2008
- Directed and negotiated a complex asset backed securitization raising \$350 million of debt to finance the \$550 million sale of the company to Aurora Capital
- Raised \$125 million in a re-IPO of the company. Completed 75 investor presentations in 12 cities in 10 days. Offering oversubscribed by 3x and priced at a premium
- Negotiated and managed the \$16 million acquisition of the company's largest competitor. Within 18 months, acquired four of the company's top 10 competitors

Experience with Independent Propane Co. (1998-2002) (Acquired by Inergy, L.P. (NASDAQ: NRGY) Chief Financial Officer and Senior Vice President

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**J. P. Morgan Partners, Summit Capital – Private Equity Investors**

*Propane distribution to 100,000 residential and commercial customers in seven Southwest and Midwest states Experience with BNFL Risley (UK) (1980 - 1996)*

- Managed the \$100 million sale of the company to Inergy, L.P.
- Completed and integrated 46 acquisitions in 15 months

Experience with TAINstruments, Inc., (1993-1998) (Acquired by Water Corps (NYSE: WAT) Director of Finance

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**J. P. Morgan Partners – Private Equity Investor**

*Manufacturer and distributor of Thermal Analysis equipment in the US, Europe, and Japan*

- Managed the \$125 million sale of the company to Waters Corporation
- Completed the acquisitions and integration of a UK manufacturing company and five European sales and service organizations

Experience with KPMG (1983-1993)

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Executive Office, Department of Professional Practice - SEC Reporting, Quality Control, Office Advisory, and General Counsel assignments

# Thomas Marcille

## Vice President of Technical Support

### Profile

Tom Marcille is an accomplished leader and nuclear industry executive with a 30+ year career, including Senior and Principal Engineer positions with GE Nuclear, Chief Engineer at Los Alamos National Lab, Chief Operating Officer and VP of Engineering at NuScale Power, and Holtec International VP of Reactor Technologies and Chief Nuclear Officer of SMR, LLC. That career reflects proven performance developing complex nuclear energy solutions, project execution plans and organizations, building and organizing effective teams and strategic partnerships, and delivering quality-compliant work consistent with rigorous project management requirements and processes, and managing large complex capital equipment delivery and field commissioning projects. He is a strong, fair executive leader and trustworthy teammate, with a commitment to integrity; demonstrating by example and demanding adherence to a strong Nuclear Safety Culture. Marcille has successfully developed large capital equipment and facility construction and commissioning projects for Holtec International in the UK and Ukraine, with Executive management and P&L responsibility for the Sizewell B dry storage (design through delivery, testing, construction and 1<sup>st</sup> loading), as well as both major Interim Spent Fuel programs in Ukraine; the Chernobyl ISF-2 hot cell and RBMK dry storage, and; the VVER Central Spent Fuel Storage Facility for nine Energoatom VVER reactors.

### Key experience

- Reactor Technology
- Product Development
- Conceptual and Preliminary Design

### Qualifications

B.S., Physics/Nuclear Engineering, University of Florida, Gainesville, FL

General Electric Edison Engineer – Nuclear Energy, Thesis: “Uranium Nitride Fuel; Fabrication Process and Procedures,”

Six Sigma (Greenbelt) Certified, 2000,

Project Leadership Program, General Electric, 1999

### Professional Associations/ Certifications

Director (past), Morris and Associates (stainless steel chillers and ice machine manufacturer)

Member (past), Technical Advisory Board, SCATEC AS/ THOR Energy AS, Oslo, Norway

Member, American Nuclear Society, 1985-present

Member, ASME (nomination pending for Nuclear Energy Executive Board)

Principal and founder, Millwork Supply of Wilmington (custom stair parts manufacturing business in Wilmington, NC)

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## Experience with Holtec (2013-Present) Vice President of Reactor Technologies, Chief Nuclear Officer SMR, LLC

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### Responsibilities

- Corporate lead for development and delivery of the SMR-160 power plant through design specification development, testing, licensing, engineering, construction, with associated project execution plans (work scope and engineering deliverables) and performance measurement baseline and budgets (WBS, milestones, resources, schedules)
- Principal corporate liaison with key clients (Energoatom, EDF Energy) and partners and Executive Sponsor and Program Manager for major capital nuclear equipment and facility projects. Currently responsible for the ISF-2 and CSFSF dry store programs in Ukraine, worth a combined \$850m USD
- Design Authority for the SMR-160 Nuclear Power Plant, responsible for development and delivery of the plant Design Specification and the configuration-managed plant Engineering Specifications. The design project focuses on completion of the plant design, with validation through testing and safety analyses, to achieve construction and operating permits for global SMR-160 deployments

### Demonstrated Performance/Leadership

- EDF Energy Generation Sizewell-B Dry Store, delivered and complete
- SMR-160 Candidate Design, KSA, Ukraine Program delivery
- ISF-2 Executive Sponsor and Program Manager to complete all equipment delivery, with civil, MEP and testing to commission this major facility within the Chernobyl Exclusion Zone to process 22,000 RBMK fuel assemblies
- CSFSF Executive Sponsor in Ukraine for the Energoatom 9 reactor Central Spent Fuel Storage Facility (16,000 VVER SFAs), with 140 field techs and staff, 50+ person office in Kiev
- Negotiated MOUs, Term Sheets and Master Service Agreements with key clients and partners, including Mitsubishi Electric, SNC-Lavalin, GE-Hitachi and Energoatom NAEK

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## Experience with NuScale Power (2009-2013) Chief Operating Officer and Vice President of Engineering

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As Chief Operating Officer and Vice President of Engineering at NuScale Power, successfully designed and managed that company's start up, staffing, infrastructure, practices and product development within Engineering, Licensing, Project Management and Quality Assurance, culminating in the company sale to Fluor Corporation in Oct.2011. Built a 150-person engineering organization that included significant numbers of senior and world-class professionals to lead design, systems engineering, safety analysis and testing teams. As the Design Authority for the NuScale Plant, was responsible to ensure that stakeholder (BOD, NRC, clients) features and requirements were ultimately satisfied in the design specification in verifiable ways. Developed and managed strategic relationships with global nuclear engineering service and component suppliers and manufacturers – contractors and invested partners. The NuScale Power design development and licensing work has moved SMRs to the forefront of global energy planning for future plant construction and has helped pave the way for US design certification and domestic manufacturing for this important new technology.

### Responsibilities

- As COO (Feb.2009-Oct.2011), oversight and management of Engineering, Licensing, Quality Assurance and Project Management.
- Developed the business solutions – policies, procedures and execution plans – for the corporate Quality Management, Licensing and Project Management programs (until such time as LIC/QA VP was hired to report directly to CEO in 2010).
- Responsible for conceptual and preliminary designs and capital cost estimates and cash flows for overall plant and major engineered systems and equipment.
- Key business interface and liaison with corporate partners and contractors, including Kiewit Power, ARES, Fluor Power, General Dynamics-Electric Boat, MPR Associates, Curtiss Wright, Anatech Engineering, KEPCO and KNF (Korea).
- As VP of Engineering (Feb.2009-Jan.2013), responsible for overall management of Engineering, with direct responsibility for all department teams and functions: Plant Systems, Safety Analysis, Testing

and Development, Plant Architecture and Design, Systems Integration and Requirements Management, Nuclear and T/H Codes and Methods, Human Factors Engineering and Digital I&C architecture and Simulated Control Room (Conduct of Operations), Nuclear Fuels (development and market strategy, design, licensing, testing) and the Chief Engineer's Office.

- Developed the business solutions – policies, procedures and execution plans – for the power plant design product and had ultimate development responsibility to the BOD and stake holders (NRC, clients) as the NuScale Design Authority.
- Architect of the company's Phased-Design application project to develop a state-of-the-art SMR power plant consistent with the corporate business plan to optimize key features and functions, including Safety, Total cost of ownership (capital and O&M), License-ability, Risk Management and Mitigation (cost, licensing, schedule, commercial).
- Project Manager for Design and DCD development projects (Feb.2009-Oct.2011), responsible for planning and work packages, schedules, budgets and performance – CPI, SPI and EVM.
- Senior member of corporate Risk Management, Design Decision and Quality Management teams.

#### **Demonstrated Performance/Leadership**

- As COO and VP of Engineering, successfully managed the startup, staffing, infrastructure and product design development and solutions within Engineering, Licensing, Project Management and Quality Assurance at NuScale Power, culminating in the sale of the company to the Fluor Corporation in Oct.2011.
- Recruited and staffed a 150-person engineering organization that included significant numbers of senior and world-class nuclear professionals, despite company financial instability and risks inherent with a venture capital backed startup.
- Principal inventor and architect for iENG, a proprietary engineering product development, configuration management and quality/design record tool. iENG encodes executable workflows that precisely align to governing engineering and quality assurance procedures to ensure that work performed satisfies commercial and NQA-1 quality commitments.
- Developed and sponsored the Engineering Development Program (EDP) – a technical engineering development and mentor program for early career engineers and interns at NuScale Power.

#### **Experience with Los Alamos National Lab (2004-2009) Chief Engineer**

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As Chief Engineer, principal role was to develop and deploy processes and procedures for applied nuclear power plant engineering, to re-establish Los Alamos National Laboratory as a premiere institution for solving important commercial nuclear power challenges. Critical initial work involved authoring ASME NQA-1 Design Control procedures and work instructions, leveraging proven industry best-practices.

#### **Responsibilities**

- Development, management, and execution of all commercial, military and special purpose reactor programs.
- Chief Technologist at Los Alamos National Lab for reactor physics, core design, and nuclear methods including business lead and industry liaison, and Chief Reactor Engineer to Lawrence Livermore National Lab, NASA and the University of Texas.
- Project Management and execution responsibilities for customers including NASA, Naval Reactors, NRC, DoD, and DOE (NE and NNSA). Directed and coordinated the efforts of up to 250 engineers and technical personnel, and managed annual project budgets up to \$40M.

#### **Demonstrated Performance/Leadership**

- Successfully recovered, managed and delivered the production of all major Naval Reactor deliverables for the 2004-2007 JIMO program, a \$113M contract to Los Alamos National Lab. The program included thirteen major projects and demanded the integration of numerous laboratories and lab divisions. Critical initial tasks included the complete overhaul of the project management and execution plans and teams, along with the development and deployment of acceptable commercial and nuclear quality programs for a critical and demanding customer.

## Experience with General Electric Nuclear Energy (1987-2004)

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### Responsibilities

- Development of technical and business solutions for commercial BWR business units and products, including GE's domestic and international (Japan) fuels operations, nuclear and T/H methods, ABWR and ESBWR NSSS design and engineering specifications and design reviews, fast reactor designs, including Japanese sodium fast reactor start-up. Positions held include:
- Principal Engineer, managing and supporting GE Nuclear Energy and Global Nuclear Fuel, and BWR reactor physics development, including Safety Analysis Codes and Methods; completion of the ABWR Design Specification and FSAR for the Design Certification program and corporate liaison to Taiwan Power Corp for the Lungmen Power Plant, initial contract and inception of construction.
- Chief Technologist and responsible engineer for BWR control blades, spent fuel, nuclear cross-sections, UO<sub>2</sub> conversion facility modification, in-core neutron detectors and gamma thermometers, instrumentation adaption and core monitoring methods, and criticality safety; design review board member for ABWR Design Specification.
- Senior Engineer, supporting Martin Marietta Energy Systems, core design and nuclear methods development for Liquid Metal Reactor (LMR) physics and transient modeling; reactor system optimization.
- Engineer, supporting advanced energy systems, fast reactor core design and reactor engineering process development for ALMR/PRISM and SP-100 programs. Also conducted core design and fuel cycle analysis, critical physics experiments and uncertainty programs, and UN fuel fabrication and manufacturing programs.

### Demonstrated Performance/Leadership

- General Electric Corporate Engineering Excellence Award (Nuclear Energy), 1989.
- Principal author for numerous Licensing Topical Reports (LTRs), Technical Design Procedures (TDPs) and FSAR sections (ABWR, ESBWR).
- Responsible Engineer and PM, successfully completing a two-year major computer code development project using engineers located in North Carolina, California and Japan. Overcame scheduling, budget, language, work culture and location challenges.
- GE Edison Engineering Instructor (Nuclear Engineering), 1994-2004. The Edison Program is the technical leadership training and development program within GENE for high-potential engineers, providing training in all areas of nuclear energy and power plant engineering, operation, safety, materials, economics, software and licensing.

# Mark Morant, BSc, FCA

President & Chief Executive Officer

## Profile

Mark Morant has over 30 years of experience in the nuclear industry with expertise in driving innovation and leading business growth. He has extensive experience leading nuclear companies in a licensed environment and proactively improving safety in the workplace. He is recognized as a highly visible leader of change with a proven, successful track record of delivering business improvements and value for his customers.

## Key experience

- Extensive knowledge and experience in the nuclear industry
- Expertise in leading nuclear companies in a licensed environment
- Safety leadership in the workplace
- Executive oversight of reactor D&D project at Zion
- President and CEO Magnox fleet of nuclear reactors in UK, with both operational and decommissioning plants
- Strong financial background

## Qualifications

BA, Economics, University of Nottingham

US Citizen

## Professional associations

Fellow of the Institute of Chartered Accountants in England and Wales (FCA)

Member of Institute of Directors

## Experience

**SNC Lavalin (2017 – 2018) – President, US Nuclear Business:** Appointed President of the US Nuclear Business following SNC Lavalin's purchase of Atkins in July 2017. Executive responsibility for the group's global center of excellence for reactor D&D. Mr. Morant serves as Chairman of the Canadian Government's C\$7.9B M&O contract (CNL), led by SNC Lavalin and based at Chalk River in Ontario.

**Atkins (June 2016) – President of Energy Americas and Asia Pacific:** Appointed President of Energy Americas for Atkins Plc following the group's acquisition of Energy Solutions' (ES) nuclear federal and commercial projects business.

**EnergySolutions (2007 – 2016) – President:** Served as an Executive Officer for EnergySolutions in a variety of roles including President of Global Commercial operations (including all of the company's nuclear waste disposal, processing and transport business interests) and President of International operations. Notable achievements included growing new work in Canada, China and Japan, including extensive support for Fukushima in partnership with Toshiba and providing Executive oversight of the US's first Licensed Stewardship reactor D&D project at Zion in Illinois.

**British Nuclear Group (2004 – 2007) – Managing Director, Reactor Sites:** Responsible for the leadership and management of 10 nuclear sites, 2 of which are generating plants producing ~11 TWhrs pa (£450M revenue) and 8 sites at the defueling and decommissioning stage, £650M cost base pa, ~3500 people. Delivered significant improvement in financial, operational and safety performance. Built a new team with significant recruitment of nuclear leaders from UK and US. Positioned and led the business to a private sector sale.

**British Nuclear Fuels PLC (BNFL) (1995 – 2004):** Various roles including Finance Director of Sellafield and Director of Privatization working for Sir John Guinness, Chairman of BNFL. He was closely involved in the UK Government's restructuring of the UK nuclear industry, the creation of the NDA and the subsequent break-up of BNFL.



**BNFL ALFA, Managing Director:**

- A new business created within BNFL to own all UK nuclear assets and liabilities, ~£20B.
- Set up and negotiated the first M&O contracts with nuclear sites in the UK,
- Designed and implemented PBI's, incentive structures and performance reporting.
- Worked with Government to set up the fledgling NDA.
- Non executive member of the Sellafield Executive

**BNFL Director of Privatization**

- Worked with Government and its advisors on a UK nuclear strategy to inject private capital into BNFL through flotation or trade sale.

**BNFL Finance & Commercial Director - Magnox Electric,**

- Negotiated the acquisition of Magnox for BNFL, reporting to the BNFL Group CEO and dealing directly with senior officials and Ministers
- Post acquisition, managed the finance and commercial functions for 8 operating stations plus reprocessing plants at Sellafield, 25 TWhrs pa of electricity, T/O of £850m,

**BNFL UK Group, Finance Director:**

- Managed finance function for Sellafield and Chapelcross sites with a £1 B turnover. Implemented new systems and reporting disciplines into the site

**Doctus Europe (1991-1995) - Managing Director and Joint Owner:** Successfully led change management programs in the nuclear, aerospace, transport and engineering industries in Scotland, Spain, Portugal and France. Led buy-out of UK business and subsequent sale to Arthur Andersen.

**COOP & CO (1988-1991) - Managing Director:** Seconded from Price Waterhouse to lead a turnaround of this failing company with a £10M turnover, 500 employees. Equity stake successfully sold 3 years later.

**Price Waterhouse (1978-1988) - Senior Manager:** Financial consultant, training manager, examiner, auditor. Built the practice to 20 strong and put on partner list prior to departure.

## Career Achievements

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**Commercial, Market and Customer Focus**

- Key player in HMG's decision to form NDA and restructure the nuclear industry.
- Provided the strategic framework for the creation of British Nuclear Group and supported the Group CEO in its creation and readiness for sale to the private sector
- Responsible for the split of BNFL's UK business into asset and contracting companies.
- Led financial negotiations for £18bn of new fuel cycle contracts with British Energy.
- Bought, managed and subsequently sold a textile business developing new and profitable markets in Japan and the USA.
- Built a team of 20+ finance consultants in Price Waterhouse's North West practice.

**Program Delivery and Managing Financial Performance**

- Achieved over 100% of anticipated fee under NDA's first year, their best performer, with outstanding cost and schedule performance. Beat energy generation target by 10%, accelerated decommissioning work with cost savings of £43M and delivered 11% additional work scope.

**Empowerment - Leading self and others in a team environment**

- Recruited a strong team in the Reactor Sites with a blend of highly experienced and respected Americans and the best of BNFL's UK reactor talent.
- Led the splitting of BNFL's UK business and formed an asset company to drive contracting behaviour into the operating units. Managed £5bn of investment funds,
- £20bn of nuclear liabilities and £7bn of other assets.



### **Safety Leadership**

- Achieved many prestigious safety awards at Reactor Sites, notably 2 ROSPA sector awards (Utilities in 2004 and Engineering and Construction in 2006), and runner-up for the Sir George Earle trophy, in 2006. These awards recognised not only excellent safety, but also the transformation of safety performance to world class levels.
- Scored the world's first "10" for ISRS and IERS (at Sizewell).

### **Change Leadership**

- Created a new business, Reactor Sites, from the combination of Magnox Generation and Environmental Services with support from a range of UK Regulators. Extensive workforce briefings on each site were a feature of this change programme
- Led a subsequent restructure of the northern and southern sites for competition.
- Restructured and integrated Magnox Electric into BNFL; led downsizing of overhead base, decentralized functions to the stations with £30M pa savings achieved.
- Managed and led a number of consultancy teams, focussed on change management, in a diverse range of industries - nuclear, engineering, textiles, leisure, airlines.

### **Courage and Confidence**

- Led £4bn acquisition of Magnox against backdrop of split BNFL Board. This required the building of strong relationships and robust negotiating with DTI, Treasury Ministers and No.10 officials to secure an acceptable deal.
- Led a Management Buy In to a textile company at the age of 29, organising financial backing and support and a "buy-supply" deal from the ex parent
- Bought a consultancy company from the receivers, sold it to a quoted services company, bought it back again and subsequently sold it again to Arthur Andersen.

