COMMONWEALTH OF MASSACHUSETTS
Energy Facilities Siting Council

In the Matter of the Petition of Berkshire Gas Company for Approval of its Application to Construct a 6.2 Mile, 12-Inch Diameter, Natural Gas Pipeline with Maximum Operating Pressure of 500 Pounds Per Square Inch and Related Meter Station	)	EFSC 91-29

FINAL DECISION

Robert W. Ritchie
Jolette A. Westbrook
Hearing Officers
June 26, 1992

On the Decision:

Phyllis Brawarsky

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APPENDIX:

The Energy Facilities Siting Council hereby CONDITIONALLY APPROVES the petition of Berkshire Gas Company to construct: (1) a 6.2 mile, 12-inch diameter natural gas pipeline with a maximum operating pressure of 500 pounds per square inch along the proposed route described herein; and (2) a meter station at the proposed site as described herein.

I. INTRODUCTION

A. Summary of the Proposed Project and Facilities

The Berkshire Gas Company ("Berkshire" or "Company") distributes and sells natural gas to residential, commercial and industrial customers in 19 communities throughout Berkshire, Franklin, and Hampshire Counties. Berkshire Gas Company, 23 DOMSC 294, 298 (1991) ("1991 Berkshire Gas Decision"). In the split year 1989-1990, the Company had an average of 30,342 firm service customers. Id. Berkshire also sells gas to interruptible customers. The Company's total normalized firm sendout for the split-year 1989-1990 was 5,528 million cubic feet ("MMcf") Id.[1]

Berkshire receives pipeline gas and underground storage gas from the Tennessee Gas Pipeline Company ("Tennessee") at its Pittsfield, West Pittsfield, North Adams, Stockbridge, and Greenfield meter stations. Id. Berkshire also receives, under transportation agreements with Tennessee, pipeline gas from Boundary Gas Incorporated ("Boundary") and storage return gas from Penn-York Energy Corporation ("Penn-York") and Consolidated Gas Supply Corporation;[2] and supplemental liquified natural gas ("LNG") from Bay

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1/ One MMcf of natural gas equals roughly one thousand decatherms (MDth) or one billion British thermal units ("BBtu"). For purposes of this review, the Siting Council assumes that one MMcf is equivalent to one MDth and that one decatherm ("Dth") is equivalent to one thousand cubic feet ("Mcf").

2/ Storage return gas is a form of natural gas supply which has been removed and transported from large underground storage facilities. Berkshire's storage facilities are located in Pennsylvania and New York. Such gas supplies typically are injected into storage during the summer off-peak season and consumed during

State Gas Company and Distrigas of Massachusetts Corporation ("DOMAC"). Id. In addition, Berkshire has auxiliary propane facilities in Pittsfield, Stockbridge, North Adams, Greenfield and Hatfield. Id., at 2.

In its most recent review of Berkshire's long-range forecast, the Energy Facilities Siting Council ("Siting Council") approved Berkshire's sendout forecast and conditionally approved Berkshire's supply plan. Berkshire Gas Company, 19 DOMSC 247, 251, 321-322, 324-327 (1990) ("1990 Berkshire Decision (Phase I)").[3,4]

In the case currently before the Siting Council, the Company has proposed to construct natural gas pipeline facilities in the City of Pittsfield including (1) a 6.2-mile, 12-inch diameter natural gas pipeline with a maximum operating pressure of 500 pounds per square inch ("psi"), and (2) a meter station to provide for the receipt of gas volumes for transportation on the proposed pipeline (Exh. HO-2, pp. 4, 7).[5,6] Berkshire's

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the winter heating season.

3/ In the 1990 Berkshire Decision (Phase I), the Siting Council imposed two conditions on the Company (19 DOMSC at 321-322). The Company responded to these two conditions on July 11, 1990 and October 10, 1990. In a letter to the Company dated December 12, 1990, the Siting Council acknowledged that Berkshire had satisfied those conditions.

4/ The Company's forecast filing also requested approval to construct pipeline and meter station facilities. On January 30, 1990, the Hearing Officer in that proceeding severed the forecast portion of the filing from the facilities portion of the filing. The Siting Council issued its decision on the forecast portion of the filing on February 9, 1990. 1990 Berkshire Decision (Phase I), 19 DOMSC 247. The decision on the facilities portion of the filing was issued on March 16, 1990. Berkshire Gas Company, 20 DOMSC 109 (1990) ("1990 Berkshire Decision (Phase II)").

5/ The Company originally proposed to construct an approximately 11.2-mile natural gas pipeline within Richmond and Pittsfield ("Richmond Feedline") and a meter station in Richmond (Exh. HO-1, p. 1-2). The Company subsequently filed an amendment to its petition in which Berkshire proposed to construct the meter

proposed meter station would be located near the Bousquet ski area (hereinafter "Bousquet delivery point" or "Bousquet meter station") along a Tennessee lateral pipeline, the North Adams lateral, and directly adjacent to related metering facilities proposed by Tennessee (id., p. 8, Exh. HO-4, p. 2-3, HO-SC-AL-10, Exh. 1).[7] The proposed pipeline would extend from the Bousquet delivery point to existing interconnection facilities that connect the North Adams lateral to the Altresco-Pittsfield, L.P., cogeneration facility ("Altresco facility") (Exh. HO-2, pp. 4-5).[8] In addition, the

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station in Pittsfield and a 6.2-mile natural gas pipeline which is approximately one-half the length of the original Richmond Feedline. For a discussion regarding the original and amended proposals, see Section I.B, below.

6/ Berkshire and Altresco-Pittsfield, L.P., are considering a financing structure whereby the proposed facilities would continue to be operated and maintained by Berkshire, but would be owned by an entity involving Altresco-Pittsfield, L.P., and a subsidiary of Tennessee (Exh. HO-O-1; Tr. 4, pp. 268-269). This financing arrangement has not been finalized (Exh. HO-O-1).

7/ Berkshire indicated that the Tennessee portion of the meter station facilities would consist of two buildings -- a data acquisition telemetry facility and a metering facility -- and a 150 foot-long, eight-inch diameter pipeline that would interconnect the meter station facilities with the North Adams lateral (Exh. HO-2, pp. 8-9). Berkshire indicated that the Federal Energy Regulatory Commission ("FERC") has approved the application of Tennessee to construct and operate the facilities (Exh. H-E-52). Berkshire further indicated that a zoning exemption from the Massachusetts Department of Public Utilities ("DPU") is required prior to the commencement of construction by Tennessee and that Tennessee's request for a zoning exemption is pending before the DPU (Exh. HO-E-51).

8/ The interconnection facilities consist of (1) a 12-inch diameter, approximately 2,600, foot Tennessee pipeline that extends from the North Adams lateral to a temporary Berkshire meter station ("Tenneco Interconnect"), and (2) a 12-inch diameter, approximately 2,500 foot, Berkshire pipeline that extends from the temporary

Company proposes to construct a 12-inch diameter pipeline, approximately 2,600 feet in length with a maximum operating pressure of 100 psi, which would connect the Altresco facility with Berkshire's distribution system in Pittsfield ("backfeed line") (Exh. HO-1, p. 3-3).

The Siting Council previously approved the petition of Altresco-Pittsfield, Inc. to construct a 156 megawatt combustion turbine, combined cycle cogeneration facility in Pittsfield. Altresco-Pittsfield, Inc., 17 DOMSC 351 (1989) ("Altresco Decision"). The primary fuel for the Altresco facility is natural gas although the facility is capable of burning distillate oil. Id., 17 DOMSC at 254. The Altresco facility commenced commercial operations on September 1, 1990 (Exh. HO-1, p. 3-1). Natural gas is currently transported to the Altresco facility, on an interruptible basis, via the existing North Adams lateral and existing interconnection facilities (id., p. 3-2, Exh. AP-1, pp. 8-9). Berkshire's proposed pipeline and meter station will be capable of transporting on a firm basis, up to 45,000 Mcf per day of natural gas including 40,000 Mcf per day for the Altresco facility and 5,000 Mcf per day for Berkshire's system needs (Exh. HO-1, p. 3-3).[9]

The Company identified two routes for the proposed pipeline, the primary route and the alternative route (id., pp. 1-1, 1-2 n.16, 5-7, 5-8 n.26, 5-30, Exh. HO-2, pp. 7 n.9, p. 11).[10] The primary route would begin at the Bousquet delivery point in Pittsfield and travel to the east and north, within the public way and across private and public property, including the

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Berkshire meter station to the Altresco facility ("Altresco spur line") (Exh. HO-1, pp. 3-7, 3-8). For a further discussion of the interconnection facilities, see Section II.A.3.b, below.

9/ The Company indicated that gas transported through the proposed pipeline for Berkshire's system needs would be delivered to Berkshire's distribution system via the backfeed line (Exh. HO-1, p. 3-3).

10/ The pipeline route approved by the Siting Council in the 1990 Berkshire Decision (Phase II) was not included as an alternative route in the instant application. See Section III.C, below.

Bousquet ski area, the Pittsfield Country Club, Massachusetts Audubon Society's Canoe Meadows Wildlife Sanctuary ("Canoe Meadows") and Brattlebrook Park, to the existing interconnection facilities (Exhs. HO-1, pp. 1-2 n.16, 5-7, 5-8, HO-2, p. 7). The primary route would parallel the existing Tennessee North Adams lateral right-of-way ("ROW") for approximately 3,700 feet (Exhs. HO-1, Figure 5-2, HO-E-10). The Company also identified several variations to segments of the primary route (Exh. HO-1, Figure 5-5). The alternative route also would begin at the Bousquet delivery point, but then would travel parallel to the existing Tennessee North Adams lateral ROW from the Bousquet ski area to the interconnection facilities with the exception of one portion of the route between the Bousquet ski area and Pittsfield Country Club where the alternative route would travel within the public way (id., Figure 5-4).[11]

B. Procedural History

On April 12, 1991, Berkshire filed its proposal to construct the Richmond Feedline.[12] This proposed pipeline together with certain existing interconnection facilities would connect the transmission system of Tennessee with the existing Altresco facility located in Pittsfield.[13] In

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11/ A complete description of the primary and alternative routes and all variations is provided in Section III.B, below.

12/ The Richmond Feedline would begin at the Richmond meter station site and continue within a public way up to, and then parallel to the existing Tennessee North Adams lateral ROW, through the Town of Richmond to Knox Road in Pittsfield. It would then travel along Knox Road and Tamarack Road to the Bousquet ski area. From there, it would follow the Company's primary route (see Section III.B.1., below).

13/ In the 1990 Berkshire Decision (Phase II), the Siting Council approved the Company's application to (1) construct a pipeline designed to provide gas transportation services to the Altresco facility in the City of Pittsfield, and (2) construct a new meter station on Dublin Road in Richmond (20 DOMSC at 102-105). The Town of Richmond and Zelda Brandon were intervenors in that

addition, the Company proposed to construct a new metering station with a preferred site in the Town of Richmond. The facility application also set forth one alternative pipeline route ("Conrail/Cloverdale"), and route segment variations to the primary route.

