

COMMONWEALTH OF MASSACHUSETTS
Energy Facilities Siting Board

Petition of Southern Energy Kendall, LLC)	
for Approval to Upgrade and Replace)	
Generating Facilities at the Existing)	EFSB 99-4A
Kendall Square Station in)	
Cambridge, Massachusetts)	
)	

FINAL DECISION ON COMPLIANCE
AND REQUEST TO AMEND CONDITION E

Jolette A. Westbrook
Hearing Officer
November 15, 2002

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The Energy Facilities Siting Board hereby: (1) finds that Mirant Kendall, LLC has complied with Condition D of the Final Decision; and (2) amends Conditions E and F of the Final Decision.

I. INTRODUCTION

On December 15, 2000, the Energy Facilities Siting Board (“Siting Board”) issued its final decision in Southern Energy Kendall, LLC, 11 DOMSB 225 (2000) (“Final Decision”). The Final Decision conditionally approved the petition of Mirant Kendall, LLC (“Mirant Kendall” or “Company”), formerly known as Southern Energy Kendall, LLC, to upgrade generating facilities at the existing Kendall Square Station (“Kendall Station”) in Cambridge, Massachusetts. The project is designed to upgrade the existing cogeneration plant into a natural gas-fired, combined cycle, electric generating facility and increase generating capacity at Kendall Station from approximately 64 megawatts to approximately 234 megawatts. Final Decision, 11 DOMSB 255, 266. As part of this project, Mirant Kendall intends to alter the water supply for Kendall Station by taking water for process use and steam generation from the Broad Canal/Charles River rather than from the Cambridge municipal water supply. Id. at 317.

In the Final Decision, the Siting Board imposed three conditions, Conditions D, E and F, for Mirant Kendall to meet prior to the commencement of operation. On October 11, 2002, Mirant Kendall submitted a compliance filing with respect to Conditions D and F (“Compliance Filing”).¹ On October 15, 2002, Mirant Kendall submitted a request to amend Condition E of the Final Decision (“Request to Amend”).² On October 18 and October 25, 2002, Mirant Kendall submitted responses to information requests.³ On October 23, 2002, the City of Cambridge

¹ The Compliance Filing, including all attachments, is hereby moved into evidence as Exhibit EFSB-CF-1 with Attachment A (“Recycling Audit and Recycling Plan”, dated October 2000) and Attachment B (“In-Stream Water Quality and Biological Monitoring During Project Operations”).

² The Request to Amend, including all attachments, is hereby moved into evidence as Exhibit EFSB-CF-2.

³ The October 18, 2002 information requests and all attachments are hereby moved into evidence as Exhibit EFSB-CF-3 (submitted as EX-1) and EFSB-CF-4 (submitted as
(continued...))

(“City”) submitted comments on the Compliance Filing and Request to Amend (“City Comments”). On October 25, 2002, Mirant Kendall submitted a response to the City’s Comments (“Response”).

The upgraded Kendall Station facility currently is scheduled to begin operation in November 2002 (Exh. EFSB-CF-2, at 2). However, Mirant Kendall does not expect to receive a modified National Pollutant Discharge Elimination System (“NPDES”) permit for Kendall Station until early 2003 (*id.* at 3). Until the Company receives a modified NPDES permit, Kendall Station will continue to draw process and steam water from the Cambridge municipal water system (Exh. EFSB-CF-3). The Company also intends to delay commissioning of the use of oil in its new combustion turbine generator until the relative prices of natural gas and low-sulfur oil make oil use economic (Exh. EFSB-CF-1, at 4).

II. COMPLIANCE WITH CONDITION D – SOLID AND HAZARDOUS WASTE

A. Description

In the underlying case, the Siting Board determined that the operation of the upgraded facility would have minimal impact on the production of solid waste at Kendall Station. Final Decision at 331. The Siting Board noted that the Company indicated that it would attempt to meet or exceed the City’s 31% average rate of recycling, and would work to reduce construction and demolition debris during construction. *Id.* In Condition D of the Final Decision, the Siting Board directed Mirant Kendall to file a copy of the updated recycling plan with the Siting Board, and to report on its recycling rate for construction and demolition debris and its anticipated recycling rate for operational wastes. Final Decision at 393. The Siting Board found that, with the implementation of Condition D, the solid waste impacts of the proposed project would be minimized.