### **Impact and Influence**

- Primary influence over BNFL and HMG in decision to split BNG for sale.
- Closed a ground breaking agreement with the unions to reflect the change from operations to accelerated decommissioning covering re-skilling and labour-leasing.
- Introduced major innovations to the way decommissioning work is delivered; created an innovation unit to deliver new strategies for nuclear waste treatment and disposal.

# Christopher Massey

## Vice President of Operations

### Profile

Mr. Massey has over 35 years of experience in the nuclear industry with expertise in driving innovation and leading business growth. He has extensive experience the nuclear decommissioning and waste management, holding executive positions for major nuclear companies. He is an influential Executive that has specific expertise in leading both technical and business innovation and change in the decommissioning and waste management market. He also brings strong customer skills and has a successful track record of delivering business improvements in P&L performance, operations and culture.

### Key experience

- Executive leadership of companies in nuclear environment
- Management of business operations for fixed based facilities at a major US nuclear waste company
- 35 years' experience in nuclear decommissioning projects ranging from spent fuel plants to commercial nuclear reactors
- Strong technical background in spent fuel management and decommissioning

### Qualifications

US Citizen  
Bachelor of Engineering (Hons)  
Liverpool Polytechnic, UK

### Professional associations

Member of the American Nuclear Association

### Experience with SNC Lavalin (2017 – Present)

Mr. Massey was appointed Executive Vice President of SNC Lavalin's US commercial nuclear decommissioning business in June 2017 with management responsibility for growing the business both in the US, and assisting other SNC Lavalin regions in the reactor D&D market.

Prior to the acquisition of Atkins by SNC Lavalin, Mr. Massey was head of the US commercial business for Atkins, which comprised commercial reactor decommissioning, commercial utility operator training, environmental services, and nuclear safety services for the US nuclear fleet.

### Previous Experience

Mr. Massey's previous experience originates in the UK, working for British Nuclear Fuels on both new plant construction for spent nuclear fuel reprocessing and decommissioning of legacy plants at the Sellafield reprocessing site.

In 1994, he moved to the US, joining BNFL Inc. on a project to design build and operate a pre-treatment plant for high level waste stored in below ground storage tanks at the Department of Energy's Hanford site in Washington state. He went on to head up BNFL Inc's business development activities for the entire US DOE complex.

In 2006, BNFL Inc. was acquired and together with Envirocare and GTS Duratek formed EnergySolutions. Mr. Massey was initially given responsibility for growth in the international market working mainly in Europe on commercial reactor decommissioning projects. In 2009, he took over business management responsibilities for EnergySolutions waste management facilities which included contracts with both commercial and federal government contracts. Mr. Massey was also involved in the waste management contract between ZionSolutions and EnergySolutions, and later worked to expand the Zion model for reactor decommissioning for other interested utilities.

# Alan M. Parker

## Pilgrim Decommissioning General Manager

### Profile

Mr. Parker has over 37 years served in key transformational leadership roles on major decommissioning projects. Including Zion, the Magnox fleet of reactors in the UK and the US DOE's most successful clean up to date at Rocky flats He is skilled at building and leading high-performing, multi-contractor teams for large (often multi-billion-dollar) programs—including those with non-contiguous sites, and up to 4,000 salaried, union, and subcontractor personnel—to meet challenging project and regulatory milestones. He has 11 years of project leadership with Atkins and working relationships with key partners as well as multiple bargaining units and state/federal regulators.

Mr. Parker has demonstrated leadership and application of lessons learned from large, complex nuclear D&D, remediation, and operations projects; forged a proven record transforming workforces to improve safety & health and quality assurance while accelerating schedule; created successful programs and shaped organizations into high-performing teams; and led transitions with thousands of line items and commitments.

### Key experience

- Project management
- Waste management on NRC, DOE and NDA projects
- Complex nuclear D&D projects

### Qualifications

BS, Mining Engineering, University of Idaho

Graduate Studies, Waste Management, Idaho State University

Licensed PE, B.C. #13852

Project Management, University of Michigan

Chair, Building Trades Union Council, Idaho

Special training: Rad Worker; OSHA HAZWOPER; Respirator /beryllium-qualified

Active Community Leader, Chamber of Commerce board member, honorary fireman

Active DOE Q Clearance

### Relevant to Decommissioning Experience Requirements and Skills

**EnergySolutions, Executive Vice President / Project Manager Projects, Products & Technology (PP&T) Division (acquired by Atkins in April 2016):** Alan provided project leadership and programmatic direction to the following nuclear, projects. During his tenure in this position Alan instituted safety principles to continuously improve project safety performance from a 2007 recordable case rate (RCR) of 1.74 to a first ever, best-in-class RCR of 0.00 in September 2015. During the same period, the DART rate continuously improved from 0.68 to 0.00. Key project experience includes:

**NRC Zion Nuclear Station Decommissioning (\$970M; 8 years):** Project management and client interface with Exelon, scope included; Engineering, construction, defueling operations and management of SNF, contaminated system removal, and demolition of buildings, waste management and NRC interface. Highlights include:

- Established and led integrated craft and engineering teams to achieve the safest, largest, and shortest duration nuclear defueling operation in NRC history. Challenged with critical-path fuel movements that could result in a \$265,000/day schedule slippage cost, he led S&M and work control improvements, focusing on preventive, predictive, and corrective maintenance. Accomplishments included: (1) helping institute off-critical-path pre-movement inspection and fuel bundle maintenance, reducing the schedule by 67 days; (2) directing plant modifications for primary cranes and mobile transport units, shortening loading times by 14% and reducing overland transportation times by 10%; (3) introducing two Panasonic robotic welders that reduced weld times by 22% and rad doses by 65%; and (4) developing a production/maintenance integration center. Directed safeguards and security operations including design and installation of "2020 next-gen" security system hardware and software, reducing protective force requirements by 28%. The security-related plant modifications instituted improved worker ingress and egress times by 8%, increasing productivity.

**NDA UK Magnox Sites Decommissioning (\$7.4B; 7 years):** Program Management and client interface for 10 nuclear licensed sites containing 22 commercial nuclear reactors. Scope included defueling operations, engineering, contaminated system removal, demolition of buildings and waste management. Highlights include:

- Introduction of safety management system and culture that resulted in the lowest safety statistics in the UK resulting in industry awards for safety including the Royal Society for the Prevention of Accidents and the award of the Sir George Earle trophy, awarded to the best safety performer in the UK industrial industry
- Implementation of work control improvements that reduced outage maintenance at three operating nuclear power stations from 80+ days to less than 50 days within a highly complex regulatory environment. including: (1) defining subcontracted scope items in greater detail; (2) granting advance purchase authority for long-lead equipment items; (3) planning equipment installations on an hourly basis; and (4) developing work packages to achieve a 90% worker utilization rate.
- Directed a value engineering life-of-plant extension program for the 40 year old, 480 MW Wylfa nuclear power station, resulting in a 5 year operating extension by the UK Office of Nuclear Regulation. Led his Magnox/PP&T team to update the authorization basis and documented safety analysis to show "no issues of nuclear safety significance." The extension resulted in documented NDA revenue of \$1.17B from operations.
- Reduced NDA liabilities for decommissioning the Magnox fleet by \$1.5B, through introduction of projects principles and innovation

**CH2M HILL (1997–2006), CEO/Project Manager; Idaho Cleanup Project and Rocky Flats; Senior Vice President/Deputy Project Manager, Hanford Tank Waste Project; VP of ER/D&D, Rocky Flats**

Alan directed three multi-billion-dollar DOE nuclear, chemical management, and environmental projects:

- Idaho Clean up Project (ICP) \$2.9B/10-year - VPP Star and ISMS-certified nuclear environmental clean up project with 2,200 personnel
- Rocky Flats Closure Project, \$3.96B - an ISMS-certified first-of-a-kind nuclear and environmental closure project with 4,000 personnel
- Hanford Tank Farms Contract, \$350M/year - 2,200 personnel.
- Alan's project management experience at ICP, Rocky Flats, and Hanford demonstrates his ability to instill a safe workplace environment, maintain labor harmony, and partner with clients, regulators, and stakeholders.

**Bechtel Construction, Inc. Senior Quality Control Engineer, Limerick Generating Station (1981-1990)**

**Conrail, Lead Pipefitter & Maintenance Pipefitter/Welder (1969-1981)**

**U.S. Navy Machinist Mate First Class (SS) - Machinery Division Leading Petty Officer (1971-1977)**

# Alexander D. Whittle, MEng, CEng

## Decommissioning Deputy General Manager

### Profile

With close to 20 years of experience across the Defense, Nuclear Energy, Infrastructure and Rail sectors, working in 4 very different areas of the world and in a variety of roles, he has the ability to take this experience and apply it to almost any situation to achieve a successful outcome. He is often relied upon to deliver maximum value to clients through a direct and efficient integrated approach.

His project management knowledge is complemented with a well-established engineering mindset, capability development background and systems thinking – first learned in the UK Defense and Nuclear Energy sectors, and then practiced in various roles including global design and virtual project delivery, major project mobilization and delivery across a variety of infrastructure domains and the change and growth of troubled businesses.

Alex has broad experience across an array of projects and programs, working in both supplier and client teams adding exceptional value and lateral thinking to complex problems, utilizing his technical, operational and project management skills. He thrives in unpredictable and challenging environments and enjoys bringing order to chaos.

### Key experience

- Project management
- Program Management
- Major Project Mobilization
- Planning
- Project Controls
- Risk Management
- Change Management
- Governance and reporting
- Capability and resource management
- Large infrastructure projects
- Nuclear Engineering
- Plant Life Extension
- Transportation of Nuclear materials

### Qualifications

Masters Engineering - Systems Engineering (UK)

Chartered Professional Engineer (UK)

Practitioner - Association of Project Management (UK)

### Experience with Atkins (2006 - Present)

**Project Management Office Lead – Reactor Decommissioning (USA) (01/2018 – Present)** - Current role focused on project management of the activities to successfully mobilize awarded projects, setup of the required project management functions to allow successful delivery and overall coordination and reporting.

**Head of Commercial Energy Business - North America (USA) (04/2017–01/2018)** - Following his performance in the role of Operations Director for the North America Commercial Energy Business, Alex was asked to take on the leadership of the group, with a goal of assessing future viability and market potential, reconfiguring and reorganization to better suit the future direction of the business. He was also the Project Director for all projects during this transition period.

**Major Project Mobilization Lead - Atkins Major Projects Unit (Global) (04/2017–09/2017)** - A focused additional role to develop a standardized global Project Mobilization and stand-up process for all Atkins major projects. Included presentations to senior and exec level management, global stakeholder engagement, review of best practice and interviews, combined with personal knowledge and experience to setup a single coordinated major project mobilization toolkit. Ultimately deployed on North American major projects and adopted by the Atkins Group.

**Business Manager - Atkins Energy Asia (USA) (07/2016–04/2017)** - Embedded within a (then) recent acquisition in the USA, Alex was responsible for the integration of the business into the Atkins Group and the organization and growth of the Asia Nuclear business. With a small team of project managers and technical experts, Alex focused on near term opportunities around decommissioning and treatment products to the Fukushima site in Japan and nuclear waste volume reduction facilities for the Chinese nuclear market. He successfully completed the transition role with contract awards in Japan and a JV established in China to pursue the Chinese nuclear decommissioning market.

**Growth & Operations Director - Atkins North America Transit & Rail (USA) (05/2014–07/2016)** - Responsible for the growth and development of an Atkins North America Transit & Rail business to support the envisaged market potential. In his 26-month leadership, he achieved:

- Team growth from 4 to >20 staff
- Successful launch of a rail signalling training program for Atkins new hires in collaboration with Atkins India business
- Pioneered the business change activity to establish a full business management process for the effective “new rail business” in the USA. Including systems, processes, tools and people.
- Coordination with the larger Atkins Group (UK, India, Middle East, Asia Pacific) to secure partnering and engagement to support North American Rail market opportunities. Setup of remote working process and delivery.
- Bid, secured and led the mobilization of the Purple Line light rail Design Build project (>\$100M) for Atkins

**Purple Line Light Rail Design Build Mobilization Director – Atkins North America (USA) (10/2015 – 06/2016)** - An integral part of the bid and proposal team, Alex performed a key role as the systems engineering lead and mobilization director for the bid team. Upon award, Alex, As the Mobilization Director, was responsible for the entire project mobilization of this >\$100M design project for the >\$2Bn capital project. He also grew the rail systems capability within Atkins allowing for a smooth transition once mobilization was complete.

**Head of Department - Atkins Global Design Centre Major Project Development, GDC (India) (04/2012–05/2014)** Responsible for the operations, delivery, growth and management of the Major Projects Division in the Atkins India Business. Included; team creation, project mobilization and delivery of multidisciplinary infrastructure / rail projects, resource management, the development of an India PMO to manage multiple projects and programs delivered by the India Design Center across the Atkins Group.

**Business Change Leader - Atkins India, GDC (India) (04/2012–05/2014)** - Representing the India Business in the Atkins Group-wide Business Improvement program. Being an advocate for change, leveraging considerable experience from the India operations for improved Atkins delivery. Leading the Global work sharing focus area within this program targeted with improving Group-wide collaboration – the first major initiative to result from the program.

Responsible for the ability of the India Business to support the Atkins Group in Major Project delivery through developing new processes and tools, staff mentoring, organizational change, governance functions and PM competencies.

**Program Manager - Riyadh Metro Package 3 Design / Build, GDC (India / Saudi Arabia) (06/2013–05/2014)** - Program Manager for the entire design team delivering the Concept, Preliminary and Detailed design from the Atkins India business to the client in the Kingdom of Saudi Arabia (\$3M pa revenue to Atkins India, >50 staff). Successfully mobilized the project from contract award through to steady state preliminary design before handover. Included rapid startup and design development to ensure client buy in and visualization of proposed design, engagement with landowners and stakeholders, collaboration with international JV partners (France, Spain, UK, and UAE).

**Program Manager - Contract 2, Roads & Drainage Infrastructure Design / Build, GDC (Qatar) (06/2012–01/2013)** Program Manager for the portfolio of projects contained within the Doha West area of Qatar, Middle East. Lead the teams responsible for the delivery of up to 10 simultaneous design projects covering multiple disciplines working to contractor timescales, with average revenue of \$3M to Atkins India and ~80 staff.



**Delivery Manager - North Al Wathba Residential Development Design, Global Design Center (UAE) (06/2012–08/2013)**  
Responsible for the design (Concept, Preliminary, Detailed) of the 18m<sup>2</sup> green field development in Abu Dhabi, UAE from the Atkins India business. Lead the multi-disciplinary design team to ensure all outputs were provided to the client within budget and representing a coherent and coordinated compliant design. Revenue of \$1.5M and ~35 staff.

**Discipline Lead - Atkins Nuclear Project Management (Global) (09/2011–04/2012)** - Lead the Project Management Profession across the Atkins Nuclear business units. Responsibilities include: Line management of ~20 staff, career path and competency development, single point of contact for nuclear project management, resourcing, pay & promotions, inter-Atkins networks, understanding client future requirements and associated capability and capacity needs.

**Project Director - Graphite Core Remote Inspection, EDF Energy (UK) (02/2011–04/2012)** - Project Director for the team embedded with the client, conducting remote inspections of the current reactor cores through robotic tools and devices. Provided valuable service to the client for an operationally critical cyclical inspections routine,

**Project Director - Periodic Safety Review (Phase 3) - EDF Energy Nuclear Power Fleet (UK) (0/2010–04/2012)**  
Responsible for the team working with EDF Energy to develop their periodic safety review, including a cold-eye review of the work stream and implementation of improvements for the subsequent safety review.

**Project Director - Program Management Office - Graphite Team, EDF Energy (UK) (10/2010–04/2012)** - Responsible for the inauguration and growth of a successful and integrated PMO for the client utilizing embedded Atkins staff. Held up as exemplary across the client organization in the organization, work management, integration and governance of the \$20M+ annual budget for a vast array of engineering and research projects.

**Project Director - Seismic Analysis of the EDF Energy Graphite Reactor Cores, EDF Energy (UK) (10/2010–04/2012)**  
Project Director overseeing the Atkins team developing the safety case supporting calculations and evidence for seismic compliance for the UK Nuclear Reactor cores. Highly complex modeling and simulation experimental project delivering real value to the client allowing the extension of existing safety cases for continued safe operation.

**Program Manager - Materials Test Reactor Project, EDF Energy (Secondment) (UK) (06/2009–04/2012)** - Fully client embedded Program Manager acting with delegated authority from the client, managing a highly complex and significant materials nuclear test reactor program on behalf of EDF Energy. Challenging project due to unproven technology, critical to EDF continued nuclear operations, complex stakeholders and the inherited state of the project. Responsibilities included managing political landscape, technical obstacles, multinational supply chain, difficult internal / external stakeholders, geographically separate teams. Successfully turned the project around, leaving an exemplar project recognized by EDF Energy and Atkins.

Led the development of the entire project controls process implementation and management to the satisfaction of the client. Responsible for annual client budget of >\$5M, with whole life costs +\$30M. High pressure environment due to the novel and research nature of the project yet required to deliver specific needs to support numerous safety cases that are key to life extension of the EDF Nuclear power station fleet.

Obtained approval for funding for the entire project through the EDF Investment process, through detailed business case and investment appraisal stakeholder management. Process followed, documentation produced and resulting approval held up as best practice by EDF Energy, with it now used as a template for all future investment requests across the EDF Energy business. Continuously driving improvements. Trusted and well respected member of the client team.

**Program Manager - Graphite Core Program. EDF Energy (UK) (02/2009–06/2009)** - Fully embedded Program Manager acting on behalf of the client, responsible and managing +\$20M pa client budget. Challenged and successfully completed the revitalization of a traditionally difficult role, turning Atkins provided program management function into an essential Atkins service. Management of many stakeholders, running of wider stakeholder roadshow events, risk exposure, financial planning, EDF Energy senior management briefing and engagement, governance and reporting.

**Contractor Selection Lead - Future Rapid Effects System (FRES) (Client embedded) (UK) (10/2006-02/2009)** - Multi-\$Bn procurement program to select the next fleet of armored fighting vehicles for the British Armed Forces, Atkins provided client support as a “customer friend” to ensure the client achieves best value for money, on time and quality outcomes to their tendering process. Alex led the optioneering development program, responsible for establishing the modifications required for each contractor proposed solution (military vehicles) to achieve an acceptable level of risk for the client Investment Decision and British Army. Technical judgement of the proposed contractor options, corresponding capability improvements balanced against budget, timescales and operational constraints. He provided significant input into the investment appraisal for securing funds at stage gate reviews, including briefings to and negotiations with Senior Civil Service individuals, Government officials and military personal.



## [Previous Experience](#)

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**Deputy Engineering Manager - A400M Aircraft Training Solution, Defense Procurement Agency, UK Ministry of Defense (UK)**

**Engineer - Various positions, UK Ministry of Defense / Industry embedded (UK)**

- Hawk Production Projects, BAE Systems
- Wittenstein Aerospace and Simulation Ltd
- Sea Technology Group, UK MoD

**Engineer - Tactical Data Links Project Team, UK MoD**

**Engineer - Alenia Marconi Radar Systems (UK)**

# Mark R. Lawson

## Radiation Protection Manager

### Profile

Mr. Lawson has over 25 years of accomplished leadership experience among first line supervisor to director level oversight. He has provided successful supervision to senior manager level leadership in various nuclear atmospheres to include commercial power, DOE, D&D, test reactor and naval shipyard environments. Has overseen proper development, coordination and execution of personnel and resources to ensure successful safe plant operations within approved schedule timelines and within budget. Driven the achievement of excellence in performance using various industry and station metrics to ensure best practices are understood and achieved. Developed and implemented department mission, vision and excellence plans aligned with station and corporate goals. As senior manager, he achieved industry best results in nuclear, radiological and industrial safety by excellent use and communication of change management plans, corrective action programs, metrics and personnel accountability.