On July 25, 1991, the Hearing Officers issued a Notice of Adjudication and Public Hearing and directed the Company to publish and post the Notice in accordance with 980 CMR 1.03(2). A public hearing was held in the City of Pittsfield on August 27, 1991.

Petitions to intervene were filed by Altresco Pittsfield L.P., by its General Partner Altresco, Inc. ("Altresco"), Eric S. Biss ("Biss"), the Town of Richmond ("Richmond"), and a joint petition was filed on behalf of Shirley Motyl-Clerici and Ronald Clerici ("Motyl/Clerici").[14] Petitions to

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proceeding and appealed the Siting Council's decision to the Supreme Judicial Court. The Company stated that during the pendency of this proceeding, it would not pursue development of the pipeline along the previously approved route (Exh. HO-1, p. 1-3). As of this date, the appeal is still pending. The route approved in the 1990 Berkshire Decision (Phase II) was for an 11.5 mile gas pipeline extending from the Tennessee main line in Richmond to the Altresco facility in Pittsfield (20 DOMSC 213-216). However, the Company stated that continued opposition of certain Richmond and Pittsfield officials and residents to the previously approved route could result in lengthy delays in the permitting process for that route (Exh. HO-1, p. 2-6). Specifically, the Company stated that it was unable to obtain legislative approval for the Brattlebrook Park crossing of the previously approved route (Tr. 2, pp. 166-168). Further, the Company stated that since the 1990 Berkshire Decision (Phase II), new opportunities have arisen with respect to pipeline routing including (1) the availability of certain private ROWS, and (2) opportunities to mitigate the incremental environmental impact of pipeline construction (Exh. HO-1, p. 2-7).

14/ William and Carolyn French ("the Frenches") filed a motion on November 19, 1991 for late-filed intervention. At a prehearing conference held on that date, the motion was granted (November 19, 1991 Prehearing Conference, Tr., p. 11). On January 1, 1992, the Frenches filed a motion to withdraw from the proceedings which was granted by the Hearing Officers on February 10, 1992 (Tr.

participate as an interested person were filed by Zelda J. Brandon ("Brandon") and Elizabeth B. Williams ("Williams"). On November 8, 1991, the Hearing Officers granted all of the petitions to intervene and both of the petitions to participate as an interested person.

On September 13, 1991, the Company amended its facility application to adopt the new primary route for the natural gas pipeline and the new preferred meter station site as defined herein (Exh. HO-2).[15,16]

The Siting Council conducted evidentiary hearings on February 7, 10, 11, 19, and 20, 1992. Berkshire presented five witnesses: Leslie H. Hotman, vice president of supply, rates, and planning for Berkshire, who testified regarding need issues; Stephen J. Wright, staff coordinator in the marketing development department for Tennessee, who testified regarding need issues; Robert M. Allessio, chief engineer for Berkshire, who testified regarding safety and cost issues; William Sterling Wall, from HMM Associates, Inc. ("HMM"), who testified regarding site selection and environmental issues; and Herbert F. Zepp, president of Smith and Norrington Engineering Corporation, who testified regarding safety and cost issues. Altresco presented one witness: Barry Curtiss-Lusher, an energy consultant with EnerProbe Consulting, who testified regarding site selection and environmental issues. Motyl/Clerici presented one witness: Eric Biss, who testified regarding meter station sites.

The Hearing Officers entered 220 exhibits into the record,

2, p. 22).

15/ Based on the Company's amendment to its filing, the Siting Council does not review the Richmond Feedline in this proceeding.

16/ At the August 27, 1991 public hearing, the Company stated that it would amend its facility proposal to adopt the Bousquet Feedline as the new primary pipeline route and the Bousquet meter station as the preferred meter station site (Public Hearing Transcript, p. 15).

consisting primarily of information and record request responses.[17] Berkshire entered seven exhibits into the record; Altresco entered two exhibits; and Motyl/Clerici entered 57 exhibits.

The Company and Altresco filed a joint initial brief ("Berkshire/Altresco Initial Brief") on March 20, 1992. Initial briefs of Richmond ("Richmond Initial Brief"), Motyl/Clerici ("Motyl/Clerici Initial Brief"), and Williams ("Williams Initial Brief") were filed on March 27, 1992, April 13, 1992, and March 11, 1992, respectively. On March 11, 1992, Biss and Brandon filed a joint supplemental brief ("Biss/Brandon Supplemental Brief"). The Company and Altresco filed a joint reply letter ("Berkshire/Altresco Reply Letter") on April 17, 1992, and Richmond filed a reply letter ("Richmond Reply Letter") on April 22, 1992. Reply briefs were filed by Clerici ("Clerici Reply Brief") on March 16, 1992 and April 23, 1992, and Williams ("Williams Reply Brief") on April 23, 1992. Biss and Brandon filed a joint reply brief ("Biss/Brandon Reply Brief") on March 16, 1992.[18]

C. Jurisdiction

The Company's facility application is filed in accordance with G.L. c. 164, sec. 69H, which requires the Siting Council to ensure a necessary energy supply for the Commonwealth with minimum impact on the environment at the lowest possible cost, and G.L. c. 164, sec. 69I, which requires gas

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17/ On November 8, 1991, the Company filed a motion requesting the Siting Council to incorporate into this proceeding the evidentiary record from the 1990 Berkshire Decision (Phase II). Affidavits in support of the Company's motion were filed by Richmond, Biss, Brandon and Williams. At a prehearing conference held on November 19, 1991, the Hearing Officers ruled that only the portion of the record from the 1990 Berkshire Decision (Phase II) that pertains to the need for the jurisdictional cogeneration plant (the Altresco facility) would be incorporated into this proceeding (November 19, 1991 Prehearing Conference, Tr. p. 10).

18/ On June 16 and 18, 1992, Motyl/Clerici submitted motions to reopen the record. In a Procedural Order dated June 25, 1992, the Hearing Officers denied these motions.

companies to obtain Siting Council approval for construction of proposed facilities at a proposed site before a construction permit may be issued by any other state or local agency.

The Company's proposal to construct a 6.2-mile pipeline operating at a pressure up to 500 psi falls squarely within the fifth definition of "facility" set forth in G.L. c. 164, sec. 69G:

> (5) any new pipeline for the transmission of gas having a normal operating pressure in excess of one hundred pounds per square inch gauge which is greater than one mile in length except restructuring, rebuilding, or relaying of existing transmission lines of the same capacity.

In addition, the Company proposes to construct a meter station and backfeed line. The third definition of "facility" set forth in G.L. c. 164, sec. 69G is pertinent in determining whether the meter station and backfeed line are jurisdictional facilities. In that third definition a facility is defined as:

> (3) any ancillary structure including fuel storage facilities which is an integrated part of the operation of any electric generating unit or transmission line which is a facility.

In Commonwealth Electric Company, 17 DOMSC 249, 263 (1988) ("1988 ComElectric Decision"), the Siting Council established a two-part standard for determining whether a structure is a facility under the third definition of facility set forth in G.L. c. 164, sec. 69G. In that case, the Siting Council determined that a structure is an ancillary facility if (1) the structure is subordinate or supplementary to a jurisdictional facility, and (2) the structure provides no benefit outside of its relationship to the jurisdictional facility. Id.

With regard to the proposed meter station, the meter station is subordinate to the proposed pipeline, and provides no benefit outside of its relationship to the proposed pipeline. Therefore, the meter station is a jurisdictional facility under the third definition of facility set forth in

G.L. c. 169, sec. 69G and will be reviewed in this proceeding.[19]

With regard to the proposed backfeed line, the Company contemplates that this pipeline will transport supplies purchased by Berkshire from the Altresco facility to Berkshire's distribution system in Pittsfield (Exh. HO-E-53). Berkshire stated that the backfeed line could provide benefits to Berkshire, irrespective of the proposed facilities (Exh. HO-6). However, the Company presented conflicting evidence regarding the availability of Altresco supplies for Berkshire without the proposed 6.2-mile pipeline. Berkshire first stated that the construction of the proposed pipeline would be required in order for Berkshire to purchase volumes from Altresco, and that, therefore, the backfeed line would not provide a benefit to the Company outside of its relationship to the proposed pipeline (Exh. HO-E-53; Tr. 1, pp. 180-182). However, Berkshire and Altresco also argued that certain benefits, such as Berkshire's right to purchase pipeline gas supplies from Altresco, could be negotiated even without the proposed facilities (Berkshire/Altresco Initial

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19/ The Notice of Adjudication issued in this case referenced two meter station sites -- one in Richmond on Dublin Road and the Bousquet delivery point. Under the original proposal, both the Richmond Feedline and the alternate pipeline route would have originated from the Richmond meter station site. In addition, under the original proposal, the Company proposed construction of a shortened version of the Richmond Feedline originating at the Bousquet delivery point as part of a phased-in construction approach under which the Richmond Feedline would be constructed in two phases. The Company noted that if the second phase of the Richmond Feedline was to be constructed, the Company would file an application with the Siting Council (Tr. 3, pp. 226-231). Under the Company's amended proposal, the Company contemplates that the new primary route and the alternative route would both originate from the Bousquet delivery point in Pittsfield. The Siting Council reviews the site selection process for the Bousquet delivery point to ensure that the Company has not overlooked or eliminated a clearly superior alternative (see Section III.C., below).

Brief, p. 29 n.27,).[20]

The quantity of supplies that would be available to Berkshire from Altresco would likely be affected by whether the 6.2-mile pipeline was constructed. However, the Siting Council notes that, even if the 6.2-mile pipeline was not constructed, Berkshire and Altresco would not be precluded from entering into contractual arrangements for the transfer of available supplies, including the right of Berkshire to purchase supplies from Altresco, when available. Thus, the backfeed line could provide potential benefit to Berkshire outside of its relationship to the proposed 6.2-mile pipeline. Accordingly, the Siting Council finds that, for purposes of this review, the backfeed line is not a jurisdictional facility.

In accordance with G.L. c. 164, sec. 69H, before approving an application to construct facilities, the Siting Council requires applicants to justify facility proposals in three phases. First, the Siting Council requires the applicant to show that additional energy resources are needed (see Section II.A, below). Next, the Siting Council requires the applicant to establish that its project is superior to alternative approaches in terms of cost, environmental impact, reliability and ability to address the previously identified need (see Section II.B, below). Finally, the Siting Council requires the applicant to show that its site selection process has not overlooked or eliminated clearly superior sites, and that the proposed site for the facility is superior to alternative sites in terms of cost, environmental impacts, and reliability of supply (see Section III, below).

20/ Furthermore, as part of its demonstration of need for the proposed facilities, Berkshire assumed that additional pipeline supplies would be available from Altresco without the proposed pipeline, under one supply scenario (Exh. HO-RR-5, updated sup.).