In response to Condition D, Mirant Kendall submitted to the Siting Board copies of a recycling plan filed with the City of Cambridge (“City”) on October 20, 2000, and of an update to that plan filed with the City on October 25, 2002 (Exhs. EFSB-CF-1, Att. A, EFSB CF-3).

(...continued)

EX-2). The October 25, 2002 information requests and all attachments are hereby moved into evidence as EFSB-CF-5 (submitted as CF-1) and EFSB-CF-6 (submitted as CF-2).

The Company's plans show that it intends to recycle scrap metal (11.1% of its total waste stream), lamps/CRTs (cathode ray tube) (0.2%), waste oil (16.0%), and office paper (2.9%) (id.).

With respect to the recycling rate for construction and demolition debris, the Company reports that it has recycled approximately 308 tons of metal and has transferred much of the dirt generated by the upgrade to other entities to be used as fill (Exh. EFSB CF-1, at 2). Mirant Kendall also states that other construction debris such as wood, concrete and paper scrap has been taken to local landfills (id.).

B. Analysis

Mirant Kendall has provided a copies of its original and updated recycling plans, including information which allows the Siting Board to calculate the Company's anticipated recycling rate for operational wastes as approximately 30.2%. This rate nearly reaches 31%; the Company therefore appears to be keeping its commitment made in the underlying case to attempt to meet or exceed the City's 31% average rate of recycling. Mirant Kendall also has provided the Siting Board with information regarding its recycling rate for construction and demolition debris. Accordingly, the Siting Board finds that Mirant Kendall has complied with Condition D of the underlying decision.

III. REQUEST TO AMEND CONDITION E – EMERGENCY WATER AGREEMENT

A. Description

The Mirant Kendall plant currently uses water drawn from the Broad Canal for once-through cooling, and uses water obtained from the City of Cambridge for process and sanitary purposes, and for production of steam for distribution to steam customers (Exh. EFSB CF-3). Final Decision at 300. As part of its upgrade project, Mirant Kendall proposed to divert process and steam water from the once-through cooling flow, thus reducing its use of City water from an annual average of 188,640 gallons per day ("gpd") to 5,040 gpd. Final Decision at 317. The Company stated that, in an emergency, it might seek to use City water for process water and steam production, and estimated its maximum emergency water use needs at a variety of levels ranging up to 518,000 gpd. Id. In the underlying case, the City supported the use of city water as a back-up supply, but expressed concerns about its ability to provide water at the higher levels

proposed by the Company. Id. at 317-318.

In the Final Decision, the Siting Board noted that the terms and conditions for the use of City water as a back-up water supply should be resolved through negotiations between the City and the Company. Id. at 318. The Siting Board therefore directed the Company to negotiate a mutually acceptable emergency water use agreement with the City and to provide a copy to the Siting Board prior to the commencement of operation. Id.

In its Request to Amend, Mirant Kendall seeks to alter the timing of its compliance with Condition D. Specifically, the Company asks that it not be required to submit a copy of the emergency water use agreement to the Siting Board until it receives a modified NPDES permit allowing it to begin consumption of Charles River water for process and steam purposes (“Consumption Commencement”) (Exh. EFSB CF-2). The Company notes that, until Consumption Commencement, it will continue to rely on City water for its entire process and steam needs, and argues that an emergency water agreement is not needed until such time as it begins to rely on City water only in emergencies (id. at 2-3). The Company asserted that it would not increase its consumption of City water over historical levels prior to the likely time of Consumption Commencement, and in support provided a brief analysis of the likelihood of increases in its water consumption for steam sales, boiler blowdown, water injection due to oil firing, power augmentation, evaporative cooling, and sanitary uses (id.; EFSB-CF-3).

B. City of Cambridge Comments

In its Comments, the City notes that, ordinarily, a change in conditions such as that proposed by Mirant Kendall would require the taking of additional evidence (City Comments at 1). However, the City indicates that it would accept the use of a less formal process if the City’s interests in its water supply are protected (id. at 2). Specifically, the City proposes that any amendment to Condition E be temporary, and that Mirant Kendall should be prohibited from using City water in quantities above historical levels without the City’s express consent (id. at 1 to 2). The City argues that these restrictions would protect the City’s water supply both from the burden of unanticipated demand, and in the event that the Company’s use of City water for process and steam purposes continues into the summer months when the demand for water is high (id.). The City therefore proposes that Condition E be amended to read as follows:

In order to minimize water impacts, the Siting Board directs the Company to negotiate a mutually acceptable emergency water agreement with Cambridge and to provide a copy to the Siting Board on the earlier of: (a) March 1, 2003 or (b) when Mirant begins taking water from the Charles River and relying upon the City of Cambridge for emergency water back-up. If Mirant limits its use of City water to historical levels (or obtains City consent), the water use agreement may be filed after other portions of the plant begin operation, as long as no River water is used, no new discharge to the River occurs and no new outfall is used (id. at 2).