### Key experience

- Radiation Protection Manager, TVA, Browns Ferry 6/15 to 5/17
- Radiation Engineering Supervisor, TVA, Browns Ferry, 8/14 to 5/15
- Radiation Protection Manager (RPM) / Chemistry Manager, 5/08 – 8/09, Fermi Nuclear Station

### Qualifications

Associate of Science in Applied Science Technology, ITT Technical Institute 6/87

US Navy Nuclear Machinist Mate (MM) / Electronics Laboratory Technician (ELT) (80 hours equivalent towards Bachelor of Science in Applied Science and Technology, Nuclear Engineering Technology; Thomas Edison State College), 1994

Prototype Nuclear Propulsion Plant, 5/89-11/89, U.S. Navy

Nuclear Power School, 11/88-5/89, U.S. Navy

Machinist Mate "A" School, 8/88-11/88, U.S. Navy

Nuclear Senior Mechanical Operator Certification, U.S. Navy

### Experience

**BHI Energy, Wolf Creek Nuclear Generating Station (3/2018 - 6/2018) - Senior Health Physics Technician** - Auxiliary Building coverage in an outage environment. Work included valve maintenance and heat exchanger work.

**TVA, Browns Ferry Nuclear Power Station (6/2015 - 5/2017) - Senior Manager, Radiation Protection:** Senior Station Manager accountable for Radiation Protection organization upholding all Regulatory Compliances of a 3 unit boiling water reactor station. Review and approvals of site plans pertaining to Operations, Maintenance, Projects, Engineering and Nuclear safety.

**TVA, Browns Ferry Nuclear Power Station (8/2014 - 5/2015) - Radiological Engineering Superintendent:** Responsible for ALARA dose reduction initiatives for both online and outage periods for a 3 unit boiling water reactor station. These included implementation of online noble metal chemistry, innovative shield packages and remote tooling for higher level dose rate activities. Held station departments accountable for achieving lower dose goals through approved dose reduction plans.

**COC, TVA, Chattanooga, TN (9/2010 - 7/2014) - RP SFAM/Nuclear Duty Officer:** Maintain close coordination and accurate exchange of key information regarding NPG site status and unit availability with the NPG Leadership Team and other business units. Determine need to initiate event response teams; facilitate as needed for site support. Perform functions supporting the Governance and Oversight Model for NPG. Coordinate with Corporate Functional Area Managers to champion specific initiatives in each discipline.

**Enrico Fermi Nuclear Power Plant (1/2010 - 9/2010) - Manager, Outage Planning:** Online and outage work control initiatives to source term reduction and risk management, organization of Station ALARA Committees, refuel outage planning, risk reduction approaches to radiological safety incorporated into RWPs and ALARA reviews, use of shielding and PPE as an absolute last resort approach, development of 5 year dose reduction plan for top decile plant performance.

**Enrico Fermi Nuclear Power Plant (5/2008 - 8/2009) - Manager, Radiation Protection / Chemistry:** Manages both Radiation Protection and Chemistry organization upholding all Regulatory Compliances. Performed successful Change Management processes in both program and cultural realms. Manages decommissioning compliance of Fermi 1 activities. Successful budget recovery plans. Re-engagement of existing staff experience and talents.

**Enrico Fermi 2 Nuclear Power Plant (4/2008 - 7/2007) - ALARA Supervisor:** ALARA Group management functions, work control and scheduling, man loading requirement estimations, CARD management, RWP/ALARA Review generation.

**Enrico Fermi Nuclear Power Plant (Bartlett) (2/2007 - 6/2007) - Senior Health Physics Technician:** Drywell coverage in a fast paced outage environment. Work included valve maintenance, primary pump replacement, spent fuel pool rerack and other various trade maintenance.

**Idaho National Engineering & Environmental Laboratory (5/2006 -12/2006) - Senior Radiological Control Technician:** Maintenance support at the Advanced Test Reactor Site. Work included has been primary loop decontamination, heat exchanger eddy current testing, heat exchanger tube plugging and major valve replacement.

**Fermi Nuclear Power Station (3/2006 - 4/2006) - Senior Health Physics Technician:** Drywell support to include undervessel activities, value packing replacement, routines, insulation removal, scaffolding, etc.

**Idaho National Laboratory (5/16/2005 - 6/15/2005) - Senior Radiological Control Technician**

**Rocky Flats Environmental Technology Site (Bartlett) (7/2000 - 5/2005)**

**Deputy Project Manager. (1/2005 – 5/2005)** - Duties included: MARSSIMS characterization for final status surveying of Buildings 371/374, managing final survey team of 24 technicians, mapping and characterizing various leveled areas and assisting in creation of final status survey reports for both DOE and State representatives.

**Radiological Supervisor B371/374 (4/2003 – 12/2004)** - Duties included final decontamination/decommissioning of all Alpha transuranic contaminated building systems <2000dpm/100cm<sup>2</sup>. Supporting Washington Group International crews. Operations included removal of contaminated equipment, piping, tanks, surfaces and scabbling of exposed contaminated surfaces. Management of 30 technicians.

**Radiological Supervisor B371/374 (11/2002 – 3/2003)** - Duties included: Initial decontamination/decommissioning of all Alpha transuranic contaminated building systems >2000dpm/100cm<sup>2</sup>. Supporting Kaiser Hill house crews. Operations included removal of contaminated equipment, piping, tanks, surfaces and scabbling of exposed contaminated surfaces using supplied air systems and tent enclosures. Management of over 130 technicians and 4 other supervisors.

**Radiological Supervisor (6/2000 – 10/2002)** - Duties included: WIPP shipment operations from initial surveying of containers from building arrival to final surveying and loading. Headspace Gas Sampling and Container Repackaging. Management of 16 technicians.

**Radiological Technician (2/2000 – 5/2000)** - Duties included: Final status Survey of various temporary facilities throughout RFETS prior to final demolition/removal.

**Radiological Technician (11/1999 – 1/2000)** - Duties included final status survey of remaining Building 779/782 surfaces after final equipment/system removal. Responsible for upkeep of all survey equipment and meters.

**Rocky Flats Environmental Technology Site (Bartlett) (11/1999 - 7/2000) - Senior Health Physics Technician**

**Byron Nuclear Power Station Senior Health Physics Technician (10/1999)** - Duties included: assigned to valve maintenance/inspection crews to monitor personnel of stay times and local exposure during entries. Supported all other various independent inspections of QC/QA personnel.

**Comanche Peak Steam Electric Station (Bartlett) (9/1999 - 10/1999) - Senior Radiation Protection Technician:** Serving on the steam generator team supporting nozzle dam/manway installation and removal, bowl surveys, platform support, steam generator eddy current testing, general containment valve maintenance support and containment surveys.

**Pilgrim Nuclear Power Station (Bartlett) (5/1999 - 6/1999) - Senior Health Physics Technician:** Providing general coverage in the drywell to include feedwater nozzle survey coverage, CRD removal/installation coverage, MSIV poppet removal (C valve), IRM detector removal and recirc check valve 68 B replacement.

**Comanche Peak Steam Electric Station (Bartlett) (3/1999 - 4/1999) - Senior Radiation Protection Technician:** Serving as a member of the steam generator team, refueling team and valve maintenance team and as general containment worker. Performed steam generator nozzle dam installation/eddy current testing, bowl and loop room surveys, equipment transfer/removal and provided overall radiological support.

Performed spent fuel removal, personnel monitoring and cavity drain surveys. Provided overall support of 2 major valve removals. Conducted routine surveys and supplied loop room maintenance support.

#### **Non-Nuclear Employment (3/1999 - 9/1998)**

**Air Quality Services, Marietta, GA (7/1998 - 9/1997) - Environmental Science Project Manager:** Scheduling, planning and special project testing of all indoor environmental chamber operations including internal QA audits. Responsible for care, calibration and maintenance of all industrial hygiene median and equipment used for lab services.

#### Experience with U.S. Navy (8/1988 - 5/1997)

#### **Leading Supervisor/Nuclear Chemist/Radiological Controls**

##### **Engineering Laboratory Technician**

- Supervising shop of up to 25 personnel responsible for the chemistry and radiological controls of two A4W nuclear power plants and was awarded the Navy Achievement Medal in recognition of superior leadership practices.
- Oversaw the initial setup process of the procurement operations with the reactor department and was awarded a second Navy Achievement Medal of exemplary performance and professionalism.
- As dosimetry supervisor, oversaw the development and implementation of a health program responsible for the radiation inspection of up to 600 personnel.
- Performed contamination and radiation surveys to maintain safe radiological control.
- Selected to act as the department instructor responsible for the simultaneous training and qualification of up to 60 personnel in the areas of nuclear chemistry and radiation control.
- Prepared and conducted complex instructional programs in the classroom as well as on the job, covering subjects from chemistry sampling and analysis to nuclear reactor safety.
- Acted as a counselor and mentor to hundreds of apprentice nuclear engineers, enhancing learning awareness to maximize professional and personal development and growth.
- Awarded "Command Sailor of the Quarter" twice for outstanding performance as an instructor during the first quarter 1996 and the first quarter 1994.
- Executed various administrative duties including accurate records keeping and analyzing reports.

**Newport News Shipyard (4/1996 - 5/1997) USS Harry S. Truman, (nuclear carrier during initial precommissioning phase) Department Instructor/Reactor Training Divisional Supervisor/Radiological Controls Instructor**

**Newport News Shipyard (12/1993 - 3/1996) - USS John C. Stennis (nuclear carrier during initial precommissioning phase) Dosimetry Supervisor/Divisional Supervisor/Leading Engineering Laboratory Technician/Reactor Room Supervisor/Drill Team/Initial Procurement Director**

**Portsmouth Naval Shipyard (10/1990 - 11/1993) - USS Virginia (nuclear cruiser ending with decommissioning phase):** 2 major overhauls prior to decommissioning to include primary valve and reactor drain system filter bank replacement, shipyard radiological "tiger team" member. Provided overall radiological support during decommissioning phase. Also Dosimetry Supervisor, Leading Engineering Laboratory Technician, Engine room Supervisor, Plant Supervisor, QA Inspector and Audit/Eval/Surveillance Supervisor

**Newport News Shipyard (nearly 3 years) USS South Carolina (refueling)**

**Portsmouth Naval Shipyard (6 months) USS Mississippi (overhaul):** Providing radiological overhaul support.

# Andrea L. Sterdis

## Regulatory Affairs

### Profile

Ms. Sterdis has over thirty-seven years of experience in the nuclear energy field. She has acquired a depth of knowledge and experience in a number of disciplines including nuclear safety evaluation and analysis; instrumentation design, engineering and implementation; NRC regulation, permitting and licensing; environmental regulation and permitting; project management and planning; contract negotiations; new plant development; and decommissioning/ nuclear waste management. These positions have given her the opportunity to develop strong communication and management skills. She has had the opportunity to interact with utility and large vendor executive management; as well as government elected officials at the local, state and federal levels. She has also had the opportunity to present at public meetings including NRC Commission and Advisory Committee on Reactor Safeguards (ACRS) meetings.

### Key experience

- Nuclear safety
- Regulatory affairs
- NRC regulation
- Instrumentation design
- Environmental analysis
- Project management

### Qualifications

Masters of Science, Engineering and Public Policy; PhD study including successful implementation of the qualifying examination, Engineering and Public Policy, Carnegie Mellon University, Pittsburgh, PA

Bachelors of Science, Electrical Engineering, Carnegie Mellon University, Pittsburgh, PA

### Decommissioning Experience

**Atkins, Director, Licensing and Regulatory Affairs:** Develop and manage Licensing and Regulatory activities for support of nuclear plants including operating plants, new construction projects, proposed designs and decommissioning.

**Holtec, SONGS Decommissioning Proposal Development Team:** Key responsibilities as a member of the Team Holtec proposal development team included the development of multiple proposal sections including the Regulatory and Environmental, Plant Transition and Integration Proposal Sections. The Team Holtec proposal included assuming responsibility for completing the SONGS ISFSI expansion project (a Holtec International existing project), and the development of strategies for cost-effective, regulatory compliant low-level waste disposal strategies.

**SONGS, Decommissioning Nuclear Regulatory Affairs Manager:** Responsibilities included the primary interface between SONGS and the NRC (both Rockville and Region IV organizations) from the initial interactions with the NRC following SONGS' submittal of the key decommissioning regulatory documents through submittal of responses to NRC Requests for Additional Information. Key responsibilities included: developing critical relationships between NRC Rockville organizations including the Division of Reactor Licensing, Nuclear Security and Incident Response (Emergency Planning, Physical Security and Cyber Security), and Nuclear Reactor Regulation (sections responsible for review of spent fuel safety including systems and safety analysis as well as ISFSI expansion); developing strong site cross-organizational understanding of decommissioning regulatory requirements to support an integrated site transition to decommissioning; ensuring the appropriate, integrated and consistent use of regulatory change processes (e.g., 10 CFR 50.59, 10 CFR 50.54 (a), 10 CFR 50.54 (q), etc.) as the site transitioned to decommissioning, implemented cold and dark systems, including site/organization implementation of programmatic changes and plant staffing level reductions; establishing and implementing an effective process for responding to NRC Requests for Additional Information (RAIs) to avoid previous experience with multiple rounds of RAIs; developing critical relationships with NRC Region IV recently assigned; developing and implementing change management plan for transition from operating plant (site resident) to decommissioning oversight; developing and implementing a site process to prepare and conduct NRC inspections resulting in improved NRC feedback and integrated site involvement and support.; providing the regulatory oversight for the development of several critical submittals including the Cyber Security Milestone 8 License Amendment Request, the initial SONGS Decommissioning Quality Assurance Program, ISFSI expansion regulatory documents, and the initial SONGS UFSAR reflecting permanently shutdown status; Providing regulatory support to the engineering and decommissioning team efforts for Cold and Dark design and ISFSI expansion, including procedure and procurement/contract development efforts to ensure regulatory alignment; providing regulatory section inputs to the Decommissioning General Contractor Request for Proposal (RFP); continuously benchmarking the current decommissioning fleet to determine best practices, lessons-learned and other feedback.

**SONGS Manager of Controlled Documentation Management:** Responsibilities focused on the archival of Quality Records for SONGS Units 1, 2 and 3 and the ISFSI. The position posed some unique challenges since a Nuclear Oversight Division audit conducted in Spring 2014 had identified two significant 10 CFR 50, Appendix B non-compliances in the CDM area. Therefore, the primary focus when assuming this position was to put into place a recovery plan to correct non-compliance issues identified in the audit.

**Tennessee Valley Authority, General Manager, NPG Project Management Nuclear Power Group, Chattanooga, TN:** Responsibilities included overseeing TVA Nuclear Power Group (NPG) fleet-wide project management for capital and O&M projects. Fleet project portfolio had averaged \$350M annually for the fleet of six units operating at three sites. Key responsibilities included: Fulfilling the role of Corporate Functional Area Manager for the TVA nuclear fleet project management. Responsible for fleet project management Governance and Oversight including the development and implementation of project management processes and procedures based on PMBOK and TVA corporate Project Management models and processes; development, prioritization and management of NPG fleet capital and O&M project portfolio and long-range plan; project planning and implementation for corporate-owned projects including Fukushima safety related upgrades. Focus is on project planning (Phase 1) and engineering design/contracting/long-lead items (Phase 2). Corporate portfolio size had averaged \$150M during FY2013 and 2014; TVA representative to the INPO Project Management Working Group; NPG representative to the TVA Corporate Project Management Peer Team.

**Tennessee Valley Authority, Senior Manager, Strategic Nuclear Expansion Nuclear Generation Development:** Primary position responsibility is to direct the development and implementation of a plan to deploy the first-of-class SMR at the Clinch River Site. Critical tasks included overall project direction for the development of a Construction Permit application for submittal to the Nuclear Regulatory Commission.

**Tennessee Valley Authority, Manager, Licensing and Industry Affairs Nuclear Generation Development and Construction:** Responsibilities included managing licensing, regulatory and industry activities for Nuclear Generation Development and Construction projects including the Bellefonte AP1000 Combined Operating License Application and the Bellefonte Units 1 and 2 project re-start. Experiences further developed existing management, licensing and regulatory skills and developed skills for managing and implementing TVA NEPA (National Environmental Policy Act) requirements. Significant accomplishments include the following: Leading the effort to establish Nuclear Regulatory Commission re-instatement of the Bellefonte Units 1 and 2 Construction Permits. This included the development and successful implementation of a framework to transition the re-instated Construction Permits from terminated to deferred status; Completion of a Supplemental Environmental Impact Statement evaluating the environmental impacts of the completion of Bellefonte Unit 1.

**Westinghouse Electric Corporation, AP1000 Manager, Licensing and Customer Interface, Pittsburgh, PA:** Responsibilities included managing licensing, regulatory and industry activities for the development of the AP1000 advanced light water reactor. Position was defined as the single point of contact between the NRC and Westinghouse for all AP1000 design certification and licensing issues. The Licensing and Customer Interface organization was responsible for the development and implementation of licensing and regulatory positions, NRC

submittals, and compliance documentation. Responsibilities also included the coordination of customer interfaces with NuStart, TVA, Southern Company, South Carolina Electric & Gas, Progress Energy, Duke Energy and Florida Power & Light for the licensing and engineering work supporting the development of their Combined License Applications. Critical skills for this position included supervising senior technical and project manager resources, written and oral communication abilities, strong integration and organization abilities, as well as critical and strategic decision making.

**Westinghouse Electric Corporation, Engineer, Nuclear Safety:** Ms. Sterdis held a variety of positions performing safety evaluations including 10 CFR 50.59 evaluations, developing instrumentation functional requirements for safety-related systems, developing designs to address post-TMI requirements, addressing various potential safety issues for near-term and operating Westinghouse PWRs.



# Michael E Shepherd

## Spent Fuel Management

### Profile

Mr. Shepherd is a nuclear operations and business development executive with 40yr+ of success and experience in the nuclear power industry. Mr. Shepherd has been involved with all aspects of nuclear power, from initial design of Pressurized Water Reactor (PWR) and Boiling Water Reactor (BWR) facilities ( Davis-Besse 2,3; Grand Gulf 1,2) , to construction of BWR facilities ( Hope Creek, Shoreham, Limerick, Susquehanna) , including erection and assembly of the reactor internals, to initial start up and commercial operations at 2 BWR's ( Limerick 2, Shoreham), then into BWR field servicing, reactor modifications, and refueling operations, and rising to leadership positions for operating plant services. In addition to Mr Shepherd's deep nuclear background, he has been involved with other elements of the power industry, including steam and gas turbine/generators, water processing and treatment ( including mobile water processing for nuclear units), transmission and distribution, hydroelectric generation, and renewable energy platforms. Mr Shepherd is a recognized executive in the nuclear industry for over 20 years.