II. ANALYSIS OF THE PROPOSED PROJECT

A. Need Analysis

1. Standard of Review

In accordance with G.L. c. 164, sec. 69H, the Siting Council is charged with the responsibility for implementing energy policies to provide a necessary energy supply for the Commonwealth with a minimum impact on the environment at the lowest possible cost.

In carrying out this statutory mandate with respect to proposals to construct energy facilities in the Commonwealth, the Siting Council evaluates whether there is a need for additional energy resources to meet reliability or economic efficiency objectives.[21] The Siting Council, therefore, must find that additional energy resources are needed as a prerequisite to approving proposed energy facilities.

In evaluating the need for new energy facilities to meet reliability objectives, the Siting Council has evaluated the reliability of supply systems in the event of changes in demand or supply, or in the event of certain contingencies. With respect to changes in demand or supply, the Siting Council has found that new capacity is needed where projected future capacity available to a system is found to be inadequate to satisfy projected load and reserve requirements. Enron Power Enterprise Corporation, 23 DOMSC 1, 16-62 (1991) ("Enron"); Eastern Energy Corporation, 22 DOMSC 188, 203-275 (1991) ("EEC"); West Lynn Cogeneration, 22 DOMSC 1, 11-51 (1991) ("West Lynn"); Bay State Gas Company, 21 DOMSC 1, 14-23 (1990) ("1990 Bay State Decision");

21/ In this discussion, "additional energy resources" is used generically to encompass both energy and capacity additions, including, but not limited to, gas transmission lines, synthetic natural gas facilities, LNG facilities, propane facilities, gas storage facilities, energy or capacity associated with gas sales agreements, and energy or capacity associated with conservation and load management.

MASSPOWER, Inc., 20 DOMSC 301, 311-336 (1990)("MASSPOWER"); 1990 Berkshire Decision (Phase II), 20 DOMSC at 123-132; Boston Edison Company/Massachusetts Water Resources Authority, 19 DOMSC 1, 9-17 (1989) ("BECo/MWRA"); New England Power Company, 18 DOMSC 383, 393-403 (1989) ("1989 NEPCo Decision"); Braintree Electric Light Department, 18 DOMSC 1, 23-27 (1988) ("1988 Braintree Decision"); Altresco Decision, 17 DOMSC at 360-369; New England Electric System, 2 DOMSC 1, 9 (1977).

With regard to contingencies, the Siting Council has found that new capacity is needed in order to ensure that service to firm customers can be maintained in the event that a reasonably likely contingency occurs. New England Power Company, 21 DOMSC 325, 334-358 (1991) ("1991 NEPCo Decision"); Middleborough Gas and Electric Department, 17 DOMSC 197, 216-219 (1988) ("1988 Middleborough Decision"); Hingham Municipal Lighting Plant, 14 DOMSC 7, 14-18 (1986); Boston Edison Company, 13 DOMSC 63, 70-73 (1985) ("1985 BECo Decision"); Taunton Municipal Lighting Plant, 8 DOMSC 148, 154-155 (1982); Commonwealth Electric Company, 6 DOMSC 33, 42-44 (1981); Eastern Utilities Associates, 1 DOMSC 312, 316-318 (1977).

The Siting Council also has determined in some instances that utilities need to add energy resources primarily for economic efficiency purposes. The Siting Council has found that a utility's proposed energy facility was needed principally for providing economic energy supplies relative to a system without the proposed facility. Massachusetts Electric Company/New England Power Company, 13 DOMSC 119, 137-138 (1985) ("1985 MECo/NEPCo Decision"); Boston Gas Company, 11 DOMSC 159, 166-168 (1984) ("1984 Boston Gas Decision").

While G.L. c. 164, sec. 69H, requires the Siting Council to ensure an adequate supply of energy for Massachusetts, the Siting Council has interpreted this mandate to encompass not only evaluations of specific need within Massachusetts for new energy resources (1989 MECo/NEPCO Decision, 18 DOMSC at 396-403; 1988 ComElectric Decision, 17 DOMSC at 266-279; 1988 Middleborough Decision, 17 DOMSC at 216-219; 1985 BECo Decision, 13 DOMSC at 70-73), but also the consideration of whether proposals to construct energy

facilities within the Commonwealth are needed to meet New England's energy needs. Turners Falls Limited Partnership, 18 DOMSC 141, 151-165 (1988) ("Turners Falls"); Altresco Decision, 17 DOMSC at 359-365; Northeast Energy Associates, 16 DOMSC 335, 344-354 (1987) ("NEA"); Massachusetts Electric Company/New England Power Company, 15 DOMSC 241, 273, 281 (1986); 1985 MECo/NEPCo Decision, 13 DOMSC at 129-131, 133, 138, 141. In so doing, the Siting Council has fulfilled the requirements of G.L. c. 164, sec. 69J, which recognizes that Massachusetts' generation and transmission system is interconnected with the region's and that reliability and economic benefits flow to Massachusetts from Massachusetts utilities' participation in the New England Power Pool ("NEPOOL").

Here, the Siting Council is presented with a proposal by a gas utility to construct a jurisdictional gas pipeline that would primarily transport gas to a cogeneration facility constructed by a non-utility developer. In addition, the pipeline would provide additional firm capacity for the Company to transport additional supplies to its firm customers. Therefore, the Siting Council must evaluate the need for the additional energy resources based on both goals of the proposed project.

The proposal to construct the cogeneration facility was approved by the Siting Council in the Altresco Decision, 17 DOMSC at 410. The Siting Council previously has approved proposals by gas utilities to construct a jurisdictional gas pipeline that would provide fuel transportation for a cogeneration plant developed by a non-utility entity. 1990 Bay State Decision, 21 DOMSC at 88; 1990 Berkshire Decision (Phase II), 20 DOMSC at 109. The Siting Council also previously has approved a proposal by a gas pipeline that would provide a new fuel source to an existing generating plant owned by an electric utility. 1984 Boston Gas Decision, 11 DOMSC at 159. Further, the Siting Council has previously reviewed proposals by both electric companies and non-utility developers to construct jurisdictional electric transmission lines that would connect non-jurisdictional cogeneration plants to the regional transmission system. Turners Falls, 18 DOMSC at 195-196; 1989 NEPCo Decision, 18 DOMSC at 425.

In all such cases, whether the proponent is a utility or a non-utility developer, the proponent first must establish that the power from the generation facility is needed on either reliability or economic efficiency grounds. If it can be established that the generation facility is needed, the proponent then must show that the existing system is inadequate to support this new power source and that additional energy resources are necessary to accommodate the new power source. Turners Falls, 18 DOMSC at 153-164; 1989 NEPCo Decision, 18 DOMSC at 395. In applying this standard, the Siting Council emphasizes that our review of need is not limited to the need for a physical connection between the cogeneration plant and its fuel source or its end-users. To address the need issue in such cases so narrowly would be inconsistent with our statutory mandate.

The Siting Council also previously has approved proposals by gas companies to construct jurisdictional gas pipelines to serve load growth (1990 Bay State Decision, 21 DOMSC 1; Boston Gas Company, 17 DOMSC 155, (1988) ("1988 Boston Gas Decision")), and has approved a proposal by an electric company to construct a jurisdictional transmission line to ensure reliable supply to existing and future loads (1988 ComElectric Decision, 17 DOMSC at 249). In addition, the Siting Council previously has approved a gas company's proposal to construct a gas pipeline to provide economic energy supplies to its system. 1984 Boston Gas Decision, 11 DOMSC at 166-168.

Motyl\Clerici argue that the standard of review that should be applied in the instant case is whether the proposed facilities would have direct, quantifiable reliability or economic efficiency benefits to Berkshire's existing customers (Motyl/Clerici Initial Brief, p. 38). Motyl/Clerici argue that this was the standard applied in the 1984 Boston Gas Decision (id., pp. 37-38).

The Siting Council notes that this issue was previously raised by Richmond and discussed by the Siting Council in the 1990 Berkshire Decision (Phase II). In that Decision, the Siting Council found that although the benefits and risks to Boston Gas customers were considered in the 1984 Boston Gas Decision, the Siting Council did not require a separate showing of net

benefits to Boston Gas' customers, independent of the showing of overall energy supply and environmental benefits, as a basis for approving the gas pipeline in that case (20 DOMSC at 125-128). Further, the Siting Council notes that Altresco will be paying for the pipeline, and therefore, there will be no direct economic cost to Berkshire's customers. Accordingly, the Siting Council rejects Motyl/Clerici's argument that direct, quantifiable reliability or economic efficiency benefits to existing customers must be shown to establish the need for the proposed pipeline.

2. Need for the Jurisdictional Cogeneration Plant

The Siting Council previously has found that the region needs the power from the Altresco facility and that Massachusetts is likely to receive reliability, economic efficiency, and environmental benefits from the additional energy resources produced by the Altresco facility. Altresco Decision, 17 DOMSC at 351. Accordingly, the Siting Council finds that the need for the additional energy resources from the Altresco facility has been established.

3. Need for Additional Pipeline Capacity

a. Standard of Review

As noted previously, Berkshire has proposed to construct natural gas pipeline facilities, primarily intended to transport gas owned by Altresco, a non-utility user, to the Altresco facility located in Berkshire's service area. In addition, the proposed pipeline would provide Berkshire with additional capacity to serve its existing firm customers.

The standard of review for need as applied in previous electric transmission and pipeline cases remains essentially unchanged in the instant case. The need for energy resources in the form of additional pipeline capacity hinges upon the adequacy of the Company's existing system to meet its current needs as well as future projected needs.

b. Description of the Existing System

Berkshire introduces gas into its distribution system from two types of facilities -- Tennessee's meter delivery stations and Berkshire's propane plants. Tennessee transports gas to Berkshire's service territory via its principal interstate pipeline supplying Massachusetts, the Tennessee main line. The Tennessee main line enters the Commonwealth from New York State, passes to the south of Pittsfield through the nearby towns of Richmond, Stockbridge and Lenox, and continues eastward to the Connecticut River Valley.

From a tap point on the Tennessee main line in Richmond, Tennessee's North Adams lateral extends northward through Pittsfield to North Adams (Exhs. HO-N-37, HO-MC-RR-2). There are three Berkshire meter stations located along the North Adams lateral -- the West Pittsfield, Pittsfield[22] and North Adams meter stations (Exh. HO-N-8). These meter stations serve the municipalities of Adams, North Adams, Williamstown, Cheshire, Clarksburg, Pittsfield, Lanesboro, Dalton, Stockbridge, Lenox and Lenoxdale (id.).[23,24]

The North Adams lateral consists of two parallel pipelines: (1) a

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22/ The Pittsfield meter station is actually located approximately one-half mile to the west of the North Adams lateral (Exh. HO-N-37). In Pittsfield, in the vicinity of the Altresco facility, the North Adams lateral connects to a four-inch diameter pipeline that extends to the Pittsfield meter station ("Pittsfield spur line") (id.). Tennessee has recently received approval from FERC to replace the existing four-inch pipeline with an eight-inch pipeline (Tr. 1, p. 43).