C. Response of Mirant Kendall

Mirant Kendall states that, while it understands the City's interest in protecting its water infrastructure, it has two concerns with the specific condition proposed by the City (Response at 2-3). First, Mirant Kendall opposes the City's proposal for a firm March 1, 2003 deadline for the emergency water agreement, arguing that, while it expects that a NPDES permit for the upgraded facility could be issued by March 1, 2003, it does not control the timing of the permitting process (id. at 2). The Company asserts that it might need to request a further amendment to Condition E if the NPDES permit has not been issued by March 1 and if the Company and the City have not reached a mutually acceptable agreement by that time (id.). Second, Mirant Kendall expresses concern that the City's proposed condition, as drafted, could be read to restrict water withdrawals from and discharges to the Charles River in a manner inconsistent with the Final Decision (id.). The Company argues, for example, that the proposed amendment could be read to restrict the use of the Charles River for once-through cooling water purposes, even though the Final Decision recognizes that both the existing and upgraded facilities use river water for once-through cooling (id. at 2-3). The Company therefore proposed alternate language for an amended Condition E, as follows:

In order to minimize water impacts, the Siting Board directs the Company to negotiate a mutually acceptable emergency water use agreement with Cambridge and to provide a copy to the Siting Board during operation when Mirant Kendall begins taking process water requirements from the Charles River and depending on the City of Cambridge for emergency back-up of the required process water. The Siting Board also directs Mirant Kendall to limit its use of City water to historical levels during the interim period until the commencement of Charles River water consumption for process use.

(id. at 4).

D. Analysis

Mirant Kendall has requested that Condition E be amended to allow the upgraded Kendall Station to begin commercial operations before the Company has negotiated an emergency water agreement with the City, arguing that such an agreement is not needed until such time as the Company ceases to rely regularly on City water for process and steam use. The City has agreed to an amendment of this nature, provided that restrictions are placed on Mirant Kendall's consumption so that the City's water supply is not overburdened in the interim. In the underlying decision, the Siting Board noted that the terms and conditions for the use of City water as a back-up water supply should be resolved through negotiations between the City and the Company, and set a time-frame for the completion of these negotiations. Final Decision at 318. In light of the change in the expected timing of the Company's modified NPDES permit, and given the agreement of the two affected parties, the Siting Board is willing to extend that deadline. The Siting Board agrees with the City that it is appropriate to place restrictions on Kendall Station's consumption of City water until such time as it implements the water supply plan approved in the Final Decision. However, given the importance of the emergency water supply agreement, the Siting Board finds that it is appropriate to impose a firm deadline for the completion of contract negotiations, regardless of when the modified NPDES permit is issued, and the Company is able to begin taking its process and steam water from the Broad Canal/Charles River. Accordingly, the Siting Board amends Condition E to read as follows:

In order to minimize water impacts, the Siting Board directs the Company to negotiate a mutually acceptable emergency water agreement with Cambridge and to provide a copy to the Siting Board on the earlier of: (a) March 1, 2003 or (b) that time when Mirant begins taking water from the Broad Canal/Charles River for process and steam purposes, and relying upon the City water only for sanitary purposes and for emergency process and steam use. The Siting Board also directs Mirant to limit its use of City water to historical levels, or obtain City consent to use City water at higher levels, until such time as it ceases to rely regularly on City water for process and steam purposes.

IV. COMPLIANCE WITH CONDITION F – WATER QUALITY MONITORING

A. Description

In the underlying decision, Mirant Kendall proposed to mitigate potential entrainment, impingement, and thermal impacts on fish populations by directing a portion of its discharge to

the bottom of the Charles River through a newly constructed deep diffuser. Final Decision at 311-312, 320. The diffuser was intended to re-oxygenate the lower Charles Basin resulting, inter alia, in an increase of approximately 10% in fish habitat in the Charles River. Id. at 311-312. The Company also proposed to install a barrier net at the intake structures to reduce impingement and entrainment losses. Id. at 311.