### Key experience

- GE Account Executive for ComEd/Exelon – responsible for steam dryer repair/replacement, jet pump repairs, vessel inspections, extended power uprate execution, vessel internals repairs, generator rewinds, license renewal.
- GE Site Manager – for Pilgrim Station, responsible for shroud repair, vessel inspection, low pressure rotor replacements, switchyard breaker replacements, hydrogen water chemistry implementation
- Start Up Engineer for Shoreham, Limerick, and Vermont Yankee.
- BWR Refuel Floor Director for Peach Bottom, Limerick, Vermont Yankee, Pilgrim, Susquehanna
- ECCS System Engineer – High Pressure Core injection ( HPCI).

### Qualifications

Masters in Business Administration  
Northern Illinois University

BS in Mechanical Engineering  
Northeastern University

GE Sr. Reactor Operator Certification  
BWR-6 Perry Nuclear Power Station

GE Sr. Reactor Operator Certification  
BWR-4 Limerick Generating Station

### Professional associations

Member, American Nuclear Society

### Experience

#### Operations and Business Development (1990 - present):

**SNC-Lavalin** - Vice President responsible for all sales and execution for the US market for Nuclear Generation, Transmission and Distribution, Fossil Generation, Hydro Generation, and Renewables. Focus area – servicing the US Commercial nuclear fleet. Key leader in the integration of Atkins Global US Commercial Nuclear Services Group.

**Babcock & Wilcox** - Vice President responsible for initial launch and development of the mPower Small Modular Reactor; and growing a sustainable nuclear services platform of nuclear services, including PWR steam generator inspection services, modification services, and new equipment sales and delivery. Key executive role in the completion of the BWR condenser replacement at Columbia Generating Station, and the Steam Generator Replacement Project at the Prairie Island 2 station.

**General Electric** - Acct Executive and Director for operations support, and business development for the GE Nuclear Energy, Power Generation, Water & Process Technology business units. Key accomplishments during this period include:

- Account Executive for Exelon from 2001 thru 2005; single point of contact executive responsible for all GE engagement with Exelon's nuclear operations, as well as fossil and hydro generation ,and transmission & distribution.
- Account Executive for Commonwealth Edison (ComEd) from 1998 – 2001; was a key member of the ComEd executive leadership team led by Oliver D Kingsley, completing the successful turnaround of the operations of 6 BWR's from the worst performing units in the US to top decile performing nuclear units. Recognized by Mr. Kingsley as the single OEM member of the ComEd executive team that contributed the most to that successful effort.
- Site Manager/acct mgr for Boston Edison for the Pilgrim Nuclear Power Station from 1990-1995; was responsible for all GE OEM activities in support of the Pilgrim's operations, including nuclear fuel, reactor services, turbine generator services, engineering support, and plant operations and maintenance services. Responsible for the day to day GE activities thru the period of Pilgrim's ascension to a top performing BWR facility.

**General Electric** – Field Engineer, Start Up Engineer, Modification Engineer from 1980 – 1990. Trained by GE on all aspects of BWR operations and maintenance as an entry level engineer; had a variety of assignments as part of development to a management level position. Key assignments include:

- BWR New Construction - as mechanical field engineer, worked on BWR reactor internals installation and assembly assignments for Limerick, Susquehanna, and Hope Creek
- BWR Start Up Operations – as startup testing engineer, responsible for completion of all Nuclear Steam Supply System (NSSS) system construction for Shoreham; executed initial checkout and energization, pre-operational testing of several Emergency Core Cooling system ( ECCS) for Limerick 2, and was a GE Shift Power Ascension Director for both Shoreham and Limerick 2, to complete all power operations testing as allowed by NRC License; 5% at Shoreham, 100% at Limerick 2.
- BWR Reactor Servicing and Modifications – as refueling outage engineer, had a number of assignments at operating nuclear units for outage support. Project engineer on the Core Spray Spray Sparger modifications for Oyster Creek and Nine Mile 1, Feedwater Nozzle/Sparger modifications for Peach Bottom, refuel floor engineer for outages at Peach Bottom, Susquehanna, Vermont Yankee, Pilgrim, & Limerick
- BWR operations - completed Senior Reactor Certification at the Perry Nuclear Power Station, and certification for the Limerick Generating Station

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#### Items of Interest

Mr. Shepherd was a key contributor, facilitator, and manager of Exelon's Outage Excellence Program, establishing new benchmarks for safe, efficient and world class schedule performance of refueling outages. The establishment of new benchmarks and processes significantly reduced overall duration of outages; from months to days, establishing industry performance templates for safe, cost effective refueling outage execution; contributing substantially to cost effective operation of nuclear plants in today's environment.

# Russell A. Mellor

## Decommissioning Subject Matter Expert

Profile	Key experience	Qualifications
Russ Mellor is a recognized nuclear industry leader with over 40 years of experience in developing strong teams to achieve environmental remediation, operations, decommissioning, demolition and cleanup. He brings a proven track record in leading change during extensive organizational and strategic restructuring including transitions from operations to decommissioning. He is recognized for strategic planning and cross cultural expertise both commercially and with government agencies. He is an effective change agent leading decommissioning while keeping ongoing delivery of operating missions effective.	<ul style="list-style-type: none"> <li>• Nuclear decommissioning</li> <li>• Nuclear operations</li> <li>• Projectized cleanup including environmental remediation, decommissioning and demolition</li> <li>• Change agent for organizations from 100 to over 2000</li> </ul>	<p>MS, Chemistry, University of Massachusetts</p> <p>BS, Chemistry, University of Massachusetts</p>

### Experience with Comprehensive Decommissioning International (CDI) (2018 - present)

#### Decommissioning Subject Matter Expert

### Experience with Shiprock Consulting LLC (2014 - 2018)

#### Nuclear Decommissioning Consultant

- Providing expert services to the nuclear decommissioning industry including change management, decommissioning strategies and project implementation.
- Recent clients include Holtec International, EACL Consulting, and B&W. Tasks include proposal development for commercial nuclear power decommissioning programs (e.g., SONGS, plants and Entergy plants) support for B&W effort related to the AECL GOCO competition and reviews of Pickering Station readiness to begin decommissioning.
- Focus for primary client, Holtec International, is the 2018 creation and support of Holtec Decommissioning International a fleet oriented decommissioning plant owner with pending acquisitions of Pilgrim Nuclear Generating Station, Oyster Creek Nuclear Generating Station and Palisades Nuclear Generating Station

### URS (2013 – 2014)

#### Vice President

- Provides corporate support to Executive Vice Presidents responsible for GMOS Domestic Performance Assurance, International Performance Assurance, Special Projects and Business Development
- Performs as member of Independent Assessment Teams for sites / projects.

- Provides corporate oversight and support to decommissioning projects across the URS-GMOS portfolio, approximately \$4.7 billion annually.
- Provides the forcing view and initiative for corporate objectives requiring culture change from operations mindset to decommissioning objectives and structure.

#### Whiteshell Laboratories (WL) (2011 – 2013)

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##### Site Head and General Manager

- Responsible for all site operations and decommissioning (400 staff & contractors)
- \$1.5 Billion (CAN) 50 year project with current focus on laboratories and research reactor decommissioning
- Directed development of WL Strategic Plan reducing the main site area decommissioning time in half (25 to 12 years) and set out the remediation and decommissioning

#### Sellafield Ltd. (2008 – 2011)

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##### Executive Director Decommissioning

- Led all decommissioning activities on the Sellafield site to include the Windscale licensed site and key capital projects required to achieve waste retrieval and decommissioning (Capital Cost - \$2.3 billion)
- Led the transition of Sellafield Ltd decommissioning to a delivery focused organization with a primary focus on the safe accelerated delivery of legacy waste retrieval from 1950 vintage open air ponds, dry silos, and wet silos
- Led the Decommissioning organization to improved safety performance year-on-year
- Performed £470 Million of decommissioning scope work for £418 Million in FY2010/2011 achieving an SPI of 1.03 and a CPI of 1.10 demonstrating a change in the Decommissioning Directorate performance paradigm
- Established the first realistic Sellafield legacy facility decommissioning cost and schedule baseline
- Reduced the planned time for retrieval of legacy waste from the legacy facilities by an average of 25% through the application of value stream analysis, rapid improvement events to adjust methods and sequencing, innovations, and project management process improvements. Lifetime costs were reduced by £5 Billion

#### Washington Group International (2006 – 2008)

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##### Proposed Clean-up Director the Sellafield PBO

- Led the development of the strategy and approach for environmental remediation, decommissioning, demolition and cleanup for the NMP management and commercial plans, competitive dialogues, case studies and decommissioning cost benefit models for the successful NMP Sellafield PBO bid

#### West Valley Nuclear Services Company (2003 – 2006)

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##### President

- Led the safe management and decontamination of the commercial spent nuclear fuel reprocessing facility at West Valley, including a staff of 600 employees and contractors and a budget of over \$100 million per year.
- Implemented widespread operational changes, including elevating the Safety Manager to a direct report to the President, significantly improving the site's safety culture, which resulted in the lowest total recordable injury rate in 20 years.
- Transitioned the staff from an operations culture to a projectized dismantlement and decontamination mission. Managed change by leading a team-building process for the rapidly changing organization, ensuring the respect of diversity and use of talent to maximize team effectiveness.

## Connecticut Yankee Atomic Power Company and Yankee Atomic Electric Company (1997 – 2003)

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### President & Chief Executive Officer (2000 – 2003)

- Accountable for the executive management of both companies, including all financial, operational, regulatory, quality, community and political aspects of decommissioning and spent fuel storage, with a lifetime budget of approximately \$1.3 billion.
- Focused team efforts on safety, completing 60 percent of the decommissioning task while maintaining a lost-time accident rate of less than 0.1.
- Led the planning and construction of a dry storage facility and initiated movement of all spent nuclear fuel to dry storage onsite.
- Led the Connecticut Yankee effort to defend the US Nuclear Regulatory Commission (NRC) required License Termination Plan against intervention by a regionally organized anti-nuclear group. Subsequent to extensive team testimony before the NRC Atomic Safety and Licensing Board, the Board determined the intervenor contentions were without merit. The NRC subsequently approved the Connecticut Yankee License Termination Plan.

### Vice President Operations & Decommissioning (1998-2000)

- Established culture change (setting standards and expectations) from an operating to a decommissioning culture, including any needed staff reductions, reorganization, and change to an industrial safety focus.
- Led all aspects of the decommissioning scope, budget, planning, quality, oversight of dismantlement and operation of the spent fuel storage facility at the Connecticut Yankee Haddam Neck site. Ensured that all regulatory requirements were met, and established good relations with the community, regulatory agencies and other stakeholders.
- Completed the US NRC license transition from an operating nuclear power facility to a shutdown facility, including the submission of numerous license changes and modification of essential licensed programs, such as emergency planning, quality assurance, security and training.
- Assisted in obtaining approval of the decommissioning cost estimate by the US Federal Energy Regulatory Commission.
- Built strong relationships with public stakeholders and regained the trust of regulators through open, honest, and frequent communication.
- Restarted radiological work and implemented a phased approach to decommissioning in compliance with US NRC license requirements. Completed a full system decontamination of the reactor cooling system, lowering projected doses for decommissioning by over 50 percent.
- Directed radiological evaluation of over 150 off-site properties over 3 states for contamination that was inadvertently released from the site during its operating years. Over 50 properties were remediated to stringent specific cleanup standards agreed upon by regulators and to the satisfaction of property owners.
- Directed the procurement of technical services from the US supply chain, including significant contracts for remote cutting of reactor internals, steam generator removals and spent fuel dry storage system design, construction and transfer at Yankee Atomic. Shared responsibility for a competitive dialogue process for selection of a turnkey contractor for all decommissioning activities (except wet spent fuel storage) at Connecticut Yankee at a value greater than \$250 million.
- Effectively transitioned the Connecticut Yankee organization to an oversight organization, responsible for spent fuel pool operations and contractor oversight.

### Director, Operations and Decommissioning (1997–1998)

- Ensured that the operational and decommissioning scope, budget, quality and schedule requirements for the Connecticut Yankee Atomic Power Company were met and were consistent with the safe storage of spent nuclear fuel and safe decommissioning of the site. The project had a total estimated cost of about \$427 million.
- Presented regular decommissioning progress reports to the Connecticut Yankee Board of Directors and the Community Decommissioning Advisory Committee.
- Oversaw chemical decontamination of reactor coolant systems to significantly reduce exposures of workers performing cleanout activities.
- Served as a key member of the independent oversight committee at Maine Yankee Atomic Power Company (Nuclear Safety Assessment Board) ensuring that all engineering, decommissioning, licensing, budgeting, planning, operations, characterization and spent fuel storage activities were properly executed.

## Yankee Atomic Electric Company (1973 – 1997)

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### **Operations & Decommissioning Manager (1995 – 1997)**

- Managed the safe and cost-effective decommissioning for the Yankee Nuclear Power Station, with a total project cost of approximately \$341 million.
- Coordinated and supervised all engineering, decommissioning licensing, budgeting, planning, site dismantling and spent fuel storage activities.
- Served as member of independent oversight committee for Nuclear Safety, Audit Review and Radiation Oversight for Maine Yankee Atomic Power Company.
- Served as Chairman of the Maine Yankee Radiation Protection Sub-Committee, with overview of the Radiation Protection Program.

### **Decommissioning Manager (1994–1995)**

- Coordinated and supervised all engineering, decommissioning licensing, planning, site dismantling, and spent fuel storage activities.
- Led decommissioning activities to meet US NRC approval. Continuation of an effective dismantling effort involved the removal of major plant equipment and the assurance of funding for decommissioning.
- Managed remote segmentation of highly irradiated (greater than Class-C) reactor internal components using state-of-the-art techniques. Material was cut to specific sizes and innovatively packaged in the shape and size of spent nuclear fuel assemblies to ultimately be packaged in US NRC and Department of Transportation containers approved for future disposal by USDOE.
- Applied an innovative licensing approach to steam generator removals and reactor internals cutting and removal using the existing plant licensing basis, which was agreed to by NRC and led to improved decommissioning regulations.
- Oversaw removal, packaging, transport and disposal of four contaminated steam generators, pressurizer and reactor vessel.

### **Yankee Plant Project Manager, (1990–1994)**

### **Technical Director, (1988–1990)**

### **Assistant Technical Director/Chemistry Manager (1984–1988)**

# Michael T. Shepard

## Decommissioning Projects

### Profile

Mr. Shepard has more than 34 years in the nuclear power industry. His experience includes more than 20 years in management level positions with leadership roles on large projects valued at more than \$100M as well as roles leading departments with annual budgets of \$500M, staffing levels of 45+, and responsibilities for managing/overseeing as many as 120 active contracts. This experience demonstrates his strengths as a self-motivated, innovative and resourceful professional.

Mr. Shepard's skills include excellent analytical, technical and mechanical abilities specializing in Project, Contract and Construction Management.

### Key experience

- Extensive experience managing large projects and contracts
- Wide-ranging field experience in both contractor and utility management roles.
- Decommissioning management experience
- Decommissioning project planning and execution
- Decommissioning planning, contracting and transition

### Qualifications

Contract Management Professional Certificate, Villanova University (Online program)

Construction Management Professional Certificate, University of California, San Diego

Project Management Professional Certificate, University of California Irvine

Business Management Associates Degree, Miramar College

### Comprehensive Decommissioning International (2018 – present)

Decommissioning Projects and Target Pricing

### Experience with Bechtel Power Corporation. (2017 - 2018)

**Vogtle Unit 4 Auxiliary Building Construction Area Manager (Aug. 2017 – Present):** Mr. Shepard holds the specific position as the Vogtle Unit 4 Auxiliary Building Construction Area Manager. He is a key member of the Bechtel Senior Leadership team for the Units 3 and 4 Construction Project. Specifically, Mr. Shepard is the Construction Manager responsible for all aspects of the Unit 4 Auxiliary Building construction including subcontract management, Field Engineering, supervision of over 200 craft laborers, Project Controls, and development/execution of project recovery plans. Mr. Shepard is responsible for managing the project within the allotted \$3B budget. In this role he is responsible for the development and execution of the detailed construction schedule and focuses his efforts on improving efficiency and maximizing available work fronts.

**Transition Team Construction Manager (Apr. 2017 – Aug. 2017):** Developed the detailed Transition Plan and schedule for assuming the Construction of Vogtle Units 3 & 4.

**V.C. Summer Units 2/3 Construction Area Manager (Feb. 2017 – Mar. 2017):** Key leader on the Bechtel team that was assuming responsibility for Nuclear Island completion. Same role and responsibilities as defined above for Vogtle Unit 3 & 4 Project. Bechtel responsibilities at V.C. Summer ended in May 2017.



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### Southern California Edison, San Onofre Nuclear Generating Station (SONGS) (2006 – 2017)

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**SONGS Unit 2/3 Construction Manager for Decommissioning:** Mr. Shepard held various management level positions at SONGS including Decommissioning Manager following the SCE decision to permanently shutdown the two working units. In this role he was responsible for the development and execution of transition planning activities including the evaluation of decommissioning strategies. He served as the SCE authorized representative for contracts and was responsible for managing Vendor contracts from procurement through closeout and assumption/transition to the Decommissioning General Contractor (DGC). Mr. Shepard was a member of the leadership team responsible for developing the DGC Request for Bid package and was the primary in developing the construction scope aspects including dismantlement and demolition scope elements. Mr. Shepard oversaw the finalization of the RFP and issuance to 60 potential bidders. He was a member of the key leadership team that performed the technical bid reviews, the financial bid evaluations, selected the DGC and finalized the contract scope, terms and conditions. Mr. Shepard was the SCE construction management lead for the DGC bidder conferences. Original contract estimates for DGC were in the \$2B to \$3B range. Final contract awarded was a fixed price contract in the \$1.2B to \$1.4B range.

During the transition from operations to permanent shutdown, Mr. Shepard managed the Cold and Dark Plant Modifications including managing the Contract Development Team responsible for developing RFPs, executing Bidder Conferences, contractor selections, developing/negotiating and executing Contract Milestone Payments and finalizing contracts. During the Cold and Dark modification project execution, he was the SCE Authorized Representative for the vendor contracts managing the contracts from procurement through project execution completion, including managing project budget and schedule oversight.

As the SCE Construction Manager for the Interim Spent Fuel Storage Installation (ISFSI) expansion, he was a key management member of the core contracting team that developed and evaluated contract strategies and managed the bidding process from RFP development through vendor selection and contract finalization. As the SCE Construction Manager, he provided Contractor Oversight of ISFSI Implementation and was responsible for Project Management including Budget and Schedule oversight.

Prior to SONGS permanent shutdown, Mr. Shepard held management and supervision roles supporting plant refueling outages, project planning and execution, and staff supervision. His roles included management and supervision on key projects including refueling Civil and Mechanical inspections, Weld Overlay Project, and Steam Generator Replacement. Mr. Shepard was responsible for segmentation, transportation and disposal of the original steam generators, including interfacing with state and local officials to obtain permits for over the road transportation of the segmented steam generators.

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### Bechtel Construction Co., San Onofre, CA (1997 – 2006)

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**Senior Field Engineer, SONGS Unit 1 Decommissioning (SONGS Unit 1 decommissioning was a self-performed project):** Held the position of lead Field Engineer/Superintendent responsible for coordination and oversight of the Large Component and Systems Removal. He provided oversight of the Lampson crane, and provided project planning from concept phases through execution and closeout. Specific responsibilities included developing and executing Project Execution Plans for Plant Dismantlement and Balance of Plant demolition. Developed teams to produce effective support of matrix organizations in implementing safe and compliant work practices in executing field work. Supervised team of 100 to 200 craft laborers.