23/ Stockbridge, Lenox and Lenoxdale are also served by the Stockbridge meter station which is located on the Tennessee main line (Exh. HO-N-8).

24/ Berkshire operates two propane storage and injection facilities along the North Adams lateral in Pittsfield and North Adams (Exh. HO-N-37). The Pittsfield facility has a storage capacity of 28.1 MMcf and a maximum daily design capacity of 5.5 MMcf (id.). The North Adams facility has a maximum storage capacity of 23.4 MMcf and a maximum daily design capacity of 4.8 MMcf (id.).

27-mile, six-inch diameter pipeline that extends from the Tennessee main line to the North Adams meter station; and (2) a ten mile, ten-inch diameter pipeline that extends from the Tennessee main line to the Pittsfield spur line (Exhs. HO-N-2, HO-MC-RR-2). In 1990, as part of its Northeast Expansion ("NOREX") project, Tennessee expanded the capacity of the North Adams lateral by increasing the length of the ten-inch pipeline to ten miles (Exhs. AP-1, p. 9, HO-MC-RR-2). Berkshire indicated that installation of the NOREX facilities provided (1) increased quantities of firm supply for the overall Berkshire system, and (2) increased delivery capabilities at the Pittsfield meter station (Exhs. HO-N-7, HO-N-37).

In Pittsfield, the North Adams lateral passes within 5,000 feet of the Altresco facility (Tr. 4, p. 40). The existing interconnection facilities travel from the North Adams lateral to the Altresco facility (Exhs. HO-1, pp. 3-7, 3-8, HO-N-37).[25]

c. Adequacy of the Existing System to Supply Altresco

i. Introduction

In the 1990 Berkshire Decision (Phase II), the Siting Council found that the capacity of the existing pipeline system, including the then-pending expansion of the North Adams lateral under the NOREX project, would be

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25/ Berkshire stated that the interconnection facilities were originally constructed as interim facilities for the Altresco facility (Exh. HO-1, pp. 3-7, 3-8). Berkshire stated that it constructed the Altresco spur line to connect the Altresco facility to a temporary Berkshire meter station (id.). The temporary meter station, in turn, was connected to the North Adams lateral via a four-inch diameter pipeline (id.). The Altresco spur line was originally used for providing transportation service to the Altresco facility for testing and start-up purposes. When the Tenneco Interconnect was constructed, and gas was transported on this 12-inch diameter pipeline rather than the 4-inch diameter pipeline, a volume of gas sufficient to operate the Altresco facility at full capacity could be delivered to the facility (id.). Berkshire stated that the interconnection facilities will continue to be utilized in conjunction with the proposed pipeline (id., p. 3-2 n.6).

inadequate to accommodate Berkshire's system needs, anticipated growth, and the requirements of the Altresco facility (20 DOMSC at 130-131). Since the 1990 Berkshire Decision (Phase II), however, expansion of the North Adams lateral under the NOREX project and installation by Berkshire and Tennessee of the interconnection facilities has been completed (Exhs. HO-1, pp. 3-7, 3-8, AP-1, p. 9). Further, the Altresco facility commenced commercial operation in September 1990, and, since December 1990, has been receiving pipeline supplies via the expanded North Adams lateral and the interconnection facilities (id.). The Company acknowledged that transportation service to the Altresco facility via the existing pipeline facilities has not yet been interrupted[26] and further acknowledged that, assuming a delivery pattern proportional to the projected 1992-1993 winter season, there is adequate interruptible capacity on the North Adams lateral, much of the time, to serve the Altresco facility (Exh. HO-RR-11; Tr. 2, p. 67).[27] Nevertheless, Berkshire and Altresco asserted that, in the long term, in order to provide firm transportation of up to 40,000 Mcf to the Altresco facility, additional pipeline facilities are needed.[28] While the Siting Council's decision in the 1990 Berkshire Decision

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26/ Berkshire noted that the 1990-1991 winter was 17 percent warmer than a normal winter and that the 1991-1992 winter, through January, was six percent warmer than normal (Tr. 1, pp. 53, 56).

27/ Altresco noted that although it had, in the past, been able to obtain more than 31,500 Mcf via the existing facilities, deliveries have been limited to 31,500 Mcf since November, 1991 (Tr. 2, p. 67).

28/ Altresco indicated that a maximum of 40,000 Mcf would be required for plant operation during a winter peak period and that the proposed project would have the capacity to transport, on a firm basis, 40,000 Mcf per day to the Altresco facility (Tr. 4, pp. 91-92, 95-96). Altresco also indicated that it has contracted for firm gas supplies with a Canadian supplier in the amount of 31,500 Mcf per day and that it has received all federal and Canadian approvals required for the import of such supplies (Tr. 1, pp. 21-22, Tr. 2, pp. 71-72). Altresco further indicated that 31,500 Mcf would be sufficient for summer peak periods and that requirements above 31,500 Mcf for winter

(Phase II) found that additional pipeline was needed, this finding was based on assumed use of the NOREX capacity in conjunction with existing facilities. In light of the actual use of such facilities to serve Altresco over the last two years, the Siting Council again must evaluate whether additional facilities are needed to transport up to 40,000 Mcf, on a firm basis, to the Altresco facility.

The Siting Council most recently reviewed Berkshire's supply plans in its 1990 Berkshire Decision (Phase I). Berkshire's supply plan, in that review, provided for the continued use of existing resources, including: (1) pipeline gas supplied by Tennessee; (2) additional pipeline gas and peaking supplies transported by Tennessee; and (3) propane delivered by truck and stored in Berkshire's service territory. 1990 Berkshire Decision (Phase I), 19 DOMSC at 299-301. In that Decision, the Siting Council found that the Company's supply plan was adequate for the Company's projected sendout over the forecast period. Id. at 302-307.

Berkshire indicated that it has two sources of firm gas supply which are delivered by Tennessee to its meter stations along the North Adams lateral, (1) Tennessee CD-6 volumes, and (2) Penn-York storage volumes (Exh. HO-N-4).[29] With regard to the Tennessee CD-6 volumes, Berkshire stated that Tennessee is contractually obligated to provide Berkshire up to 25,572 Mcf per

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peak periods would be met by interruptible supplies such as backhaul service from Distrigas in Boston (Tr. 4, pp. 95-96). In addition, Berkshire's witness, Mr. Wright, noted that Tennessee has completed construction of all main line facilities necessary to transport Altresco's firm volumes of 31,500 Mcf per day from the Canadian border to the North Adams lateral (Tr. 1, p. 21).

29/ Berkshire indicated that it also has contracted for the delivery of Distrigas and Bay State volumes on the North Adams lateral on a best efforts transportation basis (Exh. HO-N-26). The Company indicated that maximum daily Distrigas volumes of 2,924 Mcf and maximum daily Bay State volumes of 3,899 Mcf can be delivered to any of the meter stations along the North Adams lateral (id.).

day of firm gas supplies, system-wide, under its CD-6 contract (id.).[30] Berkshire stated that the CD-6 contract also established a maximum daily quantity limit of CD-6 volumes that can be delivered to each Berkshire meter station (Exh. HO-N-26).[31] With regard to the Penn-York storage volumes, Berkshire stated that Tennessee is contractually obligated to provide Berkshire with firm transportation service of up to 2,423 Mcf per day of Penn-York storage gas for delivery at the North Adams meter station (id.).[32]

The Company indicated that, in order for Tennessee to comply with its service reliability standards, minimum pressure must be maintained at each meter station, and noted that meter station pressures are dependent, in turn, on the quantity and location of deliveries along the lateral (Exhs. HO-N-3,

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30/ Berkshire indicated that the Tennessee NOREX project had increased Berkshire's maximum daily quantities of gas supply under its CD-6 contract by 4,976 Mcf (Exh. HO-N-7).

31/ Berkshire indicated that a maximum daily quantity of 25,527 Mcf of CD-6 firm supplies can be delivered among Berkshire's meter stations as follows: (1) 11,998 Mcf at the Pittsfield meter station; (2) 11,030 Mcf at the North Adams meter station; (3) 4,873 Mcf at the West Pittsfield meter station; (4) 5,130 Mcf at the Stockbridge meter station; and (5) 8,713 Mcf at the Greenfield meter station (Exhs. HO-N-26, HO-N-30). Berkshire further indicated that the NOREX project increased the maximum daily CD-6 quantity limit at the Pittsfield meter station from 10,000 to 11,998 Mcf (Exh. HO-N-7). Berkshire further noted that at its request, Tennessee has requested authorization from FERC to increase the maximum daily limit in CD-6 volumes at the West Pittsfield meter station to 10,000 Mcf, without increasing total system-wide deliveries to Berkshire (Exh. HO-N-30; Tr. 1, p. 44).

32/ Berkshire explained that, upon nomination by Berkshire, Tennessee is obligated to deliver the maximum contracted CD-6 and Penn-York storage volumes to each of the meter stations and would be subject to severe penalties if it could not deliver the firm contracted supplies (Exh. HO-N-4; Tr. 2, p. 89).

HO-N-23).[33] Thus, the quantity of gas that Berkshire can receive at each of its existing meter stations depends on contractual limitations, as well as the actual day-to-day quantities and related pressure effects of deliveries at the various meter stations along the lateral (Exh. NO-N-3; Tr. 1, pp. 75-78, 87-89).[34]

Berkshire stated that a minimum operating pressure of 350 psi must be maintained at the North Adams meter station (Exhs. HO-N-2, HO-N-9).[35] Berkshire further stated that the pressure at the Pittsfield meter station, where the ten-inch North Adams lateral pipeline ends, is the most important factor in determining the pressure at the North Adams meter station (Tr. l, pp. 75-78, 87-88).[36]

Berkshire stated that the pressure at the Pittsfield meter station determines the amount of gas that can be delivered to the Altresco facility (Exh. HO-RR-10). The Company stated that, therefore, when deliveries at the

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33/ The Company indicated that other variables that would influence pressure along the lateral and meter stations include main line pressure, temperature of the gas, and pipeline diameter (Exh. HO-N-23).

34/ The Company noted that the NOREX facilities were designed in order to allow delivery of Berkshire's maximum contracted volumes of firm gas supply as far north toward the terminus of the lateral as might be required, while at the same time, maintaining proper pressure along the lateral which the Company stated would maximize its delivery flexibility along the pipeline (Exh. HO-N-3; Tr. 1, p. 59).

35/ Berkshire also stated that shifting deliveries to meter stations closer to the Tennessee main line would have a limited impact on increasing the pressure at the terminus of the six-inch North Adams lateral pipeline, the North Adams meter station (Tr. 1, pp. 75-76).

36/ Berkshire explained that in order to deliver maximum quantities to the North Adams meter station, the pressure at the Pittsfield meter station must be high, approximately 700 psi, but that lower pressures are adequate for smaller deliveries to the North Adams meter station (Exh. HO-RR-10).