In the Final Decision, the Siting Board required Mirant Kendall to monitor the effects of its intake/discharge system, including the proposed barrier net and diffuser, on water quality and fisheries. Id. at 322. Specifically, Condition F of the Final Decision required Mirant Kendall:

... in consultation with MDEP and EPA, to develop and implement a plan to monitor the impacts and the beneficial effects of the proposed intake/discharge system, including temperature impacts, fishery impacts as indicated by changes in impingement and entrainment rates, DO [dissolved oxygen] changes and other parameters the Company considers important, for a minimum of two years following the commencement of commercial operation. The Company shall provide the Siting Board with a copy of its monitoring plan prior to commencement of commercial operation.

Id. at 393.

In its Compliance Filing, Mirant Kendall submitted to the Siting Board a detailed draft monitoring plan describing the various water quality monitoring programs that it plans to implement (Exh. EFSB CF-1, Att. 2).⁴ These programs include continuous multi-depth monitoring of river temperatures at various locations and biological sampling during the three years following the initial operation of the upgraded Kendall Station (Exh. EFSB-CF-1, Att. B). The Company stated that the objectives of the biological sampling include: (1) repeating baseline studies to identify any changes in fish populations and migration patterns resulting from plant operation; (2) better defining the extent of habitat and temperature tolerance of yellow perch; (3) determining the efficiency of the fine mesh barrier surrounding the water intakes at Kendall Station; and (4) refining details of the timing of and temperatures associated with the Charles River herring run (id.).

⁴ Mirant Kendall states that monitoring plan likely will be revised when the Company's modified NPDES permit is issued (Exh. EFSB CF-1, at 3).

B. City of Cambridge Comments

The City argues that a finding of compliance with Condition F would be premature at this time, since Mirant Kendall has filed a draft, rather than a final, water monitoring plan (City Comments at 3). The City expressed concern that acceptance of the draft monitoring plan at this time would limit the effectiveness of Condition F by reducing the period of time over which the Company would be required to monitor the effects of its new intake and discharge system (id.). The City noted that Condition F required Mirant Kendall to do water quality monitoring “for a minimum of two years following the commencement of commercial operation,” with the implicit assumption that the new intake and discharge system would be in operation for the full two years (id.). The City argues that, rather than making a finding of compliance at this time, the Siting Board should amend Condition F to allow Mirant Kendall to file its final water quality monitoring plan after it receives its modified NPDES permit, and to ensure two full years of water quality monitoring with the new intake/discharge system in place (id. at 4). Specifically, the City proposes that Condition F be amended to read as follows:

In order to minimize water impacts, the Siting Board directs the Company, in consultation with MDEP and EPA, to develop and implement a plan to monitor the impacts and the beneficial effects of the proposed intake/discharge system, including temperature impacts, fishery impacts as indicated by changes in impingement and entrainment rates, dissolved oxygen changes and other parameters the Company considers important, for a minimum of two years following the time when Mirant commences operation of the proposed Charles River intake/discharge system. The Company shall provide the Siting Board with a copy of its monitoring plan prior to commencing such operation.

Id.

C. Analysis

Mirant Kendall has presented a detailed water quality monitoring plan that addresses, inter alia, the issues raised in Condition F. However, as both the Company and the City note, the plan is in draft form and likely will be revised when Mirant Kendall receives its modified NPDES permit. The Siting Board therefore cannot conclude that Mirant Kendall has complied with Condition F. The Siting Board agrees with the City that an amended Condition F would allow Mirant Kendall to begin operation of its upgraded equipment while ensuring that the Company retains its obligation to monitor the effects of the new intake/discharge system for at

least two full years of operation. Accordingly, the Siting Board amends Condition F to read as follows:

In order to minimize water impacts, the Siting Board directs the Company, in consultation with MDEP and EPA, to develop and implement a plan to monitor the impacts and the beneficial effects of the proposed intake/discharge system, including temperature impacts, fishery impacts as indicated by changes in impingement and entrainment rates, dissolved oxygen changes and other parameters the Company considers important, for a minimum of two years following the time when Mirant commences operation of the proposed intake/discharge system. The Company shall provide the Siting Board with a copy of its monitoring plan prior to commencing such operation.