**Construction Projects Senior Field Engineer/Superintendent:** On-line and Refueling Outages: Mr. Shepard planned and executed multiple on-line and refueling projects. As Construction Lead, he led a construction team composed of non-manual contractors and union craft laborers in the development and execution of project plans, schedules and estimates. Specific projects included Pressurizer nozzle/heater replacement, Steam Generator/RCP hydraulic snubber replacements, large bore pipe replacement (FAC), seal oil coast down pump installation, salt water cooling seismic retrofit, boric acid injection system installation, diesel fuel tank relining and safety injection valve replacements.

**Mechanical Craft/Foreman/Superintendent (initial plant construction/start of nuclear work) San Onofre Nuclear Power Generating Station (SONGS):** Mr. Shepard supervised more than 800 craft laborers (various skilled labor areas). He managed and reported daily labor distributions of ~\$2M/week. During his time in this role, the team sustained a safe work environment to a peak of 4 million safe work hours. He was responsible for managing labor resources to maintain schedule efficiency, maintaining 12-week look ahead work package plan, and identifying major equipment work window opportunities.

#### Mechanical Craft/Foreman/Superintendent (1983 (start of nuclear work) – 1996)

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- Site Maintenance Superintendent (San Onofre Nuclear Power Generating Station)
- Sustained safe work environment to peak of 4 million safe work hours.
- Supervise 800 various craft employees.
- Track and report daily labor distribution of ~ \$2M/week
- Coordinate training
- Manage labor resources to maintain schedule efficiency.
- Work Window Manager
- Coordinate and schedule on-line work activities
- Identify major equipment work window opportunities
- Maintain 12 week look ahead on work packages
- Mechanical Craft/Foreman

#### Early Work History (1976 – 1983)

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- Started Apprenticeship in 1976
- Worked various Construction projects
- High Rises
- Commercial/industrial
- Cogen
- Hospitals
- Government Projects
- Residential Housing
- Advanced through various Union positions
- Apprentice Union Representative
- Union Steward
- Recording Secretary (elected 3 years)
- Local Union Vice President (elected 6 years)
- Local Union President (elected 6 years)

# John S. Loughead, PE, PMP

## Waste Manager

### Profile

Mr. John Loughead has over 30 years of experience in radioactive and chemical waste program implementation, facility planning and operations, new facility licensing and construction, and difficult waste disposition planning and execution. He has direct experience as a radioactive management facility manager, operations support engineer, waste technology development and demonstration manager, and nuclear waste facility design and licensing manager. He has supported nuclear processing and disposal facility upgrades, and has directed multi-disciplinary technical teams to license, construct, and operate permanent waste disposal facilities. His unique background includes new facility siting, facility construction planning, licensing, and commissioning. He is a recognized expert at developing cost effective, robust waste disposition strategies for remote handled (RH) and special nuclear material waste streams. He has directly supported DOE/NNSA Programs for TRU, LLW, Chemical, and mixed waste programs at Albuquerque, Los Alamos, Carlsbad, Oak Ridge, Idaho, and several commercial facilities. He led an engineering and licensing team to develop the first new radioactive waste disposal facility in Texas.

### Key experience

- Radioactive/Hazardous Disposal Systems
- Regulated Waste Facility Siting and Design
- Waste Management Disposition Processes and Strategies
- Waste Facility Startup and Commissioning
- D&D Planning and Execution

### Qualifications

B.S., Civil Engineering, Bucknell University  
B.A., Political Science, Bucknell University  
Registered Professional Engineer  
Project Management Professional

### Professional associations

Project Management Professional (PMP) Certification

### Experience

**Waste Program Planning and Support, Los Alamos National Laboratory:** Responsible for evaluating options and defining long term strategies for disposition of approximately 2000 discrete waste streams from national security and research projects. Develops management strategies and processes to ensure all waste generated can be dispositioned effectively and efficiently. Develops alternative or contingency options to ensure disposition does not impact program operations. Provides program recommendations to ensure generation and characterization processes are planned and accomplished in a cost effective, robust manner.

**Offsite Waste Disposition Manager, Los Alamos National Laboratory:** Responsible for planning, coordinating, and executing efficient shipping campaigns for onsite transfers and offsite waste disposition shipments. This program was implemented as LANL discontinued onsite disposal and transitioned to an offsite disposition model. Over 4 years, the offsite shipping program consistently increased shipping rates, decreased disposition cost, and increased disposition options for both legacy and newly-generated radioactive, mixed, and chemical waste.

**Licensing Manager for LLW/MW Disposal Facility for Waste Control Specialists LLC:** Responsible for planning and directing engineering, operations planning, and NRC license submittals for new \$100M subsurface waste disposal facility for radioactive/mixed waste. Technical lead for facility design, safety basis requirements, operations planning, and maintenance requirements. Provided system analyses for functional requirements, design criteria, hazard analyses, and safety basis strategies. Developed, tracked, and reported project progress using various performance measurement tools. Implemented NQA-1 nuclear quality assurance program requirements for design and commissioning of new safety systems and facility engineering projects.

**Project Manager for Mixed Waste Treatment Facility Upgrades for Waste Control Specialists LLC:** This fast-track project was completed to enhance worker protection and expand processing flexibility at an existing radioactive processing facility managing RCRA, TSCA, radioactive, and mixed waste for commercial and Federal generators. Responsible for planning, directing, and executing a building structural upgrade, fire protection system upgrade, installation of a replacement HEPA ventilation system with integrated airlocks, and installation of new contamination controls for processing systems within the facility. This project was essential to ensure WCS could process highly mobile alpha-contaminated waste efficiently, and with redundant contamination controls.

**Solid Waste Facility Operations Support Team Leader for Los Alamos National Laboratory chemical and radioactive waste operations:** Facility manager designee for solid waste operations activities at LANL. Responsible for ensuring safe management and control of LANL TRU, LLW, Mixed, and Chemical waste storage, processing, and disposal operations. Responsible for DSA implementation and readiness activities for operations and maintenance at 16 separate nuclear facilities. Responsible for environment, safety, and health compliance. Served as the chief facility engineer for modifications and formal closure actions, and managed a dedicated maintenance organization for preventive and corrective maintenance activities at the solid waste management complex.

**Project Manager for TRU Decontamination/Volume Reduction Process Facility at LANL:** Technical lead and project manager for new nuclear processing capability for oversize TRU/MLLW objects to be dispositioned offsite. Unit operations included ultra-high pressure wet decontamination, dry ice media blasting systems, enhanced NDA characterization systems, and oversize volume reduction cutting stations. The host facility was a 13,000 sq. ft. nuclear confinement structure with adjustable negative pressure confinement zones, active HEPA once-through ventilation, integrated fire detection/suppression, and emergency communications. A primary confinement 5000 ft<sup>2</sup> work area was designed based on clean room manufacturing technology. Responsible for safety basis development and approval through LANL and DOE. Directed safety system commissioning and programmatic equipment installation and testing, as well as Federal ORR evaluation prior to operations startup.

**Technical Support Lead for TRU Technology Development and Demonstration DOE/Albuquerque Operations Office:** Provided technical and management support to DOE technology development organization planning and evaluating waste minimization and operations technologies for TRU and MTRU waste management. Provided independent technical evaluations of potential technology development projects, tracked progress and effectiveness of demonstrations to ensure baseline goals, and recommended applications where deployment would be effective.

**Regulatory Team Lead for Uranium Mill Tailings Remediation Projects, DOE/Albuquerque Operations Office:** Provided technical and management support to DOE program to stabilize and relocate legacy radioactive waste processing sites for long term isolation and stability. Directly responsible for evaluation long term environmental release and human health impacts for remediation options under consideration. Provided expert testimony to EPA, NRC, and DOE on technical risk, uncertainties, and cost implications of proposed regulations and requirements. Provides technical guidance to state agencies pursuing commercial facilities for permanent radioactive waste disposal.

**Technical Lead for DOE National Program Support for new LLW Facility Development DOE/Albuquerque Operations Office:** Provided technical and management support to DOE technology development organization planning and evaluating waste minimization and operations technologies for TRU and MTRU waste management. Provided independent technical evaluations of potential technology development projects, tracked progress and effectiveness of demonstrations to ensure baseline goals, and recommended applications where deployment would be effective.

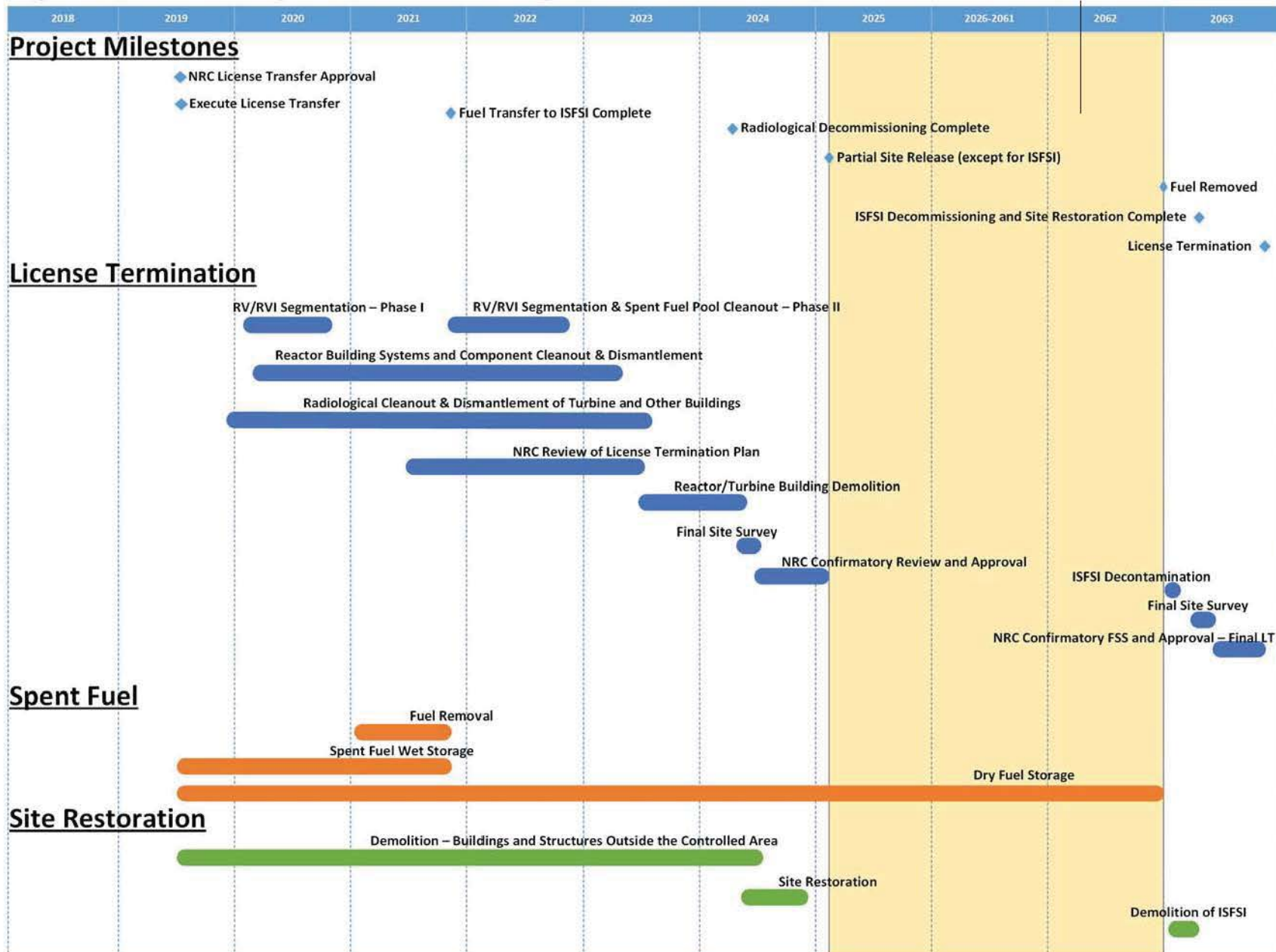
**ENCLOSURE 1**

**ATTACHMENT D**

**SCHEDULE & FINANCIAL INFORMATION  
FOR DECOMMISSIONING**

**(6 PAGES)**

### Pilgrim Nuclear Generating Station Decommissioning Schedule





## ENCLOSURE 1

### HDI PILGRIM NUCLEAR POWER STATION DECOMMISSIONING COST ESTIMATING BASES

ENOI has submitted a Post-Shutdown Decommissioning Activities Report (PSDAR) for Pilgrim Nuclear Power Station including a Site-Specific Decommissioning Cost Estimate (DCE) using the SAFSTOR method. The ENOI cost estimate uses the unit cost factor method presented in the cost estimating guidelines developed by the Atomic Industrial Forum (now Nuclear Energy Institute). The detailed estimate used unit cost factors incorporating Pilgrim site-specific costs and applied these factors to plant inventory, decommissioning waste streams and estimated waste quantities. The ENOI basis of estimate and the resulting cost estimate details were a reference condition for the HDI cost estimate development effort.

HDI used Pilgrim Nuclear Power Station plant data and historical information obtained from ENOI in addition to the input and professional judgment of experienced decommissioning, demolition and waste management specialty subcontractors and subject matter experts (SMEs). This estimate is based on regulatory requirements, site conditions, basis of estimate assumptions, low-level radioactive waste disposal standards, high-level radioactive waste management options, and site restoration requirements. The methods utilized to estimate decommissioning costs were based on experienced SME assessments regarding the nature of the work, the degree of scope definition, and the availability of quantifiable cost and pricing data.

To estimate waste management costs, HDI used the ENOI information as a reference condition and increased specific waste streams to reflect the decommissioning approach in the HDI plan and performed a disposition analysis to determine the type, size, and quantity of waste containers. Disposal facilities were selected, and pricing was confirmed, and various methods of transportation to the disposal facility were evaluated. Transportation logistics were evaluated to ensure that the overall shipping strategy would be efficient and balanced with respect to container utilization, transport cycles and support for shipping during peaks in demolition activities.

HDI reviewed the estimates of costs associated with license termination in NUREG/CR-6174, Revised Analyses of Decommissioning for the Reference Boiling Water Reactor Power Station, in order to evaluate the reasonableness of the HDI Pilgrim Nuclear Power Station decommissioning estimate. The HDI estimated costs for Pilgrim Nuclear Power Station license termination and site restoration were benchmarked against nine comparable decommissioning projects that included two BWR and seven PWR reactor types. HDI also compared its cost estimate for license termination and site restoration activities to costs for similar activities from an additional five decommissioned BWR nuclear power plants.

HDI estimates the total cost to decommission Pilgrim Nuclear Power Station to be \$1,134 million in 2018 dollars. This estimate includes provisions for site restoration and the storage of spent fuel and Greater Than Class C wastes on the Pilgrim Nuclear Power Station site until acceptance by the Department of Energy. Escalation of future decommissioning costs over the remaining decommissioning project lifecycle are excluded.



## ENCLOSURE 1

### Pilgrim Nuclear Power Station Decommissioning Cost Estimate Summary (Thousands of 2018 dollars)

Cost Category	License Termination	Spent Fuel	Site Restoration	Total
Decontamination				
Removal	172,108		16,654	188,762
Packaging	21,866			21,866
Transportation	32,321		1,316	33,638
Disposal	152,217		15,874	168,091
Off-site Waste Processing				
Program Management	141,913	27,404	4,221	173,538
Corporate A&G				
Spent Fuel (Direct Expenditures)		458,180		458,180
Insurance and Regulatory Fees	17,902	1,418	261	19,581
Energy	16,376	7,491	1,144	25,011
Characterization and Licensing Surveys	6,051			6,051
Property Taxes	11,276	6,973	609	18,858
Miscellaneous Equipment / Site Services	20,523			20,523
Spent Fuel Pool Isolation				
Grand Total	592,553	501,467	40,079	1,134,099

Pilgrim Nuclear Power Station  
Decommissioning Cost Estimate Annualized (Thousands of 2018 dollars)

Cost Category	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041
Decontamination																								
Removal	1,038	32,547	24,289	9,300	45,379	39,697	17,186	4,700																
Packaging		5,063	1,992	860	8,726	3,345	1,880																	
Transportation		1,103	1,676	443	5,248	15,560	9,617																	
Disposal		397	600	2,542	32,461	77,642	54,449																	
Off-site Waste Processing																								
Program Management	4,548	32,722	41,465	35,072	23,051	22,062	13,806	812																
Corporate A&G																								
Spent Fuel (Direct Expenditures)		46,479	67,920	65,704	2,741	2,732	2,749	5,812	5,952	5,939	5,952	5,952	7,212	7,212	7,212	7,212	7,193	7,212	7,230	7,212	7,193	7,212	7,212	7,212
Insurance and Regulatory Fees		2,816	4,796	3,856	3,151	2,382	2,382	199																
Energy		3,366	5,563	4,647	4,647	4,223	2,506	58																
Characterization and Licensing		1,438																						
Surveys							516																	
Property Taxes		3,094	6,283	3,534	1,928	1,928	1,928	161																
Miscellaneous Equipment / Site Services		4,253	5,644	3,937	2,826	2,727	1,136																	
Spent Fuel Pool Isolation																								
Total Cost	5,585	135,279	164,225	129,896	130,159	172,288	108,155	11,742	5,952	5,939	5,952	5,952	7,212	7,212	7,212	7,212	7,193	7,212	7,230	7,212	7,193	7,212	7,212	7,212

Cost Category	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	Total
Decontamination																							
Removal																			4,296	4,375	4,358	1,598	188,762
Packaging																							21,866
Transportation																							33,638
Disposal																							168,091
Off-site Waste Processing																							173,538
Program Management																							
Corporate A&G																							
Spent Fuel (Direct Expenditures)	7,212	7,212	7,212	7,193	7,212	7,212	7,230	7,193	7,212	7,193	7,230	7,212	7,212	7,212	7,212	7,212	7,212	7,212	7,212	7,212	7,193	2,441	458,180
Insurance and Regulatory Fees																							19,581
Energy																							25,011
Characterization and Licensing																							6,051
Surveys																							18,858
Property Taxes																							
Miscellaneous Equipment / Site Services																							20,523
Spent Fuel Pool Isolation																							
Total Cost	7,212	7,212	7,212	7,193	7,212	7,212	7,230	7,193	7,212	7,193	7,230	7,212	7,212	7,212	7,212	7,212	7,212	7,212	11,507	11,587	11,551	4,038	1,134,099

# ENCLOSURE 1

## Pilgrim Nuclear Power Station Decommissioning Cash Flow Analysis

Pilgrim Nuclear Power Station - DECON Method								
Annual Cash Flow in Thousands of 2018 Dollars								
No DOE Reimbursement of Spent Fuel Management Costs								
Year	License Termination Cost	Spent Fuel Management Cost	Site Restoration Cost	Total Costs	Beginning of Year NDT Balance <sup>1</sup>	Withdrawals	NDT Earnings <sup>2</sup>	Year Ending NDT Balance <sup>3</sup>
2019	84,927	53,920	18	138,865	1,030,000	(138,865)	5,273	896,408
2020	79,292	84,905	28	164,225	896,408	(164,225)	10,397	742,579
2021	46,759	82,500	637	129,896	742,579	(129,896)	8,700	621,384
2022	103,197	3,332	23,630	130,159	621,384	(130,159)	6,975	498,200
2023	167,453	3,135	1,700	172,288	498,200	(172,288)	4,628	330,540
2024	95,694	3,225	9,236	108,155	330,540	(108,155)	3,158	225,543
2025	1,310	6,306	4,127	11,742	225,543	(11,742)	3,036	216,837
2026		5,952		5,952	216,837	(5,952)	2,995	213,879
2027		5,939		5,939	213,879	(5,939)	2,953	210,893
2028		5,952		5,952	210,893	(5,952)	2,910	207,851
2029		5,952		5,952	207,851	(5,952)	2,867	204,766
2030		7,212		7,212	204,766	(7,212)	2,805	200,359
2031		7,212		7,212	200,359	(7,212)	2,743	195,891
2032		7,212		7,212	195,891	(7,212)	2,679	191,358
2033		7,212		7,212	191,358	(7,212)	2,615	186,762
2034		7,193		7,193	186,762	(7,193)	2,550	182,119
2035		7,212		7,212	182,119	(7,212)	2,484	177,391
2036		7,230		7,230	177,391	(7,230)	2,416	172,577
2037		7,212		7,212	172,577	(7,212)	2,348	167,713
2038		7,193		7,193	167,713	(7,193)	2,279	162,800
2039		7,212		7,212	162,800	(7,212)	2,209	157,798
2040		7,212		7,212	157,798	(7,212)	2,138	152,724
2041		7,212		7,212	152,724	(7,212)	2,066	147,579
2042		7,212		7,212	147,579	(7,212)	1,993	142,361
2043		7,212		7,212	142,361	(7,212)	1,919	137,068
2044		7,212		7,212	137,068	(7,212)	1,844	131,701
2045		7,193		7,193	131,701	(7,193)	1,768	126,276

<sup>1</sup> The 2019 Beginning of Year NDT balance reflects the fund value post-closure of the equity sale. The value used does not include deductions for ENOI pre-closure costs. The 2019 costs include HDI estimated pre-closure and post closure costs.