North Adams meter station are low, and thus, high pressures at the Pittsfield meter station are not required to deliver volumes to North Adams, adequate volumes can be made available at the Pittsfield meter station for the Altresco facility (id.).

ii. Company's Position

Berkshire and Altresco asserted that the capacity of the North Adams lateral is insufficient to transport the Altresco volumes, on a firm basis, the entire distance from the Tennessee main line to the interconnection facilities, based on both contractual obligations and actual peak day requirements (Exhs. HO-N-9, HO-N-10, NO-N-37, HO-RR-10).[37,38]

37/ Altresco stated that if transportation arrangements to the facility were not firm, project financing, power purchase contracts and fuel supply contracts would be jeopardized (Exh. AP-1, pp. 12-13).

38/ The Company also argued that since the Siting Council found in the 1990 Berkshire Decision (Phase I) that the quantity and allocation of supplies under the NOREX project contributed to a least-cost supply plan, the need for the proposed project may already have been decided by the Siting Council (Berkshire/Altresco Initial Brief, pp. 22-23 n.20) (19 DOMSC at 303). The Siting Council disagrees with Berkshire's assertion that the need for the proposed project was implicitly accepted by the Siting Council in Berkshire's previous forecast review. First, the Siting Council cannot find that the proposed facilities are needed based on the contracted allocations of firm supplies, including the NOREX volumes, without considering whether actual and forecasted sendout levels also support such a finding. Moreover, in its most recent review of the Company's supply plan, the Siting Council analyzed the NOREX project with respect to the Company's overall supply plan for its entire service territory rather than looking at the allocation of specific NOREX volumes to individual meter stations. The finding that the NOREX volumes (or any generic volumes) contributes to a least-cost supply plan, does not constitute a blanket determination of need in support of new pipeline facilities anywhere in a Company's service area. To support the construction of a new pipeline serving a portion of Berkshire's territory, a more detailed analysis of supply allocations by sub-territory would be required -- a level of detail beyond that

In support of its assertion, the Company stated that 31,500 Mcf would reach the Altresco facility via the existing facilities -- the North Adams lateral and interconnection facilities -- only when Berkshire takes less than its full contractual entitlements at its meter stations along the North Adams lateral (Exh. HO-N-14).[39] The Company provided an analysis which demonstrated that, in order to deliver 31,500 Mcf to the Altresco facility via the existing facilities and the maximum contracted volumes of 11,998 Mcf to the Pittsfield meter station, Tennessee could deliver only 11,000 Mcf to the North Adams meter station, 2,394 Mcf less than the contracted amount of 13,394 Mcf (Exh. HO-N-33, sup.).[40] The Company provided an additional analysis which demonstrated that delivery of maximum daily contracted volumes of 13,394 Mcf to the North Adams meter station and 11,998 Mcf to the Pittsfield meter station, would allow delivery of only 13,000 Mcf to the Altresco facility via the existing facilities (Exh. HO-N-9).[41] Therefore, the Company indicated that if Berkshire's sendout requirements exceeded 11,000 Mcf at the North Adams meter station, assuming sendout of 11,998 Mcf at the Pittsfield meter station, service to the Altresco facility would be partially interrupted (Exh.

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in the Company's dispatch analysis for its overall territory. Therefore, the Siting Council's previous finding that the NOREX project contributed to the Company's least cost supply plan cannot support, by itself, a finding of need for additional facilities in the instant case. 1991 Berkshire Decision, 23 DOMSC at 308 n.12.

39/ Berkshire indicated that Tennessee would require amendment of its contracts with Berkshire under a FERC abandonment proceeding to continue to deliver Altresco's volumes to the interconnection facilities (Exh. HO-RR-11; Tr. 1, p. 90).

40/ The 13,394 Mcf represent CD-6 and Penn-York storage volumes that can be delivered to the North Adams meter station (Exh. HO-N-26).

41/ See footnote 36, above, for an explanation of how the relationship between volume and pressure at the Pittsfield and North Adams meter stations affect the delivery to the Altresco facility.

HO-N-33, sup.).[42]

The Company asserted that actual 1991-1992 peak day experience also supports the need for the proposed facilities (Exh. HO-RR-10). In support of its assertion, the Company provided the actual peak day sendout of pipeline gas by meter station on the system-wide peak day for 1991-1992 as follows: (1) 3,888 Mcf at the West Pittsfield meter station; (2) 11,681 Mcf at the Pittsfield meter station; and (3) 10,238 Mcf at the North Adams meter station (Exh. HO-RR-6).[43,44] The Company then provided a hypothetical sendout analysis

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42/ To help clarify the degree to which Berkshire's contracted volumes are actually needed, Berkshire provided projected peak day sendout for 1991-1992 through 1995-1996 (Exh. HO-N-27). Berkshire's projected peak day sendout for 1991-1992 is: (1) 14,313 Mcf at the Pittsfield meter station; (2) 10,830 Mcf at the North Adams meter station; and (3) 5,273 Mcf at the West Pittsfield meter station (Exh. NO-N-27). For 1995-1996, Berkshire's projected peak day sendout is: (1) 15,427 Mcf at the Pittsfield meter station; (2) 10,539 Mcf at the North Adams meter station; and (3) 5,685 Mcf at the West Pittsfield meter station (id.). Although Berkshire's contracted volumes differ from projected peak day sendout to the individual meter stations, including a projected sendout at the North Adams meter station of less than the contracted amount for all years from 1991 through 1996, Berkshire indicated that it would be unwilling to reduce its contracted volumes unless it determined that there was no future need for the CD-6 volumes (Tr. 1, p. 91). Berkshire asserted that the flexibility of supply, which results from the availability of contracted supplies that are in excess of current daily requirements, enhances the least-cost purchasing strategy of the Company (id.).

43/ In comparing the actual and projected 1991-1992 peak sendout for Berkshire's service areas on the North Adams lateral, the Siting Council notes that the actual peak was 25,807 Mcf and the projected peak was 30,416 Mcf (see footnote 42, above) (Exhs. HO-RR-6, HO-N-27).

44/ The Company indicated that none of the 10,300 Mcf of propane capacity in Pittsfield and North Adams was utilized to meet sendout requirements on this peak day (Exh. HO-RR-6).

based on sendout levels of 5,519 Mcf to the West Pittsfield meter station[45] and 11,998 mcf to the Pittsfield meter station, together with the delivery of 36,500 Mcf to the Altresco facility via the existing facilities (Exh. HO-RR-10).[46] The Company maintained that this hypothetical sendout allocation reflects a realistic sendout pattern because: (1) the West Pittsfield delivery corresponds to the projected 1992-1993 winter peak day sendout of 5,273 Mcf; (2) the Altresco delivery reflects facility requirements; and (3) the Pittsfield delivery of the maximum contracted volumes was nearly surpassed by the actual 1991-1992 peak-day requirements (id.; Exhs. HO-N-27, HO-RR-6). The Company stated this hypothetical sendout analysis demonstrated that sendout to the North Adams meter station would be restricted to 10,069 Mcf -- a level insufficient to meet the actual 1991-1992 peak-day sendout of 10,238 Mcf (Exh. HO-RR-10).

iii. Arguments of the Intervenors

Motyl/Clerici argue that the Company's determination of need for the pipeline facilities is based on contractual requirements that can be changed by a FERC proceeding (Motyl/Clerici Initial Brief, pp. 6, 19, 34). Further Motyl/Clerici argue that if contractual agreements were amended to decrease the maximum amount of gas that could be delivered to certain meter stations along the North Adams lateral, adequate volumes could be made available for the Altresco facility, thus eliminating the need for the proposed project (id.). In addition, Motyl/Clerici argue that if the Company's analysis of delivery patterns reflected increased volumes for the West Pittsfield meter station, the proposed meter station could be sited closer to the Altresco

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45/ The Siting Council notes that delivery of 5,519 Mcf, which is above the current contracted limit of 4,873 Mcf, assumes that Tennessee receives FERC authorization of its request to increase CD-6 delivery at the West Pittsfield meter station (see footnote 31, above).

46/ The 36,500 Mcf represents an amount less than the Altresco facility's peak day requirement of 40,000 Mcf.

facility, possibly as close as the existing Pittsfield meter station (id., p. 6).

iv. Analysis

The record in this case demonstrates that, assuming delivery of maximum contracted volumes at the North Adams and Pittsfield meter stations, existing capacity on the North Adams lateral is inadequate for the firm transportation of Altresco supplies. However, in comparing the maximum contracted supplies to projected peak day requirements, the record also demonstrates that the maximum contracted supplies for the North Adams meter station are in excess of the Company's projected peak day sendout through at least the winter of 1995-1996. In addition, the Company's analyses show that, assuming delivery of as much as 11,000 Mcf of the 13,394 Mcf of contracted volumes to North Adams, Altresco can be supplied via the existing facilities.

While the availability of contracted allocations of pipeline supplies at particular points along a lateral may increase a Company's supply flexibility, the Siting Council cannot approve construction of a new pipeline based solely on a contracted sendout allocation. Thus, the contracted allocations of supplies, alone, do not demonstrate the need for the proposed facilities.[47]

The Siting Council notes, however, that the record indicates that, assuming Berkshire relies on pipeline supplies to the maximum extent before utilizing propane, the existing facilities currently are inadequate to meet

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47/ With regard to Motyl/Clerici's argument that a change in contracted allocation would eliminate the need for the proposed project, the Siting Council notes that a change in contracted allocation would not eliminate the need for the pipeline based on peak day pipeline gas requirements. With regard to Motyl/Clerici's argument that increased delivery at West Pittsfield would allow the meter station to be sited closer to the Altresco facility, the Siting Council notes that the pressure at the Pittsfield meter station is the most significant determinant of the amount of gas that can be delivered at the Altresco facility.

peak day sendout requirements along the North Adams lateral while providing Altresco with a near peak daily delivery of 36,500 Mcf. Thus, the existing system is inadequate to provide firm delivery of peak day requirements of 40,000 Mcf to the Altresco facility while meeting existing and projected Berkshire loads. Accordingly, the Siting Council finds that additional energy resources are needed for reliability purposes.[48]

d. Adequacy of the Existing System to Serve Berkshire

i. Company's Position

The Company stated that the proposed project would provide capacity and supply benefits to Berkshire's customers (Exh. HO-1, pp. 3-2, 3-3, 3-4). Berkshire indicated that contractual arrangements between Berkshire and Altresco provide for Berkshire's right to at least 5,000 Mcf per day of firm capacity in the proposed pipeline (id., p. 3-3). In addition, the contractual arrangements provide for Berkshire's right to purchase from Altresco (1) up to 7,500 Mcf per day, on peak days, throughout the winter ("peaking supplies"), and (2) back-up supplies of up to 31,500 Mcf per day in the event of proration or curtailment of firm gas supplies or firm pipeline capacity by Berkshire's suppliers or transporters ("surge protection") (id., p. 3-3; Exhs. HO-2 pp. 12-13, HO-N-12).[49] Berkshire asserted that the pipeline supplies that

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48/ The Siting Council notes that use of propane from Berkshire's facilities in Pittsfield and North Adams provides a theoretical means of offsetting this pipeline constraint. However, the use of propane to satisfy the demands placed on the system by Altresco deliveries would lead to cost and reliability impacts for Berkshire customers. Moreover, as discussed in Section II.A.3.d, below, the Company has provided additional analyses which demonstrate that, even with utilization of propane supplies, the existing system would be inadequate to serve the Altresco facility by 1995-1996 (Exh. HO-RR-5, sup.).