V. ADDITIONAL ISSUES

The Siting Board requires that project proponents notify the Siting Board of any changes other than minor variations to the proposal as presented to the Siting Board, so that it may decide whether to inquire further into such issues. Final Decision at 396. In addition to the compliance and amendment issues addressed above, Mirant Kendall also provided the Siting Board with information that the Company intends to delay commissioning of the use of oil in its new combustion turbine generator until the relative prices of natural gas and low-sulfur oil make oil use economic (Exh. EFSB-CF-1, at 4). Mirant Kendall stated that this delay does not change the Company's proposed operation of the new combustion turbine generator (id. at 3). In the underlying case, Mirant Kendall clearly stated that oil was to be used as a back-up fuel for up to 30 days. Final Decision at 294. Mirant Kendall also indicated that economic factors could influence the use of oil at the upgraded facility. Id. Accordingly, the Siting Board finds that the delay in the commissioning in the use of oil does not require further inquiry.

VI. DECISION

In the Final Decision, the Siting Board found, inter alia, that upon compliance with three pre-operative conditions, Conditions D, E and F, Mirant Kendall could begin operation of the upgraded Kendall Facility. Here, the Siting Board has found that Mirant Kendall has complied with Condition D. The Siting Board has also amended Conditions E and F as follows:

During operation of the proposed facility:

- E. In order to minimize water impacts, the Siting Board directs the Company to negotiate a mutually acceptable emergency water agreement with Cambridge and to provide a copy to the Siting Board on the earlier of: (a) March 1, 2003 or (b) that time when Mirant begins taking water from the Broad Canal/Charles River for process and steam purposes, and relying upon the City water only for sanitary purposes and for emergency process and steam use. The Siting Board also directs Mirant to limit its use of City water to historical levels, or obtain City consent to use City water at higher levels, until such time as it ceases to rely regularly on City water for process and steam purposes.
- F. In order to minimize water impacts, the Siting Board directs the Company, in consultation with MDEP and EPA, to develop and implement a plan to monitor the impacts and the beneficial effects of the proposed intake/discharge system, including temperature impacts, fishery impacts as indicated by changes in impingement and entrainment rates, dissolved oxygen changes and other parameters the Company considers important, for a minimum of two years following the time when Mirant commences operation of the proposed intake/discharge system. The Company shall provide the Siting Board with a copy of its monitoring plan prior to commencing such operation.

As a result of these amendments, Mirant Kendall is no longer required to comply with Conditions E and F prior to the operation of the proposed facility. Consequently, Mirant Kendall has met all pre-operational conditions imposed by the Siting Board, and may begin operation of the proposed facility in November 2002.

In addition, consistent with the Siting Board's directive to Mirant Kendall to inform the Siting Board of any changes to the Company's proposed project, other than minor variations, Mirant Kendall informed the Siting Board of one such change. The Siting Board has found that this change does not require further inquiry.

Jolette A. Westbrook
Hearing Officer

Dated this 14th day of November, 2002

APPROVED by the Energy Facilities Siting Board at its meeting of November 14, 2002, by the members and designees present and voting: Paul B. Vasington (Chairman, DTE/EFSB); Deirdre K. Manning (Commissioner, DTE); W. Robert Keating (Commissioner, DTE); Robert Sydney (for David L. O'Connor, Commissioner, Division of Energy Resources); Joseph Donovan (for Peter J. Abair, Director of Economic Development); and Sonia Hamel (for Robert Durand, Secretary of Environmental Affairs).

Paul B. Vasington, Chairman
Energy Facilities Siting Board

Dated this 14th day of September, 2002.

Appeal as to matters of law from any final decision, order or ruling of the Siting Board may be taken to the Supreme Judicial Court by an aggrieved party in interest by the filing of a written petition praying that the order of the Siting Board be modified or set aside in whole or in part.

Such petition for appeal shall be filed with the Siting Board within twenty days after the date of service of the decision, order or ruling of the Siting Board, or within such further time as the Siting Board may allow upon request filed prior to the expiration of the twenty days after the date of service of said decision, order or ruling. Within ten days after such petition has been filed, the appealing party shall enter the appeal in the Supreme Judicial Court sitting in Suffolk County by filing a copy thereof with the clerk of said court. (Massachusetts General Laws, Chapter 25, Sec. 5; Chapter 164, Sec. 69P).