<sup>2</sup> NDT earnings reflect an assumed 2% Real Rate of Return (RRR)

<sup>3</sup> The Year Ending NDT Balance is net of taxes

<sup>4</sup> Columns may not add due to rounding

## ENCLOSURE 1

### Pilgrim Nuclear Power Station - DECON Method

Annual Cash Flow in Thousands of 2018 Dollars

No DOE Reimbursement of Spent Fuel Management Costs

Year	License Termination Cost	Spent Fuel Management Cost	Site Restoration Cost	Total Costs	Beginning of Year NDT Balance <sup>1</sup>	Withdrawals	NDT Earnings <sup>2</sup>	Year Ending NDT Balance <sup>3</sup>
2046		7,212		7,212	126,276	(7,212)	1,691	120,755
2047		7,212		7,212	120,755	(7,212)	1,612	115,156
2048		7,230		7,230	115,156	(7,230)	1,533	109,458
2049		7,193		7,193	109,458	(7,193)	1,452	103,717
2050		7,212		7,212	103,717	(7,212)	1,370	97,876
2051		7,193		7,193	97,876	(7,193)	1,288	91,971
2052		7,230		7,230	91,971	(7,230)	1,203	85,944
2053		7,212		7,212	85,944	(7,212)	1,118	79,851
2054		7,212		7,212	79,851	(7,212)	1,031	73,671
2055		7,193		7,193	73,671	(7,193)	944	67,422
2056		7,212		7,212	67,422	(7,212)	855	61,065
2057		7,212		7,212	61,065	(7,212)	765	54,618
2058		7,212		7,212	54,618	(7,212)	673	48,080
2059		7,212		7,212	48,080	(7,212)	580	41,449
2060	4,296	7,212		11,507	41,449	(11,507)	425	30,367
2061	4,375	7,212		11,587	30,367	(11,587)	267	19,047
2062	4,358	7,193		11,551	19,047	(11,551)	106	7,602
2063	892	2,441	706	4,038	7,602	(4,038)	51	3,615
<b>Total<sup>3</sup></b>	<b>592,553</b>	<b>501,467</b>	<b>40,079</b>	<b>1,134,099</b>		<b>(1,134,099)</b>	<b>107,714</b>	

<sup>1</sup> The 2019 Beginning of Year NDT balance reflects the fund value post-closure of the equity sale. The value used does not include deductions for ENOI pre-closure costs. The 2019 costs include HDI estimated pre-closure and post closure costs.

<sup>2</sup> NDT earnings reflect an assumed 2% Real Rate of Return (RRR)

<sup>3</sup> The Year Ending NDT Balance is net of taxes

<sup>4</sup> Columns may not add due to rounding

**ATTACHMENT E**

**FORM OF DECOMMISSIONING OPERATOR SERVICES  
AGREEMENT BETWEEN HOLTEC PILGRIM AND HOLTEC  
DECOMMISSIONING INTERNATIONAL**

**(7 PAGES)**

**FORM OF**  
**DECOMMISSIONING OPERATOR SERVICES AGREEMENT**  
**BETWEEN**  
**HOLTEC PILGRIM, LLC,**  
**AND**  
**HOLTEC DECOMMISSIONING INTERNATIONAL, LLC**

THIS DECOMMISSIONING OPERATOR SERVICES AGREEMENT (the "Agreement") is entered into this \_\_\_\_\_ day of \_\_\_\_\_, 2019, between HOLTEC DECOMMISSIONING INTERNATIONAL, LLC, a Delaware limited liability company ("Operator"), and HOLTEC PILGRIM, LLC ("Owner"), each a "Party" and together, "Parties" to this Agreement.

**R E C I T A L S:**

- a. Owner owns Pilgrim Nuclear Power Station and an Independent Spent Fuel Storage Installation ("ISFSI"), a nuclear power generation Facility located in Plymouth County, Massachusetts (the "Facility") that will permanently cease operations no later than June 1, 2019, and which is licensed by the U.S. Nuclear Regulatory Commission ("NRC") pursuant to NRC Operating License No. DPR-35 and the ISFSI general license ("the NRC Operating Licenses").
- b. Owners and Operator are wholly owned subsidiaries of Holtec Power, Inc. and indirect wholly owned subsidiaries of Holtec International.
- c. Owner and Operator desire that Operator possess, use, maintain, and decommission ("Operate") the Facility for Owner under the terms of this Agreement.

**A G R E E M E N T:**

NOW, THEREFORE, for the mutual covenants and consideration referenced in this Agreement, Owner and Operator agree as follows:

1. Agency. Operator is hereby appointed as the agent of Owner to act on its behalf for the purposes set forth in this Agreement. Owner shall have the sole right to control and directly supervise the method, manner and detail of Operator's duties and responsibilities hereunder, provided, however, that Operator shall have sole discretion with respect to its obligations to comply with the requirements of the NRC Operating Licenses, and all applicable NRC or other applicable requirements of law with respect to Operation of the Facility as authorized by the NRC Operating Licenses.
2. Duties of Operator. Operator shall do and perform all such things as shall be

reasonably necessary to operate and maintain the Facility on behalf of Owner. Operator shall conduct all operations of the Facility in compliance with NRC Operating Licenses and all applicable NRC requirements, in a good and workmanlike manner, and in accordance with generally accepted industry standards. Operator's responsibilities will include, without limitation, the following activities:

2.1. engage and supervise, as employees of Operator or as personnel assigned to provide services to Operator under a service agreement, all personnel reasonably required to operate the Facility;

2.2. negotiate, enter into, supervise and administer, in Operator's name, or in Operator's name and as agent for Owner, all contracts reasonably necessary for possession, use, maintenance, and decommissioning of the Facility ("Operations"), including, without limitation, equipment purchase orders and agreements, and agreements with contractors and service providers;

2.3. procure and furnish all materials, equipment, services, supplies and labor determined by Operator to be reasonably necessary or desirable to Operate the Facility and to otherwise carry out Operator's responsibilities hereunder;

2.4. use its best efforts to abide by and conform with all valid applicable laws, orders, rules and regulations that affect the Facility or Operator's duties under this Agreement;

2.5. file (and keep current) all reports, and filings required by law with respect to the Facility, and pay any fees in connection therewith;

2.6. obtain and use its best efforts to comply and to conduct all Operations at the Facility in accordance with all licenses, permits and authorizations required by law already obtained or to be obtained by Owner, Operator or the Facility;

2.7. keep an accurate record of all significant operations of the Facility and furnish, from time to time, upon reasonable request of Owner, such reports and other information (or access thereto);

2.8. take such other actions as are necessary to terminate the NRC Operating Licenses and satisfy all requirements with respect to site restoration; and

2.9. do such other and further acts and deeds as may be necessary to accomplish fully and to perform its duties under this Agreement, subject to the limitations herein provided.

3. Right to Audit. Either party may audit any and all records of the other party relating to the Facility or the services provided hereunder on such dates and at such times as a party may reasonably request.

4. Term. The term of this Agreement shall commence as of the date noted above, which is the same day as the NRC Operating Licenses are being transferred to Operator and



Owner, and the term shall continue until terminated pursuant to Section 5 of this Agreement.

5. Termination. This Agreement may be terminated upon notice by either Party and upon the expiration of the Transition Period contemplated by Section 6, or upon termination of the NRC Operating Licenses after decommissioning of the Facility and any required site restoration has been completed.

6. Transition Period. A period of not less than six (6) months during which Operator will cooperate with another operator selected by Owner in order to prepare for the transfer of operating responsibility pursuant to the NRC Operating Licenses to a new operator, including obtaining the required approval of the NRC and any other required regulatory approvals. The Transition Period shall end upon the transfer of operating responsibility, which shall occur no later ten (10) business days after receiving all required regulatory approvals. Operator agrees to cooperate and execute such documents as may be necessary to affect the transfer.

7. Survival. The indemnification, release, and limitation of liability provisions contained in this Agreement shall survive termination to the extent they pertain to events giving rise to such indemnification, release and liability that occurred during the term of this Agreement. Further, it is agreed that in no event shall this Agreement terminate unless all payments required under this Agreement to have been made by the Owner to Operator shall have been made and all necessary regulatory approvals for termination of the NRC Operating Licenses or transfer of responsibility for the Facility shall have been obtained.

8. Responsibilities of Owner. Owner shall cooperate with and assist Operator and provide Operator with correct and reliable information and access to the Facility, as reasonably necessary for Operator to carry out and perform its duties under this Agreement.

9. Price for Services. The price for the services provided by Operator to Owner pursuant to this Agreement shall be the sum of all of Operator's costs arising out of, or associated with, the performance of this Agreement by Operator and its agents or contractors, including but not limited to, direct labor costs, supervisory and clerical costs, employee benefits costs, utility costs, materials and supplies costs, contractor costs, liability, property and other insurance costs, federal, state and local taxes, administrative and general overhead costs allocable to the performance of this Agreement, depreciation and amortization costs, interest expense, and expenses incurred to lease or rent equipment for performance under this Agreement.

10. Monthly Reports. Upon request by Owner, Operator shall furnish Owner with a closing statement for each month, which statement shall report the significant operations of the Facility for the month in question.

11. Insurance. Operator shall procure and maintain for Owner insurance coverage of the types and in the amounts as required by applicable NRC regulations and as generally maintained by the industry.

12. Release of Operator. In no event shall Operator be liable to Owner for any direct,

indirect, incidental or consequential damages, including, without limitation, liabilities for loss of profits or loss of use or cost of replacement power or any claim or demand against Owner by any person or entity, arising out of Operator's performance or failure to perform this Agreement (including, without limitation, Operator's, or any of its officers, directors or employees, own negligence or other basis, whether arising in or based upon tort, fraud, contract, strict liability, negligence, breach of fiduciary duty or any other theory of legal liability), even if Operator has been advised of the possibility of such liabilities, and Owner hereby releases Operator for any liabilities arising out of Operator's performance or failure to perform this Agreement. Operator does not assume liability or responsibility to Owner for liabilities that may be suffered by Owner as a result of any action or inaction of Operator; provided, however, that nothing herein shall relieve any party or person, other than Operator, from any responsibility to Operator or to Owner, whether assumed by contract or by operation of law.

13. Indemnity. Owner shall protect, indemnify and hold Operator (including its officers, directors and employees) free and harmless from and against any and all liabilities (including, without limitation, all costs in connection with liabilities and in connection with the defense of causes of action, suits or other proceedings, including attorneys' fees) of every kind and character, arising from or connected with the operation the Facility thereof or for any damage thereto, whether arising in or based upon tort, fraud, contract, strict liability, negligence, breach of fiduciary duty or any other theory of legal liability or as a result of fines or other penalties imposed by the NRC or other governmental authority.

14. Scope of Indemnity and Release. OWNER ACKNOWLEDGES TO OPERATOR THAT THE PROVISIONS OF THIS AGREEMENT WHICH RELEASE OPERATOR OR PROVIDE FOR THE INDEMNIFICATION BY OWNER OF OPERATOR ARE INTENDED BY OWNER, TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW FROM TIME TO TIME, TO RELEASE AND SAVE AND HOLD HARMLESS AND INDEMNIFY OPERATOR FROM THE CONSEQUENCES OF OPERATOR'S OWN NEGLIGENCE (WHETHER ORDINARY OR GROSS, SOLE, JOINT OR CONCURRENT, OR ACTIVE OR PASSIVE) AND RECKLESS OR INTENTIONAL CONDUCT OR STRICT LIABILITY OF OPERATOR.

15. Capacity, Liability and Release. Operator is entering into this Agreement as agent for and on behalf of Owner, and all obligations of Operator under this Agreement are being incurred solely on behalf of, and shall be enforceable solely against, Owner. Rights being granted in favor of or retained by Operator herein shall be held and enforceable by Operator, in its individual or corporate capacity. In no event shall Operator be liable to Owner for any damages of any kind, direct, incidental or consequential, and Owner hereby release Operator from liability for damages arising out of Operator's performance, non-performance or breach of this Agreement.

16. Material Consideration. The Parties agree that the limitations on liability and indemnity provisions set forth in this Agreement are supported by the Parties' respective contractual undertakings and other good and valuable consideration and acknowledge that the Parties would not have entered into this Agreement in the absence of the indemnification obligations and the limitations on liability undertaken by either or both Parties.

17. Confidentiality. Any information belonging to a party hereto which such party designates as confidential or proprietary shall not be disclosed to any other person or entity by the party receiving such information, except to the extent disclosure is required by law or as otherwise permitted with the consent of the non-disclosing party.

18. Power of Attorney. Owner hereby irrevocably appoints Operator, and any officer or agent thereof, with full power of substitution, as its true and lawful attorney-in-fact with full and irrevocable power and authority in the place and stead of Owner and in the name of Owner for the purpose of carrying out the terms of this Agreement, to take any and all appropriate action and to execute any and all reports, contracts, documents and instruments which may be necessary or desirable to accomplish the purposes of this Agreement.

19. Force Majeure. Operator's performance of its obligations hereunder shall be excused to the extent that performance is prevented by an event beyond the reasonable control of Operator. Operator will use its reasonable efforts to remedy any such event as soon as possible, and performance shall be resumed as soon as reasonably practicable after the cause has been removed.

20. Notices. Notices, requests, consents, elections, reports, payments, or other communications required or permitted to be given or made hereunder shall be in writing and shall be deemed to be delivered upon delivery to the Operator or Owner at their principal place of business during regular business hours on a business day. Notices delivered after hours or on a weekend or legal holiday will be effective on the next business day. Addresses shown below shall be considered the principal place of business of each unless and until the other is notified in writing.

Owner:

Holtec Pilgrim, LLC  
Holtec Technology Campus  
1 Holtec Blvd  
Camden, NJ 08104  
Attention: Pamela B.  
Cowan

Operator:

Holtec Decommissioning International, LLC  
Holtec Technology Campus  
1 Holtec Blvd  
Camden, NJ 08104  
Attention: Pamela B. Cowan

21. Successors in Interest; Assignment. Each and all of the covenants, agreements, terms, and provisions of this Agreement shall be binding on and inure to the benefit of the parties hereto and, to the extent permitted by this Agreement, their respective heirs, executors, administrators, personal representatives, successors and assigns. Neither party may assign this Agreement without the prior written consent of the other party, which consent shall not be unreasonably withheld; provided, that either party may assign this Agreement to a wholly-owned affiliate of Holtec International upon written notice to the other party and receipt of any required regulatory approvals.

22. Severability. Any provision of this Agreement which is invalid, illegal, or unenforceable in any respect in any jurisdiction shall be, as to such jurisdiction, ineffective to the extent of such invalidity, illegality or unenforceability without in any way affecting the validity, legality or enforceability of the remaining provisions hereof, and any such invalidity, illegality or unenforceability in any jurisdiction shall not invalidate or in any way affect the validity, legality or enforceability of such provision in any other jurisdiction.

23. Waivers. The failure or delay of any party to seek redress for violation of or to insist upon the strict performance of any obligation in this Agreement shall not be a waiver of that violation or obligation or a waiver of a subsequent act.

24. Third-Party Rights. Nothing in this Agreement, expressed or implied, is intended, nor shall same be construed or interpreted, to confer any rights or remedies upon any person or entity not a party hereto, other than the permitted successors or assigns of a party hereto.

25. Entire Agreement; Amendments. This Agreement contains the entire agreement and understanding between Owner and Operator concerning the operation of the Facility, and supersedes and replaces any and all prior agreements, both verbal and written. This Agreement may only be amended in writing, signed by both parties.

26. No Partnership or Joint Venture. Nothing in this Agreement shall be deemed or construed to create a partnership, joint venture or any similar relationship or create any fiduciary duties between Operator and Owner.

[SIGNATURES ON FOLLOWING PAGE]

IN WITNESS WHEREOF, the parties hereto have executed and delivered this Agreement as of the day and year first above written.

OPERATOR:

HOLTEC DECOMMISSIONING  
INTERNATIONAL, LLC

By: \_\_\_\_\_

Title:

OWNER:

HOLTEC PILGRIM, LLC

By: \_\_\_\_\_

Title:

## ATTACHMENT F

## REGULATORY COMMITMENTS

This table identifies actions discussed in this letter for which, upon approval of this application, ENOI, HDI or Holtec Pilgrim commits to perform. Any other actions discussed in this submittal are described for the NRC's information and are **not** commitments.

COMMITMENT	TYPE (Check one)		SCHEDULED COMPLETION DATE (If Required)
	ONE-TIME ACTION	CONTINUING COMPLIANCE	
ENOI will notify the NRC when the license transfer transaction is scheduled to be consummated.	<b>X</b>		Upon the scheduling of the closing of the transaction.
ENOI will provide notice of the planned closing date for proposed transaction and transfer of operating authority at least two business days prior to the date planned so that NRC can issue the license amendment.	<b>X</b>		At least two business days before planned closing date.
HDI will provide to NRC proof that onsite property damage insurance coverage and offsite nuclear liability coverage, as required by the NRC, has been obtained and that coverage will be in place on the effective date of the transfer.	<b>X</b>		At least two business days before planned closing date.
Holtec Pilgrim and HDI will enter into a decommissioning operator services agreement that provides for HDI to act as the agent for Holtec Pilgrim and for Holtec Pilgrim to pay HDI's costs of post shutdown operations, including decommissioning and spent fuel management costs.	<b>X</b>		At least two business days before the planned closing date.
ENOI will notify the NRC when ENGC is converted to a limited liability company under Massachusetts law.	<b>X</b>		Within two business days of the conversion.