49/ Altresco indicated that peaking service and surge protection would be offered in exchange for certain balancing arrangements provided by Berkshire which would enable the Altresco

would be available to Berkshire with the proposed project are a least-cost supply alternative and also enhance supply reliability (Exh. HO-RR-5). Berkshire stated that although its peak-day sendout could be met without the proposed project by dispatch of significant quantities of propane, this scenario would be unacceptable in terms of cost or reliability (id.; Exh. HO-RR-5, updated sup.).[50]

In support of its assertion, the Company stated that if propane were utilized instead of the proposed additional pipeline and peaking supplies, supply reliability would be compromised by 1995 because a sufficient reserve margin of at least 20 percent would not be maintained on the propane plants' daily design capacity (Exhs. HO-RR-5, HO-RR-5, sup.).[51] The Company

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facility to handle variations in its hourly takes (Exh. HO-SC-AL-14). Altresco also indicated that Berkshire's utilization of peaking service and surge protection volumes would require the Altresco facility to operate with oil (Exh. HO-N-19). Berkshire indicated that, therefore, it could not utilize these volumes when the Altresco facility was prevented by environmental constraints from burning oil (Exh. HO-N-35).

50/ Berkshire and Altresco indicated that certain benefits such as Berkshire's right to purchase peaking supplies from Altresco could be negotiated without the addition of the proposed facilities (Berkshire/Altresco Initial Brief, p. 29 n.27). Berkshire provided an additional analysis of peak day sendout, without the proposed project, which demonstrated that if Altresco peaking supplies were utilized instead of propane, supply to the Altresco facility would be interrupted 17 times during the 1992-1993 winter and 30 times during the 1996-1997 winter (Exh. HO-RR-5, updated sup.).

51/ The Company indicated that, consistent with its peak day sendout forecast (see footnote 42, above), peak day propane sendout would be 6,545 Mcf in 1992 and increase to 7,646 Mcf in 1997 if no additional pipeline supplies were available to the Company (Exh. HO-RR-5, sup.). The Company stated that such peak day propane sendout would require two plants to operate at 79 percent and 85 percent, respectively, of their daily design capacity, thus failing to maintain a 20 percent reserve margin (id.). The Company also stated that during the 1995-1996 design winter, propane plants would be required to operate for 23 days and up to 14 consecutive days,

asserted that a 20 percent reserve margin is a prudent planning standard based on a number of factors including the mechanical nature of the plants, age of the plants, and trucking delivery requirements (Exh. HO-RR-10).[52,53]

Berkshire indicated that, with the installation of the proposed project, sendout would be met almost entirely by pipeline gas (Exh. HO-RR-5, updated sup.).

ii. Arguments of the Intervenors

Motyl/Clerici assert that Berkshire has failed to demonstrate that

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whereas these plants are generally utilized for short-term or needle-peaking conditions on 12 to 15 days (id.). The Company added that it has not had to operate its propane plants at these capacities for these durations (Exh. HO-RR-10).

52/ The Siting Council has not explicitly addressed the appropriateness of Berkshire's use of a 20 percent propane reserve margin as part of previous reviews of the Company's forecast. However, the Siting Council notes that, in its most recent review of Berkshire's forecast, Berkshire forecasted that its system-wide propane reserve margin under peak-day sendout would reach a forecast period low at 4.2 MMcf in 1989-90, representing 30 percent of its 13.8 MMcf peak day propane capability. 1990 Berkshire Decision (Phase I), 19 DOMSC at 330. For the following forecast year, Berkshire forecasted that its system-wide propane reserve margin would increase to 6.7 MMcf, or 49 percent of its propane capability, reflecting the addition of planned NOREX volumes. Id. Had Berkshire not provided for the addition of NOREX volumes in that year, its forecasted propane reserve margin would have dropped to 2.6 MMcf, or 19 percent of its propane capability -- just failing to meet the 20 percent standard on a system-wide level. Id.

53/ The Company noted that propane is less reliable and more expensive than pipeline gas and is the peaking source of last resort (Exh. HO-RR-10). The Company estimated that the cost for meeting a daily requirement consistent with 1995 peak day sendout would increase by $33,000 if the firm daily contracted requirements at the North Adams meter station were reduced by approximately 6,000 Mcf, thereby shifting reliance to propane (id.).

its primary customers have a need for the proposed project (Motyl/Clerici Initial Brief, p. 6). Motyl/Clerici state that customer needs have been met by the installation of the NOREX facilities which should address gas supply concerns for ten years (id., p. 36).

iii. Analysis

The record demonstrates that the existing facilities, with increased reliance on existing propane capacity, are adequate to meet the Company's own projected peak day sendout, as well as Altresco's delivery requirements, for the short term. However, the record further demonstrates that, even with increased reliance on existing propane capacity, Berkshire's existing energy resources would be inadequate to meet its peak day sendout starting in 1995-1996. Thus, the Company has established its customers' need for additional energy resources, based on reliability objectives, in 1995.

The Siting Council notes that typically, pipeline gas is a less expensive and more reliable energy supply relative to propane. The Siting Council also notes that delaying the proposed project until 1995 would require Berkshire to increase its reliance on propane until then, subjecting its customers to the higher risks and costs of such reliance. In light of the need for the pipeline in 1995 under any scenario, the benefits to Berkshire customers justify the construction of the proposed pipeline now, rather than in three years time. Accordingly, the Siting Council finds that the additional energy resources are needed to meet the needs of Berkshire's customers.[54]

54/ Berkshire also argued that the pipeline was needed for economic efficiency reasons. The Siting Council notes that the Company failed to: (1) quantify the cost advantages of pipeline gas over propane; (2) estimate annual savings resulting from the use of pipeline gas rather than propane; and (3) relate the economic benefit of displacing propane to the more than six million dollar cost of the proposed project. In sum, the Company has not provided a clear and detailed quantifiable analysis of actual economic efficiency benefits that would be provided by the proposed project. While the Siting

B. Comparison of the Proposed Project and Alternative Approaches

1. Standard of Review

G.L. c. 164, sec. 69H, requires the Siting Council to evaluate proposed projects in terms of their consistency with providing a necessary energy supply for the Commonwealth with a minimum impact on the environment at the lowest possible cost. In addition, G.L. c. 164, sec. 69I, requires a project proponent to present "alternatives to planned action" which may include (a) other methods of generating, manufacturing, or storing, (b) other sources of electrical power or gas, and (c) no additional electrical power or gas.[55]

In implementing its statutory mandate, the Siting Council has required a petitioner to show that, on balance, its proposed project is superior to alternate approaches in the ability to address the previously identified need in terms of cost, and environmental impact. 1991 Berkshire Decision, 23 DOMSC at 314-322; 1991 NEPCo Decision, 21 DOMSC at 359-375; 1991 Bay State Decision, 21 DOMSC at 20; 1990 Berkshire Decision (Phase II), 20 DOMSC at 133-147; BECo/MWRA, 19 DOMSC at 18-30; 1989 MECo/NEPCO Decision, 18 DOMSC at 405-424; Turners Falls, 18 DOMSC at 161-173; 1988 Braintree Decision, 18 DOMSC at 25-27; 1988 ComElectric Decision, 17 DOMSC at 279-288; 1988 Middleborough Decision, 17 DOMSC at 219-144; Cambridge Electric Light Department, 15 DOMSC 187, 212-218 (1986) ("1986 CELCo Decision"): 1985 MECo/NEPCo Decision, 13 DOMSC at 141-183. The Siting Council has also required a petitioner to consider reliability of supply as part of its showing

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Council recognizes that economic efficiency benefits are likely to be derived from the proposed project, the Company has not demonstrated that the proposed project would provide guaranteed, economic benefits of a substantial magnitude given the cost and nature of the proposed project.

55/ G.L. c. 164, sec. 69I, also requires a petitioner to provide a description of "other site locations."

that its proposed project is superior to alternative approaches.[56]

2. Project Approaches

The Siting Council considers two project approaches to meet the identified need (1) the Company's proposed project, and (2) the alternative project approach of a Tennessee expansion of capacity of the North Adams lateral.

a. Berkshire's Proposed Project Approach

Berkshire's proposed project approach consists of (1) construction of the proposed meter station along the North Adams lateral to receive gas from Tennessee on behalf of Altresco and Berkshire, and (2) construction of the proposed 12-inch diameter pipeline between the meter station and existing pipeline facilities which interconnect to the Altresco facility (Exh. HO-2, pp. 4,7). The proposed project would provide Altresco with firm transportation of up to 40,000 Mcf per day to supply its cogeneration facility, and provide Berkshire with firm transportation of up to 5,000 Mcf per day to supply its Pittsfield market area (id.; Exh. HO-1, p. 3-3). The Company identified a primary route, alternative route and route segment variations to the primary route for the proposed project (see Section III, below).

b. Tennessee Alternatives

56/ In the 1989 MECo/NEPCo Decision, the Siting Council stated that in future facility proposal reviews, we would require a petitioner to consider reliability of supply as part of its showing that its proposed project is superior to alternative approaches (18 DOMSC at 412). The Siting Council has also stated that gas facility proposals differ significantly from electric facility proposals with respect to reliability, and that a comparison of the reliability of alternative approaches generally will not be applicable in gas facility reviews. 1990 Berkshire Decision (Phase II), 20 DOMSC at 133 n.10.

The Company indicated that it considered, in conjunction with Altresco and Tennessee, a Tennessee project to expand the capacity of the North Adams lateral as an alternative approach to meet the identified need (Exhs. HO-1, p. 3-11, HO-A-1). In order to provide firm deliveries of 31,500 mcf to the Altresco facility via the North Adams lateral to the interconnection facilities, the Company indicated that Tennessee would likely consider either (1) the replacement of the existing six-inch diameter pipeline with a 12-inch diameter pipeline for eight miles, beginning at the point of interconnection of the 6-inch diameter pipeline with the Tennessee mainline in Richmond ("replacement option"), or (2) the extension of the existing ten-inch diameter pipeline, north from Pittsfield, for approximately seven miles, parallel to the existing six-inch diameter pipeline ("extension option") (Exh. HO-A-1; Tr. 1, p. 100).[57] The extension option would begin at the interconnection point of the North Adams lateral and Tenneco Interconnect in Pittsfield and would travel in a northerly direction for seven miles through the communities of Pittsfield, Lanesboro, and Cheshire (Exh. HO-A-5). However, based on preliminary cost and reliability factors, but without an in-depth environmental analysis, the Company indicated that Tennessee's preferred approach would be the extension option (Exh. HO-A-1, sup.).[58] Thus, for purposes of this review, the Siting Council compares the proposed project with the extension option.

57/ Tennessee indicated that, in order to transport 45,000 Mcf along the North Adams lateral to the interconnection facilities, corresponding to the capacity of the proposed project, the extension option would need to be increased to 11.3 miles (Exh. HO-C-9).

58/ Tennessee noted that construction of the replacement option would be more costly due to costs associated with the removal of the existing pipeline and that the extension option would provide reliability benefits based on the additional length of dual pipeline capability (Tr. 1, pp. 103-104). Tennessee added that the regulatory approval framework would not differ for either of the options (id., pp. 104-105).

3. Ability to Meet the Identified Need

Before reviewing the proposed and alternative project approaches on the basis of cost and environmental impact, the Siting Council must determine whether the different project approaches are capable of meeting the identified need. 1988 Boston Gas Decision, 17 DOMSC at 169.

The Company stated that an analysis of volumes and pressures on the North Adams lateral established that Altresco volumes could be transported approximately 4.5 miles along the North Adams lateral, to the vicinity of the Bousquet Ski area, without impacting Tennessee's ability to transport Berkshire's maximum contracted volumes to the North Adams meter station and maintain minimum required operating pressures (Exh. HO-N-9; Tr. 1, pp. 94-95).[59] The Company further stated that the proposed project, in conjunction with the existing interconnection facilities -- the Tenneco Interconnect and the Altresco spur line -- would be capable of delivering 45,000 Mcf to Altresco and Berkshire at the appropriate pressure (Exhs. HO-N-2, pp. 1-4, 11-13, HO-N-10, HO-N-17; Tr. 3, p. 97).

Tennessee stated that the extension option would require FERC approval and that, based on its recent history of construction in the northeast, the FERC approval process would likely take from 2.5 to three years (Tr. 1, pp. 104-105).[60] Therefore, the Company asserted that, although the extension option could technically meet the need, it could not meet the need on a timely basis (Exh. HO-1, pp. 3-11, 3-12, 3-13). The Company noted that even if a filing had been submitted to FERC as early as June 1990, the facilities would not be in place before 1994 (id., pp. 3-12, 3-13).

In the 1990 Berkshire Decision (Phase II), the Company also raised the issue of timeliness with regard to a Tennessee alternative (20 DOMSC at

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59/ The Company's analysis to determine the Bousquet delivery point is discussed in Section III.C, below.

60/ Berkshire indicated that the time-frame for a FERC permitting process could be lengthy due to potential intervention by groups that are concerned with national gas supply and rate issues (Tr. 2, pp. 105-106).

136). In finding that the Tennessee approach could meet the identified need, the Siting Council stated that it would not attribute an advantage to Berkshire's proposed project relative to the Tennessee alternative merely because Altresco had elected not to pursue permitting for the Tennessee alternative. Id., at 137 n.17.

The Company asserted that it is appropriate for the Siting Council to consider timing in the instant case because the Company and Altresco began re-examining alternative project approaches subsequent to the date of the 1990 Berkshire Decision (Phase II) (Exh. HO-1, p. 3-12). In addition, Altresco maintained that its gas supply contracts, financing arrangements and power sales contract could be jeopardized if firm transportation was not in place by December 31, 1992 (Tr. 2, pp. 73-83, 93-98).[61]

With regard to the timing issue, Richmond argues that, unless the Siting Council finds that the current interim arrangements will provide adequate gas supplies to allow Altresco to meet its contractual commitments, the Siting Council must reject the Tennessee alternative due to the significantly greater time that it would take to design, permit and construct a Tennessee alternative (Richmond Initial Brief, p. 9).

In addition to the issue of timeliness, Berkshire and Altresco argued that the Tennessee alternative would not provide the economic benefits to Berkshire's customers that would be provided by the proposed project,

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61/ Altresco asserted that FERC and National Energy Board of Canada approvals of its gas supply contracts were premised on firm transportation to the Altresco facility (Tr. 2, pp. 73-76). In addition, Altresco stated that its gas supply contract could be terminated by the supplier and then renegotiated at less favorable terms to Altresco if firm transportation was not in place by December 31, 1992 (id., pp. 94-95). Altresco further stated that its transportation contract with Tennessee could be jeopardized if Tennessee could not charge rates consistent with firm transportation (id., p. 80). Altresco added that termination of gas supply or transportation contracts could lead to defaults under Altresco's financing arrangements and power sales agreements (id., pp. 96-98, Exh. AP-1, pp. 12-13).

including peaking service, the increased transportation capacity, surge protection and joint balancing of supply. (Berkshire/Altresco Initial Brief, p. 33).

The record demonstrates that both the proposed project approach and the Tennessee replacement and extension options are technically capable of meeting the identified need to provide firm transportation of gas supplies to the Altresco facility.

With respect to the arguments concerning timing, the Siting Council notes that, although Berkshire and Altresco considered alternative project approaches at an early date and discussed such approaches with Tennessee, alternative project approaches were not actively pursued by Berkshire or Altresco. Further, the Company failed to provide evidence in the record to determine whether an application which had been filed with FERC at the same time as the application was filed with the Siting Council would have had a significantly longer permitting timeframe. Finally, there is no evidence in the record that Altresco's supply and transportation contracts are certain to be terminated and could not be extended if firm transportation to the facility is not completed by December 31, 1992.

With regard to arguments of Berkshire and Altresco regarding the inability of the Tennessee extension option to provide economic efficiency benefits to Berkshire's customers, the record indicates that the extension option could be increased in its length in order to transport 45,000 Mcf, thereby providing Berkshire with the capacity to transport 5,000 Mcf on its own behalf. Further, there is no evidence in the record that other benefits, such as peaking supplies, and surge protection could not be negotiated between Altresco and Berkshire (see Section I.C, above).

Accordingly, the Siting Council finds that the proposed project approach and the Tennessee extension option are capable of meeting the identified need.

4. Cost

The Company estimated that the cost of construction of the proposed

project would range from $6,385,000 for the primary route to $7,940,000 for the alternative route (Exh. HO-C-1).[62] The Company indicated that such costs include: (1) engineering, design and planning; (2) construction and materials; (3) licenses, permits and approvals; (4) easements; and (5) miscellaneous and contingency (id.).[63]

The Company indicated that it did not anticipate actual costs to vary more than five percent from estimated costs because (1) the estimate includes costs of materials that have been procured and easements that have been negotiated, and (2) construction costs, in general, have not increased since the estimate was prepared (Tr. 1, p. 187).

Based on its 1990 costs to construct the NOREX facilities, Tennessee estimated that the cost to construct the extension option would be $6,700,000 (Exh. HO-A-1, sup.; Tr. 1, p. 102). Tennessee explained that this estimate includes costs of materials, construction and easements but does not include costs of permitting, environmental review, contingencies, AFDC, a compressor that would be required at the Altresco facility or adjustments due to inflation (Exh. HO-C-10; Tr. 1, pp. 102-103, 110-111). The Company noted that AFDC would increase costs by approximately seven percent, and that adjustments for inflation to 1991 and 1994 would increase costs by 2.5 percent and 4.5 percent, respectively (Exh. HO-C-10; Tr. 1, p. 111).[64] Finally, the Company noted that an increase in the length of the Tennessee extension option

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62/ To compare the costs of the proposed and alternative project approaches, the Siting Council uses the cost of the primary route as the cost of the proposed project. Since both project approaches would require meter stations, only the cost of the pipelines is compared.

63/ The Company noted that the miscellaneous and contingency category for the primary route includes $225,000 for allowance for funds during construction ("AFDC") (Exh. HO-C-8).

64/ The Siting Council notes that the cost of this extension option would be approximately $7,300,000 if adjusted for AFDC and inflation to 1991 dollars.

to 11.3 miles to transport 45,000 Mcf, would increase costs by approximately 7.5 million dollars (Exh. HO-C-9).

The record indicates that the cost estimate for the proposed project is complete and that the actual cost would likely be within five percent of the estimated cost. The record also indicates that the cost estimate for the extension option is highly speculative in that it was not based on detailed engineering or environmental analysis specific to this project. In addition, the cost estimate for the extension option is not complete in that it does not include the cost of a compressor, permitting, or contingencies.

The Siting Council notes that even if the cost of the proposed project were increased by five percent, increasing the cost to approximately $6,700,000, it would still be less costly than the seven-mile extension option, if adjusted for AFDC and inflation to 1991 dollars.

Based on the foregoing, the Siting Council finds that the Company's proposed project would be superior to the Tennessee extension option with regard to cost.

5. Environmental Impacts

The Company stated that, based on a preliminary evaluation of the environmental impacts of the extension option, the overall environmental impacts of the proposed project and the extension option would be comparable but that the extension option has the potential for greater impacts on the natural environment than the proposed project (Exhs. HO-A-5, HO-RR-24, pp. 1, 6-10).[65] The Company noted that impacts to wildlife would be comparable for both projects but that the extension option would impact a significantly greater amount of wetlands and forest resources, and slightly more water

65/ The Company provided only a general discussion of the environmental impacts of the seven-mile Tennessee extension option (Exhs. HO-A-5, HO-RR-24).

crossings than would the proposed project (Exh. HO-RR-24, pp. 8-9).[66]

In comparing the impacts of both projects to the human environment, the Company estimated that the extension option would be constructed within 100 feet of 60 residences while the proposed project would be constructed within 100 feet of 80 residences (id., p. 6). The Company added that the extension option would both cross and extend along roadways and would disrupt traffic on a greater number of roadways than would the proposed project (id., pp. 7-8). The Company noted that impacts to archaeological, historic and agricultural resources along the extension option had not been evaluated (id., pp. 6-9). Finally, the Company stated that the extension option would traverse populated areas and that the degree of community acceptance and concern regarding this project has not been evaluated (id., pp. 4, 8).

The record indicates that the environmental analysis of the extension option was not nearly as comprehensive or detailed as the environmental analysis of the Company's proposed project. It did not include an evaluation of all potential environmental impacts and did not include an evaluation of the additional four miles of pipeline that would be required to transport an amount of gas comparable to the capacity of the proposed project. However, the Company's limited analysis of the extension option indicates that the extension option would likely have a greater impact on wetlands and forest resources than the proposed project and that, where evaluated, other impacts would likely be comparable to the proposed project. In addition, the Siting

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66/ The Company noted that the extension option would affect approximately 12 acres of wetland resources and 14 acres of forest resources while the proposed project would affect approximately six acres of wetland resources and seven acres of forest resources (Exhs. HO-RR-24, pp. 8-9, BGC-2, Attach. B, p. 8). In addition, the Company noted that the extension option would require twelve waterway crossings while the proposed project would require eleven waterway crossings (Exh. HO-RR-24, pp. 8-9). The Company further noted that in comparing the extension option with the replacement option, the replacement option would affect approximately 15 acres of wetlands and approximately twice the forest resources as the extension option (id., pp. 4-6).