**ENCLOSURE 1**

**ATTACHMENT G**

**AFFIDAVITS SUPPORTING WITHHOLDING PURSUANT  
TO 10 CFR 2.390**

**(2 PAGES)**



**APPLICATION FOR ORDER APPROVING LICENSE TRANSFER  
AND CONFORMING LICENSE AMENDMENT**

**10 CFR 2.390 AFFIDAVITS**

**Affidavit of Andrew J. Rosenlieb**

I, Andrew J. Rosenlieb, Vice President and Officer of Entergy Nuclear Generation Company, do hereby affirm and state:

1. I am authorized to execute this affidavit on behalf of Entergy Nuclear Generation Company and its affiliates (collectively, Entergy);
2. Entergy requests that Enclosure 1P, which is being submitted under separate cover and labeled "CONFIDENTIAL INFORMATION SUBMITTED UNDER 10 CFR 2.390", be withheld from public disclosure under the provisions of 10 CFR 2.390(a)(4).
3. Enclosure 1P contains confidential commercial information, the disclosure of which would adversely affect Entergy.
4. This information has been held in confidence by Entergy. To the extent that Entergy has shared this information with others, it has done so on a confidential basis.
5. Entergy customarily keeps such information in confidence, and there is a rational basis for holding such information in confidence. The information is not available from public sources and could not be gathered readily from other publicly available information.
6. Public disclosure of this information would cause substantial harm to Entergy's business interests because such information has significant commercial value to Entergy and its disclosure could adversely affect other Entergy transactions.

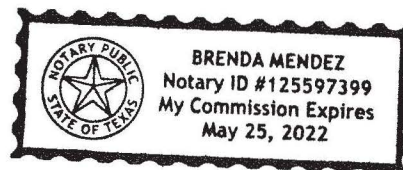


Andrew J. Rosenlieb  
Vice President, Entergy Nuclear Generation Company

Subscribed and sworn before me,

a Notary Public

this 12<sup>TH</sup> day of NOVEMBER 2018.



**Affidavit of Andrew R. Ryan**

I, Andrew R. Ryan, General Counsel, Holtec International, do hereby affirm and state:

1. I am authorized to execute this affidavit on behalf of Holtec International ("Holtec");
2. Holtec requests that Enclosure 1P, which is being submitted under separate cover and labeled "CONFIDENTIAL INFORMATION SUBMITTED UNDER 10 CFR 2.390", be withheld from public disclosure under the provisions of 10 CFR 2.390(a)(4).
3. Enclosure 1P contains confidential commercial information, the disclosure of which would adversely affect Holtec.
4. This information has been held in confidence by Holtec. To the extent that Holtec has shared this information with others, it has done so on a confidential basis.
5. Holtec customarily keeps such information in confidence, and there is a rational basis for holding such information in confidence. The information is not available from public sources and could not be gathered readily from other publicly available information.
6. Public disclosure of this information would cause substantial harm to Holtec's business interests because such information has significant commercial value to Holtec and its disclosure could adversely affect other Holtec transactions.




Andrew R. Ryan

Subscribed and sworn before me,

a Notary Public

this 4<sup>th</sup> day of November, 2018.



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**HDI**

**REQUEST FOR EXEMPTION FROM 10 CFR. 50.82(a)(8)(i)(A)**

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**PILGRIM NUCLEAR POWER STATION**

**NRC RENEWED FACILITY OPERATING LICENSE NO. DPR-35 AND  
GENERAL LICENSE FOR INDEPENDENT SPENT FUEL STORAGE INSTALLATION  
DOCKET NOS. 50-293 & 72-1044**

**(15 PAGES)**

## ENCLOSURE 2

### 1. SPECIFIC EXEMPTION REQUESTS

Pursuant to 10 CFR 50.12, "Specific exemptions," HDI requests an exemption from 10 CFR 50.82(a)(8)(i)(A) for Pilgrim Nuclear Power Station (PNPS) to allow use of a portion of the funds from the PNPS Nuclear Decommissioning Trust (NDT) for the management of spent fuel and site restoration activities, based on the HDI revised PNPS Post-Shutdown Decommissioning Activities Report (PSDAR) (hereafter referred to as DECON PSDAR) (Reference 1).

10 CFR 50.82 (a)(8)(i)(A), "Termination of license," states the following:

Decommissioning trust funds may be used by licensees if-- (A) The withdrawals are for expenses for legitimate decommissioning activities consistent with the definition of decommissioning in 10 CFR 50.2.

10 CFR 50.2, "Definitions," contains the following definition of "decommission:"

... to remove a facility or site safely from service and reduce residual radioactivity to a level that permits - (1) Release of the property for unrestricted use and termination of the license; or (2) Release of the property under restricted conditions and termination of the license.

The annual cash flow analysis from the HDI revised DCE included in the DECON PSDAR (Reference 1) is reproduced in Table 1. Table 1 demonstrates that the PNPS NDT contains more than adequate funds to cover the estimated radiological decommissioning costs, as well as spent fuel management and site restoration costs. However, 10 CFR 50.82(a)(8)(i)(A) states that NDTs may be used by licensees if the withdrawals are for expenses for legitimate decommissioning activities consistent with the definition of decommissioning in 10 CFR 50.2. The U.S. Nuclear Regulatory Commission (NRC) construes the definition of "decommission" in 10 CFR 50.2 as including those costs associated with radiological decommissioning activities to achieve license termination and does not include costs for those activities associated with spent fuel management or site restoration.

Based on the above, HDI has concluded that 10 CFR 50.82(a)(8)(i)(A) would prohibit the use of the NDT for activities related to spent fuel management and site restoration prior to the completion of radiological decommissioning. Funding of spent fuel management activities from the NDT is needed to implement the HDI prompt decommissioning plan for PNPS employing the DECON method.

An exemption from 10 CFR 50.82(a)(8)(i)(A) is requested to allow HDI to withdraw and use funds from the NDT for costs associated with spent fuel management and site restoration activities that, as described in the DECON PSDAR, must be accomplished prior to the completion of radiological decommissioning. The exemption would cover all costs associated with spent fuel management and site restoration activities at PNPS. This exemption would not present an undue risk to the public health and safety or prevent decommissioning from being completed as planned since the PNPS NDT contains adequate funds to complete radiological decommissioning as well as spent fuel management activities and site restoration activities.

## ENCLOSURE 2

### 2. BACKGROUND

PNPS is a single unit boiling water nuclear reactor located in the town of Plymouth, Massachusetts, in Plymouth County on the western shore of Cape Cod Bay. Pilgrim received its Construction Permit on August 26, 1968, and its Operating License on June 8, 1972. Pilgrim began commercial operations on December 1, 1972. Pilgrim was initially licensed to generate 1998 megawatts-thermal (MWt) but obtained approval from the NRC in 2003 to increase the maximum core power level from 1998 MWt to 2028 MWt. The current facility operating license for PNPS expires at midnight, June 8, 2032. By letter dated November 10, 2015, ENOI notified the NRC that it had decided to permanently cease operations at Pilgrim no later than June 1, 2019 (Reference 2).

On November 16, 2018, ENOI and Holtec submitted a License Transfer Application (LTA) application (Reference 3) requesting U.S. Nuclear Regulatory Commission (NRC) consent to: (1) the indirect transfer of control of the Renewed Facility Operating License No. DPR-35 for the Pilgrim Nuclear Power Station ("Pilgrim"), as well as the general license for the Pilgrim Independent Spent Fuel Storage Installation ("ISFSI") (collectively the "Licenses"), to Holtec; and (2) the direct transfer of ENOI's operating authority (i.e. its authority to conduct licensed activities at Pilgrim) to HDI, a special purpose entity formed by Holtec to operate, maintain, and decommission the Holtec fleet of permanently shutdown nuclear power plants including PNPS. In addition, the LTA requested that the NRC approve a conforming administrative amendment to the Licenses to reflect the proposed direct transfer of the Licenses from ENOI to HDI; a planned name change for ENGEC from ENGEC to Holtec Pilgrim, LLC; and deletion of certain license conditions to reflect satisfaction and termination of all ENGEC obligations after the license transfer and equity sale. The LTA requests that the license transfers be approved to support an equity sale and license transfer of PNPS to HDI in the 3<sup>rd</sup> quarter of 2019.

Following approval from the NRC and upon the closing of the transaction, Holtec Pilgrim will own the Pilgrim facility pursuant to the terms of the EPSA. As such, Holtec Pilgrim will have licensed responsibility for Pilgrim as its licensed owner and HDI will be the licensed operator.

On November 16, 2018, ENOI submitted a Post-Shutdown Decommissioning Activities Report (Reference 4) that indicated that ENOI had selected the SAFSTOR method for decommissioning. ENOI also submitted an Update to the Spent Fuel Management Plan for PNPS on November 16, 2018 (Reference 5).

On November 16, 2018, HDI submitted a revised Post-Shutdown Decommissioning Activities Report (DECON PSDAR) for PNPS, including a revised site-specific Decommissioning Cost Estimate (DECON DCE) (Reference 1). The HDI DECON DCE includes the costs associated with License Termination in addition to costs associated with Spent Fuel Management and Site Restoration. License Termination are those costs associated with the collective work required to plan, mobilize and execute the removal of the radioactive contamination from the site, consistent with the definition of decommissioning per 10 CFR 50.2. Spent Fuel Management costs are those costs to manage spent fuel from equity sale closure and license transfer until ultimate transfer to the Department of Energy (DOE). The cost estimates for maintaining the spent fuel until DOE removal included in the HDI DECON DCE are aligned with the spent fuel management schedule assumptions defined in Updated PNPS SFMP submitted by ENOI (Reference 5). Site Restoration costs are those costs associated with conventional dismantling,



## ENCLOSURE 2

demolition, and removal from the site of structures and systems after confirmation that radioactive contaminants have been removed.

On November 16, 2018, ENOI submitted to the NRC a "Request for Exemption from 10 CFR 50.82(a)(8)(i)(A)" (Reference 6) to allow use of a portion of the PNPS NDT for spent fuel management and site restoration activities, based on the PNPS SAFSTOR decommissioning cost estimate (Reference 4). The ENOI exemption request demonstrated that the PNPS NDT contains more than adequate funds to cover the estimated costs of radiological decommissioning, spent fuel management and site restoration activities for the SAFSTOR method to decommissioning.

To address the DECON method for decommissioning as described in the DECON PSDAR, HDI is submitting this exemption request to demonstrate that an exemption is warranted to allow withdrawals from the PNPS NDT for payment of spent fuel management and site restoration costs as described in the DECON PSDAR. The exemption request is based on HDI's analysis of the expected radiological decommissioning costs, spent fuel management costs, and site restoration costs. The HDI exemption would apply only if the NRC approves the license transfer to HDI for accelerated decommissioning, and the license transfer and equity sale closure are executed.

### 3. BASIS FOR EXEMPTION REQUEST

Following the equity sale closure and transfer of the PNPS renewed facility operating license to HDI, decommissioning activities will proceed using the DECON method. The DECON PSDAR and DCE (Reference 1) provides the cost estimates for the HDI DECON radiological decommissioning, spent fuel management, and site restoration efforts.

Table 1 of this enclosure reflects the projected annual cash flows for site radiological decommissioning (license termination costs), spent fuel management, independent spent fuel storage installation (ISFSI) radiological decommissioning, and site restoration (non-radiological decommissioning). The costs in Table 1 reflect the following assumptions:

1. Following the equity sale closure sale and transfer of the PNPS renewed facility operating license, HDI will initiate decommissioning activities using the DECON method.
2. Spent fuel management costs start in 2019. Spent fuel management costs will only be reimbursed from the PNPS NDT if this exemption request is approved.

The annual cash flow analysis contained in Table 1 of this enclosure conservatively assumes all expenses in a year are incurred at the beginning of year (i.e., beginning of year convention) during the decommissioning period. A 2% annual real rate of return on the PNPS NDT as allowed by 10 CFR 50.75(e)(1)(i) is used in the analysis. Additionally, contributions to the PNPS NDT and cost escalation are both assumed to be zero in the Table 1 analysis.

The 2019 beginning of year (BOY) Trust Fund Value (analysis starting trust fund balance) in Table 1 of this enclosure is the fund amount expected at equity sale closure as described in the Equity Purchase and Sale Agreement (EPSA) for NDT fund value post-closure of the equity sale.

## ENCLOSURE 2

Spent fuel management costs are included in Table 1 of this enclosure. Spent fuel storage will include the existing PNPS ISFSI dry storage facility as well as the fuel stored in the spent fuel pool at sale closure and license transfer. The spent fuel pool storage costs will continue until all PNPS spent fuel is transferred to dry storage at the onsite ISFSI where it will remain stored until such time that it can be transferred to a DOE facility. In addition, the spent fuel management plan includes the construction of a new ISFSI pad and relocation of the existing PNPS ISFSI canisters to the new pad. Consequently, the estimate includes costs for ISFSI planning, construction, operation and decommissioning, in addition to relocation of the existing canisters to the new pad, procurement of dry storage canisters, loading and movement of canisters and transfer of spent fuel to the DOE.

Table 1 of this enclosure demonstrates that the PNPS NDT, exceeds the amount required to complete radiological decommissioning of the site using the DECON method, in addition to management of spent nuclear fuel and restoration of the site. At the end of the decommissioning project, an estimated \$3.6 million will remain in the PNPS NDT.

### 4. ADJUSTING COST ESTIMATES AND FUNDING LEVELS

Pursuant to the annual reporting requirements in 10 CFR 50.82(a)(8)(v) - (vii), HDI will prepare and submit an annual report of the estimated costs to complete decommissioning and manage irradiated fuel, in addition to reporting the status of the PNPS NDT and the funding status for managing irradiated fuel. The DECON DCE adjusted for inflation, in accordance with applicable regulatory requirements, will be used to demonstrate funding assurance. If the remaining funds plus earnings do not cover the estimated cost to complete the decommissioning, the financial assurance status report will include additional financial assurance to cover the estimated cost of completion. If the accumulated funds for irradiated fuel management do not cover the projected cost, a plan to obtain additional funds to cover the cost will be included in the funding status report.

### 5. JUSTIFICATION FOR EXEMPTIONS AND SPECIAL CIRCUMSTANCES

Pursuant to 10 CFR 50.12, the Commission may, upon application by any interested person or upon its own initiative, grant exemptions from the requirements of the regulations of Part 50 which are authorized by law, will not present an undue risk to the public health and safety, and are consistent with the common defense and security. 10 CFR 50.12 also states that the Commission will not consider granting an exemption unless special circumstances are present.

As discussed below, this exemption request satisfies the provisions of Section 50.12.

#### A. The exemption is authorized by law

The proposed exemption from 10 CFR 50.82(a)(8)(i)(A) would allow use of a portion of the PNPS NDT for spent fuel management and site restoration activities, consistent with the DECON PSDAR and DCE. As stated above, 10 CFR 50.12 allows the NRC to grant exemptions from the requirements of 10 CFR Part 50. The proposed exemption would not result in a violation of the Atomic Energy Act of 1954, as amended, or the Commission's regulations. The NRC has granted exemptions to other licensees to use NDTs for spent fuel management



## ENCLOSURE 2

and site restoration (see Section 6.0 of this enclosure). Therefore, the exemption is authorized by law.

### **B. The exemption will not present an undue risk to public health and safety**

The underlying purpose of 10 CFR 50.82(a)(8)(i)(A) is to provide reasonable assurance that adequate funds will be available for decommissioning of power reactors within 60 years of cessation of operations. Based on the DECON DCE and the cash flow analysis provided in Table 1, use of a portion of the funds in the PNPS NDT for spent fuel management and site restoration activities will not adversely impact the ability to terminate the PNPS license (i.e., complete radiological decommissioning) within 60 years. Additionally, the annual reporting requirements in 10 CFR 50.82(a)(8)(v) and (vii) will allow for continual NRC oversight of the status of the PNPS NDT.

Based on the above, no new accident precursors are created by using the trust fund in the proposed manner. Thus, the probability of postulated accidents is not increased. Also, based on the above, the consequences of postulated accidents are not increased. No changes are being made in the types or amounts of effluents that may be released offsite. There is no significant increase in occupational or public radiation exposure. Therefore, the exemption will not present an undue risk to the public health and safety.

### **C. The exemption is consistent with the common defense and security**

The proposed exemption would allow use of a portion of PNPS NDT for spent fuel management and site restoration efforts, consistent with the DECON DCE. Spent fuel management and site restoration activities are an integral part of the planned PNPS decommissioning process and will not adversely affect the ability to physically secure the site or protect special nuclear material. This change to enable the use of a portion of the funds in the PNPS NDT for spent fuel management and site restoration activities will not alter the scope or availability of sufficient funding for the PNPS security program. Therefore, the proposed exemption is consistent with the common defense and security.

### **D. Special Circumstances**

Pursuant to 10 CFR 50.12(a)(2), the NRC will not consider granting an exemption to its regulations unless special circumstances are present. HDI has determined that special circumstances are present as discussed below.

#### **1. Application of the regulation in the particular circumstances would not serve the underlying purpose of the rule or is not necessary to achieve the underlying purpose of the rule. (10 CFR 50.12(a)(2)(ii))**

The underlying purpose of 10 CFR 50.82(a)(8)(i)(A) is to provide reasonable assurance that adequate funds will be available to complete decommissioning within 60 years of a power reactor's cessation of operations. Strict application of the rule would prohibit withdrawal of funds from the NDT for activities associated with spent fuel management and site restoration until the PNPS operating license has been terminated. However,

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the cash flow analysis in Table 1 demonstrates that more than adequate funds are available in the PNPS NDT to complete license termination, spent fuel management, and site restoration activities; it projects that the NDT will contain approximately \$3.6 million after the license is terminated in 2063 (using a 0.0% escalation rate and a 2.0% annual fund growth rate on remaining funds). Given this projected surplus of funds (even assuming use of the NDT for spent fuel management and site restoration activities), the application of 10 CFR 50.82(a)(8)(i)(A) in these circumstances is not necessary to achieve the underlying purpose of the rule. Accordingly, the special circumstances of 10 CFR 50.12(a)(2)(ii) are present.

**2. Compliance would result in undue hardship or other costs that are significantly in excess of those contemplated when the regulation was adopted, or that are significantly in excess of those incurred by others similarly situated. (10 CFR 50.12(a)(2)(iii))**

The NRC did not intend to prevent the use of NDT funds solely because they are commingled, and to do so would create an unnecessary financial burden on licensees without any corresponding safety benefit. The NRC does not preclude the use of funds from the NDT in excess of those needed for radiological decommissioning for other purposes, such as spent fuel management or site restoration. Rather, the NRC has stated that funding for non-decommissioning activities may be commingled with funding for decommissioning activities in the NDT, provided that the licensee is able to identify and account for the radiological decommissioning funds separately from the funds set aside for spent fuel management (see NRC Regulatory Issue Summary 2001-07, Rev. 1, "10 CFR 50.75 Reporting and Recordkeeping for Decommissioning Planning," dated January 8, 2009 (Reference 7), and Regulatory Guide 1.184, Rev. 1, "Decommissioning of Nuclear Power Reactors," (Reference 8)). The adequacy of the NDT to cover the cost of activities associated with decommissioning, spent fuel management, and site restoration activities is supported by the cash flow analysis in Table 1.

If HDI cannot use the PNPS NDT for spent fuel management and site restoration activities, it would be forced to provide additional funding that would not be recoverable from the trust fund until the PNPS operating license is terminated. To prevent access to the excess funds in the trust would impose an unnecessary and undue burden in excess of that contemplated when the regulation was adopted without any corresponding safety benefit.

Therefore, compliance with the rule would result in an undue hardship or other costs that are significantly in excess of those contemplated when the regulation was adopted, or that are significantly in excess of those incurred by others similarly situated and the special circumstances of 10 CFR 50.12(a)(2)(iii) are present.

## **6. PRECEDENT**

The exemption request for 10 CFR 50.82(a)(8)(i)(A) is consistent with exemption requests that recently have been issued by the NRC for other nuclear power reactor facilities beginning decommissioning. Specifically, the NRC granted similar exemptions to Entergy Nuclear Operations, Inc., for Vermont Yankee (Reference 9); to Duke Energy Florida, Inc. for Crystal River Unit 3 (Reference 10); and to Dominion Energy Kewaunee, Inc. for KPS (Reference 11) and to Exelon Generation for Oyster Creek Nuclear Generating Station (Reference 12).

## **7. ENVIRONMENTAL ASSESSMENT**

### **A. Environmental Considerations**

Pursuant to 10 CFR 51.21, the following environmental considerations are provided.

#### **1. Description of the Action**

HDI requests an exemption from the requirements set forth in 10 CFR 50.82(a)(8)(i)(A) restricting the use of NDT funds. Specifically, the exemption would allow HDI to use funds from the PNPS NDT for spent fuel management and site restoration activities that are not associated with radiological decommissioning.

#### **2. Need for the Action**

An exemption is needed to allow HDI to access NDT funds, in excess of those funds needed for radiological decommissioning, to fund spent fuel management and site restoration activities, in order to avoid an unnecessary financial burden. As required by 10 CFR 50.82(a)(8)(i)(A), NDT funds may be used by a licensee if the withdrawals are for expenses for legitimate decommissioning activities consistent with the definition of decommissioning in 10 CFR 50.2. This definition addresses radiological decommissioning and does not include activities associated with spent fuel management or site restoration. Therefore, HDI needs an exemption from 10 CFR 50.82(a)(8)(i)(A) to allow the use of NDT funds for spent fuel management and site restoration activities.

#### **3. Environmental Impacts of the Action**

The proposed action involves an exemption from requirements that are of a financial or administrative nature and that do not have an impact on the environment. There is no decrease in safety associated with the use of the NDT to fund activities associated with spent fuel management and site restoration.

Following license transfer and sale closure HDI is required to maintain a comprehensive, regulation-based decommissioning funding oversight program to provide reasonable assurance that sufficient funding will be available for the radiological decommissioning of PNPS. After the DECON DCE as required by 10 CFR 50.82(a)(8)(iii) is submitted, and until completing its final radiation survey and demonstrating that residual radioactivity has been reduced to a level that permits termination of its license as required by 10 CFR 50.82(a)(11), financial assurance status reports must be submitted to the NRC annually as required by 10 CFR 50.82(a)(8)(v). The report must include, among other things, amounts spent on decommissioning, the remaining trust fund balance, and estimated costs to complete

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radiological decommissioning. If the remaining NDT balance, plus earnings on such funds calculated at not greater than a 2 percent real rate of return, plus any other financial assurance methods being relied upon, does not cover the estimated costs to complete radiological decommissioning, 10 CFR 50.82(a)(8)(vi) requires that additional financial assurance to cover the estimated costs to complete radiological decommissioning must be provided. These annual reports provide a means for the NRC to monitor the adequacy of the funding available for the radiological decommissioning of PNPS notwithstanding the exemption allowing HDI to use funds for spent fuel management and site restoration activities from the trust fund.

The proposed action will not significantly increase the probability or consequences of radiological accidents; nor will it have any direct radiological impacts. There will be no change to the types or amounts of radiological effluents that may be released, and therefore, no change in occupational or public radiation exposure from the proposed action. The exemption also will not introduce any materials or chemicals into the plant that could affect the characteristics or types of effluents released offsite. In addition, the method of operation of waste processing systems will not be affected by the exemption. The proposed exemption will not result in changes to the design basis requirements of structures, systems, and components (SSCs) that function to limit or monitor the release of effluents. All the SSCs associated with limiting the release of effluents will continue to be able to perform their functions. Moreover, no changes would be made to plant buildings or the site property from the proposed changes. Accordingly, there are not significant radiological environmental impacts associated with the proposed action.

With regard to potential nonradiological impacts, the proposed change would have no direct impacts on land use or water resources, including terrestrial and aquatic biota, as it involves no new construction or modification of plant operational systems. There would be no changes to the quality or quantity of nonradiological effluents and no changes to the plant's National Pollutant Discharge Elimination System permit would be needed. In addition, there would be no noticeable effect on socioeconomic conditions in the region, no environment justice impacts, no air quality impacts, and no impacts to historic and cultural resources from the proposed change. Therefore, there are no significant nonradiological environment impacts associated with the proposed action.

Accordingly, HDI concludes that there are no significant environmental impacts associated with the proposed action.

#### 4. Environmental Impacts of the Alternatives to the Action

As an alternative to the action, the NRC staff could deny HDI's exemption request. Denial of the exemption request would result in Holtec Pilgrim using funds from the trust only for radiological decommissioning and not also for spent fuel management or site restoration activities as described in the exemption request. The environmental impacts of this alternative would be substantively the same as the environmental impacts for granting the exemption request, because there are no potential incremental environmental impacts as a result of granting the exemption request. Therefore, the environmental impacts of the alternative to the action would be the same as those already considered by the previous environmental analyses.

#### 5. Alternative Use of Resources

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The requested action only involves a change in the source of funds allowed for managing spent fuel and restoring the site, and therefore, does not involve the use of any different resources than those previously considered.

### **B. Analysis**

The request for exemption from 10 CFR 50.82(a)(8)(i)(A) to allow use of NDT funds for spent fuel management and site restoration activities has no adverse impact to the environment. Approval of the exemption request would allow Holtec Pilgrim and HDI access to excess funds in the NDT, based on projected trust fund growth and estimated expenditures, while continuing to demonstrate reasonable assurance of available trust funds to complete radiological decommissioning. The proposed action would not result in an adverse impact to the environment, unexpected expenditures, or other uncertainties or risks. Because the proposed exemption relates solely to the source of funding for spent fuel management and site restoration activities, it does not result in there no longer being reasonable assurance of sufficient trust funds to complete radiological decommissioning of the PNPS site and does not significantly affect any of the decommissioning activities or processes previously reviewed. On this basis, the proposed exemption will not have a significant effect on the quality of the human environment.

As a result of the environmental considerations discussed above, HDI concludes that the proposed exemption is in the public interest in that it allows HDI and Holtec Pilgrim to avoid unnecessary and undue costs to cover these expenses from other sources, with no potential incremental environmental impacts.

The proposed exemption does not require any additional Federal permits, licenses, approvals or other entitlements.

## **8. NO SIGNIFICANT HAZARDS CONSIDERATION DETERMINATION**

HDI has evaluated the proposed exemption to determine whether or not a significant hazards consideration is involved by focusing on the three standards set forth in 10 CFR 50.92(c) as discussed below. For the reasons discussed below, HDI concludes that the proposed exemption presents no significant hazards consideration, and, accordingly, a finding of "no significant hazards consideration" is justified.

### **A. Does the proposed exemption does not involve a significant increase in the probability or consequences of an accident previously evaluated?**

The proposed exemption would allow the withdrawal of funds from the PNPS NDT to conduct activities associated with spent fuel management and site restoration activities in accordance with the DECON PSDAR and DCE. The proposed exemption has no effect on plant structures, systems, and components (SSCs) and no effect on the capability of any plant SSC to perform its design function. The proposed exemption would not increase the likelihood of the malfunction of any plant SSC. The proposed exemption would have no effect on any of the previously evaluated accidents in the PNPS Updated Final Safety Analysis Report. Use of funds in the PNPS NDT as allowed under the exemption will not affect the probability of occurrence of any previously analyzed accident.

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The proposed exemption does not change the requirements pertaining to spent fuel management.

Therefore, the proposed exemption does not involve a significant increase in the probability or consequences of an accident previously evaluated.

**B. Does the proposed exemption create the possibility of a new or different kind of accident from any accident previously evaluated?**

The proposed exemption does not involve a physical alteration of the plant. No new or different type of equipment will be installed and there are no physical modifications to existing equipment associated with the proposed exemption. Similarly, the proposed exemption will not physically change any SSCs involved in the mitigation of any accidents. Thus, no new initiators or precursors of a new or different kind of accident are created. Furthermore, the proposed exemption does not create the possibility of a new accident as a result of new failure modes associated with any equipment or personnel failures. No changes are being made to parameters within which the plant is normally operated, or in the setpoints which initiate protective or mitigative actions, and no new failure modes are being introduced.

Therefore, the proposed exemption does not create the possibility of a new or different kind of accident from any accident previously evaluated.

**C. Does the proposed exemption involve a significant reduction in a margin of safety?**

The proposed exemption does not alter the design basis or any safety limits for the plant. The proposed exemption does not impact station operation or any plant SSC that is relied upon for accident mitigation.

Therefore, the proposed exemption does not involve a significant reduction in a margin of safety.

Based on the above, the proposed exemption presents no significant hazards consideration, and, accordingly, a finding of "no significant hazards consideration" is justified.

## 9. CONCLUSION

The proposed exemption would allow HDI, assuming license transfer and equity sale closure, to use the PNPS decommissioning trust fund for the full scope of activities described in the decommissioning cost estimate, including the management of spent fuel and site restoration and to make such disbursements in the same manner as withdrawals for radiological decommissioning.

Pursuant to the provisions of 10 CFR 50.12, HDI is requesting a permanent exemption from 10 CFR 50.82(a)(8)(i)(A) for PNPS. The proposed exemption would allow the use of the PNPS NDT for the full scope of activities described in the DECON PSDAR and DCE, including the



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management of spent fuel and site restoration, and to make such disbursements in the same manner as withdrawals for radiological decommissioning.

Granting this exemption will be consistent with the purposes underlying NRC decommissioning regulations as the exemption: (1) would not foreclose release of the site for possible unrestricted use; (2) would not result in significant environmental impacts not previously reviewed by the NRC; and (3) would not undermine the existing and continuing reasonable assurance that adequate funds will be available for decommissioning.

Based on the considerations discussed above, the requested exemption is authorized by law, will not present an undue risk to the public health and safety, and is consistent with the common defense and security. In addition, special circumstances are present as set forth in 10 CFR 50.12(a)(2)(ii) and (iii).

### REFERENCES:

1. Letter from Pamela B. Cowan, (Holtec Decommissioning International) to U.S. Nuclear Regulatory Commission – Notification of Revised Post Shutdown Decommissioning Activities Report and Revised Site-Specific Decommissioning Cost Estimate for Pilgrim Nuclear Power Station, dated November 16, 2018
2. Letter from Entergy Nuclear Operations, Inc. to U.S. Nuclear Regulatory Commission, "Notification of Permanent Cessation of Power Operations," dated November 10, 2015 (ADAMS Accession No. ML15328A053).
3. Letter from A. Christopher Bakken III, (Entergy Nuclear Operations, Inc) to U.S. Nuclear Regulatory Commission - Application for Order Consenting to Direct and Indirect Transfers of Control of Licenses and Approving Conforming License Amendment; and Request for Exemption from 10 CFR 50.82(a)(8)(i)(A) for Pilgrim Nuclear Power Station, dated November 16, 2018.
4. Letter from Mandy K. Halter, (Entergy Nuclear Operations, Inc.) to U.S. Nuclear Regulatory Commission, "Pilgrim Nuclear Power Station Post-Shutdown Decommissioning Activities Report," dated November 16, 2018.
5. Letter from Mandy K. Halter, (Entergy Nuclear Operations, Inc.) to U.S. Nuclear Regulatory Commission, "Update to Spent Fuel Management Plan Pursuant to 10 CFR 50.54(bb)," dated November 16, 2018.
6. Letter from Mandy K. Halter, (Entergy Nuclear Operations, Inc.) to U.S. Nuclear Regulatory Commission – Request for Exemption from 10 CFR 50.82(a)(8)(i)(A), dated November 16, 2018.
7. NRC Regulatory Issue Summary 2001-07, Revision 1, "10 CFR50.75 Reporting and Recordkeeping for Decommissioning Planning," dated January 8, 2009, (ADAMS Accession No. ML083440158).
8. Regulatory Guide 1.184, Revision 1, "Decommissioning of Nuclear Power Reactors," dated October 2013, (ADAMS Accession No. ML13144A840).



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9. Letter from U.S. Nuclear Regulatory Commission to Entergy Nuclear Operations, Inc; Vermont Yankee Nuclear Power Station, Exemptions from the Requirements of 10 CFR Part 50, Sections 50.82(a)(8)(i)(A) and 50.75(h)(1)(iv) (TAC NO. MF5575), dated June 17, 2015, (ADAMS Accession No. ML15128A219).
10. Letter from U.S. Nuclear Regulatory Commission to Duke Entergy Florida, Inc; Crystal River Unit 3 Nuclear Generating Plant; Exemptions from the Requirements of 10 CFR Part 50, Sections 50.82(a)(8)(i)(A) and 50.75(h)(1)(iv) (TAC NO. MF3875), dated January 26, 2015, (ADAMS Accession No. ML14247A545).
11. Letter from U.S. Nuclear Regulatory Commission to Dominion Entergy Kewaunee, Inc; Kewaunee Power Station, Exemptions from the Requirements of 10 CFR Part 50, Sections 50.82(a)(8)(i)(A) and 50.75(h)(1)(iv) (TAC NO. MF1438), dated May 21, 2014, (ADAMS Accession No. ML13337A287).
12. Letter from U.S. Nuclear Regulatory Commission to Exelon Generation Company, LLC, "Oyster Creek Nuclear Generating Station—Exemptions from the Requirements of 10 CFR 50.82(a)(8)(i)(A) and 10 CFR 50.75(h)(1)(iv)," dated September 19, 2018, (ADAMS Accession No. ML18227A025)

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**Table 1**  
**Annual DECON Decommissioning Fund Cash Flow for the Pilgrim Nuclear Power Station**

<b>Pilgrim Nuclear Power Station - DECON Method</b>								
Annual Cash Flow in Thousands of 2018 Dollars								
No DOE Reimbursement of Spent Fuel Management Costs								
Year	License Termination Cost	Spent Fuel Management Cost	Site Restoration Cost	Total Costs	Beginning of Year NDT Balance <sup>1</sup>	Withdrawals	NDT Earnings <sup>2</sup>	Year Ending NDT Balance <sup>3</sup>
2019	84,927	53,920	18	138,865	1,030,000	(138,865)	5,273	896,408
2020	79,292	84,905	28	164,225	896,408	(164,225)	10,397	742,579
2021	46,759	82,500	637	129,896	742,579	(129,896)	8,700	621,384
2022	103,197	3,332	23,630	130,159	621,384	(130,159)	6,975	498,200
2023	167,453	3,135	1,700	172,288	498,200	(172,288)	4,628	330,540
2024	95,694	3,225	9,236	108,155	330,540	(108,155)	3,158	225,543
2025	1,310	6,306	4,127	11,742	225,543	(11,742)	3,036	216,837
2026		5,952		5,952	216,837	(5,952)	2,995	213,879
2027		5,939		5,939	213,879	(5,939)	2,953	210,893
2028		5,952		5,952	210,893	(5,952)	2,910	207,851
2029		5,952		5,952	207,851	(5,952)	2,867	204,766
2030		7,212		7,212	204,766	(7,212)	2,805	200,359
2031		7,212		7,212	200,359	(7,212)	2,743	195,891
2032		7,212		7,212	195,891	(7,212)	2,679	191,358
2033		7,212		7,212	191,358	(7,212)	2,615	186,762
2034		7,193		7,193	186,762	(7,193)	2,550	182,119
2035		7,212		7,212	182,119	(7,212)	2,484	177,391
2036		7,230		7,230	177,391	(7,230)	2,416	172,577
2037		7,212		7,212	172,577	(7,212)	2,348	167,713
2038		7,193		7,193	167,713	(7,193)	2,279	162,800
2039		7,212		7,212	162,800	(7,212)	2,209	157,798
2040		7,212		7,212	157,798	(7,212)	2,138	152,724
2041		7,212		7,212	152,724	(7,212)	2,066	147,579
2042		7,212		7,212	147,579	(7,212)	1,993	142,361
2043		7,212		7,212	142,361	(7,212)	1,919	137,068
2044		7,212		7,212	137,068	(7,212)	1,844	131,701
2045		7,193		7,193	131,701	(7,193)	1,768	126,276
2046		7,212		7,212	126,276	(7,212)	1,691	120,755
2047		7,212		7,212	120,755	(7,212)	1,612	115,156
2048		7,230		7,230	115,156	(7,230)	1,533	109,458
2049		7,193		7,193	109,458	(7,193)	1,452	103,717

<sup>1</sup> The 2019 Beginning of Year NDT balance reflects the fund value post-closure of the equity sale. The value used does not include deductions for ENOI pre-closure costs. The 2019 costs include HDI estimated pre-closure and post closure costs.

<sup>2</sup> NDT earnings reflect an assumed 2% Real Rate of Return (RRR)

<sup>3</sup> The Year Ending NDT Balance is net of taxes

<sup>4</sup> Columns may not add due to rounding

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<b>Pilgrim Nuclear Power Station - DECON Method</b>								
Annual Cash Flow in Thousands of 2018 Dollars								
No DOE Reimbursement of Spent Fuel Management Costs								
Year	License Termination Cost	Spent Fuel Management Cost	Site Restoration Cost	Total Costs	Beginning of Year NDT Balance <sup>1</sup>	Withdrawals	NDT Earnings <sup>2</sup>	Year Ending NDT Balance <sup>3</sup>
2050		7,212		7,212	103,717	(7,212)	1,370	97,876
2051		7,193		7,193	97,876	(7,193)	1,288	91,971
2052		7,230		7,230	91,971	(7,230)	1,203	85,944
2053		7,212		7,212	85,944	(7,212)	1,118	79,851
2054		7,212		7,212	79,851	(7,212)	1,031	73,671
2055		7,193		7,193	73,671	(7,193)	944	67,422
2056		7,212		7,212	67,422	(7,212)	855	61,065
2057		7,212		7,212	61,065	(7,212)	765	54,618
2058		7,212		7,212	54,618	(7,212)	673	48,080
2059		7,212		7,212	48,080	(7,212)	580	41,449
2060	4,296	7,212		11,507	41,449	(11,507)	425	30,367
2061	4,375	7,212		11,587	30,367	(11,587)	267	19,047
2062	4,358	7,193		11,551	19,047	(11,551)	106	7,602
2063	892	2,441	706	4,038	7,602	(4,038)	51	3,615
<b>Total<sup>14</sup></b>	592,553	501,467	40,079	1,134,099		(1,134,099)	107,714	

<sup>1</sup> The 2019 Beginning of Year NDT balance reflects the fund value post-closure of the equity sale. The value used does not include deductions for ENOI pre-closure costs. The 2019 costs include HDI estimated pre-closure and post closure costs.

<sup>2</sup> NDT earnings reflect an assumed 2% Real Rate of Return (RRR)

<sup>3</sup> The Year Ending NDT Balance is net of taxes

<sup>4</sup> Columns may not add due to rounding