Council notes that, in general, the overall impacts of an 11-mile pipeline, by virtue of its greater length, would likely be greater than the overall impacts of a six-mile pipeline.

Accordingly, based on the foregoing, the Siting Council finds that the proposed project is superior to the Tennessee extension option with respect to environmental impacts.

6. Conclusions: Weighing Need, Cost, and Environmental Impacts

The Siting Council has found that: (1) the proposed project and the Tennessee extension option are capable of meeting the identified need; (2) the proposed project is superior to the Tennessee extension option with respect to cost; and (3) the proposed project is superior to the Tennessee extension option with respect to environmental impacts.

Accordingly, the Siting Council finds that the proposed project is superior to the Tennessee extension option.

III. ANALYSIS OF THE PROPOSED AND ALTERNATIVE FACILITIES

A. Standard of Review

G.L. c. 164, sec. 69I requires a facility proponent to provide information regarding "other site locations." In implementing this statutory mandate, the Siting Council requires the petitioner to show that its proposed facility siting plans are superior to alternatives and that its proposed facilities' are sited at locations that minimize costs and environmental impacts while ensuring supply reliability.

In order to determine whether the facility proponent has shown that its proposed facilities siting plans are superior to alternatives, the Siting Council has required a facility proponent to demonstrate that it has examined a reasonable range of practical facility siting alternatives. 1991 Berkshire Decision (Phase II), 23 DOMSC at 323; Enron, 23 DOMSC at 121; EEC, 22 DOMSC at 314; West Lynn, 22 DOMSC at 77; 1991 NEPCo Decision, 21 DOMSC at 376; 1990 Bay State Gas Decision, 21 DOMSC at 44; MASSPOWER, 20 DOMSC at 371; 1990 Berkshire Decision (Phase II), 20 DOMSC at 148; BECo/MWRA, 19 DOMSC at 38-42; Turners Falls, 18 DOMSC at 175-178; 1988 Braintree Decision, 18 DOMSC at 31-40; Altresco Decision, 17 DOMSC at 387; NEA, 16 DOMSC at 381-409. In order to determine that a facility proponent has considered a reasonable range of practical alternatives, the Siting Council typically has required the proponent to meet a two-prong test. First, the facility proponent must establish that it has developed and applied a reasonable set of criteria for identifying and evaluating alternatives in a manner which ensures that it has not overlooked or eliminated any alternatives which are clearly superior to the proposal. 1991 Berkshire Decision, 23 DOMSC at 323; Enron, 23 DOMSC at 121; EEC, 22 DOMSC at 314; West Lynn, 22 DOMSC at 77; 1991 NEPCo Decision, 21 DOMSC at 376-377; 1990 Bay State Gas Decision, 21 DOMSC at 44-45; MASSPOWER, 20 DOMSC at 373-374, 382; 1990 Berkshire Decision (Phase II), 20 DOMSC at 148-149, 151-156. Second, the facility proponent must establish that it has identified at least two noticed sites or routes with some measure of

geographic diversity.[67] 1991 Berkshire Decision, 23 DOMSC at 323-324; Enron, 23 DOMSC at 122; EEC, 22 DOMSC at 122-123; West Lynn, 22 DOMSC at 77-78; 1991 NEPCo Decision, 21 DOMSC at 376-377; 1990 Bay State Gas Decision, 21 DOMSC at 44-45; MASSPOWER, 20 DOMSC at 371-372; 1990 Berkshire Decision, 20 DOMSC at 148; Turners Falls, 18 DOMSC at 175-178; 1988 Braintree Decision, 18 DOMSC at 31-40; 1988 ComElectric Decision, 17 DOMSC at 301-303; NEA, 16 DOMSC at 381-409.

Finally, in order to determine whether the facility proponent has shown that its proposed facilities are sited at locations that minimize costs and environmental impacts while ensuring supply reliability, the facility proponent must demonstrate that the proposed site for the facility is superior to the noticed alternative on the basis of balancing cost, environmental impact and reliability of supply. 1991 Berkshire Decision, 23 DOMSC at 324; Enron, 23 DOMSC at 122; EEC, 22 DOMSC at 315; West Lynn, 22 DOMSC at 78; 1991 NEPCo Decision, 21 DOMSC at 377-379; 1990 Bay State Gas Decision, 21 DOMSC at 47; MASSPOWER, 20 DOMSC at 382; 1990 Berkshire Decision (Phase II), 20 DOMSC at 148; BECO/MWRA, 19 DOMSC at 38-42; Turners Falls, 18 DOMSC at 175-178.

B. Description of the Proposed and Alternative Facilities

1. Proposed Facilities

67/ When a facility proposal is submitted to the Siting Council, the petitioner is required to present (1) its preferred facility site or route, and (2) at least one alternative facility site or route. These sites and routes often are described as the "noticed" alternatives because these are the only sites and routes described in the Notice of Adjudication published at the commencement of the Siting Council's review. In reaching a decision in a facility case, the Siting Council can approve a petitioner's preferred site or route, approve an alternative site or route, or reject all sites and routes. The Siting Council, however, may not approve any site, route, or portion of a route which was not included in the Notice of Adjudication published at the commencement of the proceeding.

Berkshire's proposal consists of (1) the Bousquet Feedline, an approximately 6.2-mile, 12-inch diameter gas distribution pipeline to be operated at a maximum pressure of 500 psi (Exh. HO-2, p. 7), and (2) the Bousquet delivery point, a new meter station to be located near the Bousquet ski area in western Pittsfield along the North Adams lateral, and directly adjacent to metering facilities proposed by Tennessee (id., pp. 4-8).

The primary route for the Bousquet Feedline begins at the site of the Bousquet delivery point, south of Tamarack Road and west of Dan Fox Drive, in Pittsfield (id., p. 8, Exh. HO-E-23). The pipeline would travel parallel to the northern side of the North Adams lateral through the Bousquet ski area, would cross under the ski area parking lot and Dan Fox Drive and continue in a northern direction along Old Tamarack Road (Exhs. HO-1, Figure 5-2, HO-E-23). The pipeline would turn to the east on South Mountain Road, to the south on South Street, and then turn to the east to traverse the Pittsfield Country Club, cross under the Housatonic Railroad ROW and property of Miss Hall's School (Exhs. HO-1, Figure 5-2, HO-3, pp. 4-2, 4-3). The pipeline would then turn to the northeast along Holmes Road, cross the Housatonic River within an existing bridge utility bay, and turn to the east to enter Canoe Meadows (id.). The pipeline would travel along the eastern and northern perimeter of Canoe Meadows, exit Canoe Meadows and travel in an easterly direction along William Street to Elm Street (id.). The pipeline would then turn to the north, and travel parallel to the existing North Adams lateral, across private property and Brattlebrook Park to the point of connection with the Tenneco Interconnect (id.) The Tenneco Interconnect and the Altresco spur line will link the proposed pipeline with the Altresco plant (Exh. HO-1, p. 4-1).

Berkshire's primary meter station site is located on the western edge of the Bousquet ski area, approximately 135 feet south of Tamarack Road ("primary meter station site") (Exh. BGC-2, Attach. B, pp. 3, 8). The primary meter station site is owned by Four Skiers Enterprises, Inc. ("Four Skiers"), the owners of the Bousquet ski area (id., p. 8). See Figure I.

The Company estimated the cost of installing the proposed pipeline and meter station along the primary route to be $7,290,000 (Exhs. HO-C-1, HO-

C-2).

2. Alternative Facilities

The Company's alternative pipeline route is referred to by Berkshire as the revised Conrail/Cloverdale alternative (Exh. HO-1, p. 5-30).[68] The alternative route would begin at the primary meter station site[69] and travel along the path of the proposed primary route to Dan Fox Drive (Exh. HO-1, p. 5-30, Figure 5-4). The pipeline would then parallel Dan Fox Drive to South Street, and follow South Street in a northerly direction to the North Adams lateral ROW (id.). The route would then cross under the North Adams lateral and continue to parallel the North Adams lateral ROW through the Pittsfield Country Club, across Holmes Road, pass through other public and private properties, and under the Housatonic River (id.). The pipeline would continue to parallel the North Adams ROW, crossing Canoe Meadows, and crossing under East New Lenox Road, William Street, and Elm Street to the Tenneco Interconnect (id.). See Figure I. The Company estimated the cost of

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68/ The Conrail/Cloverdale Route was originally selected as an alternative route to the 11.2-mile Richmond Feedline route (Exh. HO-1, p. 5-30). Because Berkshire has withdrawn its proposal to construct the longer Richmond pipeline, Mr. Curtiss-Lusher acknowledged that for purposes of comparison, it would be more appropriate to compare the Bousquet route to a revised Conrail/Cloverdale alternative route commencing at the Bousquet meter station (Tr. 2, pp. 148-149). The Siting Council considers the revised Conrail/Cloverdale route to be the appropriate alternative pipeline route for comparison purposes in this proceeding.

69/ In addition to the primary meter station site, Berkshire evaluated five other meter station sites in the Bousquet/West Pittsfield area (Exh. BGC-2, p. 7, Attach. B, p. 1). These five meter station sites were not included in the Notice of Adjudication and therefore, may not be approved by the Siting Council. Nevertheless, since Berkshire presented an evaluation of the five meter station sites in its amended filing, the Siting Council reviews the manner in which Berkshire evaluated those sites to ensure that the Company did not overlook or eliminate any clearly superior alternative site. See Section III.C, below.

installing the pipeline and meter station along the revised Conrail/Cloverdale route to be $8,845,000 (Exhs. HO-C-1, HO-C-2).

3. Variations to the Proposed Facilities

In this proceeding, Berkshire also noticed segment variations for portions of the Bousquet Feedline route (Exh. HO-1, pp. 5-34 through 5-36, 5-36 n.27). The Company identified these segment variations as follows: (1) segment variation 3b would travel cross-country between South Mountain Road and the Pittsfield Country Club; (2) segment variation 4b would follow an existing golf cart path in a southeast direction across the Pittsfield Country Club, cross the North Adams lateral and the Housatonic Railroad tracks, then turn to the northeast, where it would cross the North Adams lateral again and continue across private property to Holmes Road; (3) segment variation 6a would cross the north central portion of Canoe Meadows, turn to the north on East New Lenox Road and continue along East New Lenox Road to William Street; (4) segment variation 6b would travel to the north on Holmes Street and turn to the east on William Street, thereby avoiding construction within Canoe Meadows; (5) segment variation 6d would travel to the north, east and south along the perimeter of Canoe Meadows, then turn to the east travelling across private property to New Lenox Road, and turn to the north and continue along East New Lenox Road to William Street; (6) segment variation 7b would turn to the west on Elm Street from William Street and then turn to the north and travel adjacent to the North Adams lateral; and (7) segment variation 8b would diverge from the North Adams ROW lateral prior to its crossing of Brattlebrook Park and travel to the east and north around Brattlebrook Park (id., pp. 5-34 through 5-36, 5-36 n.27, Figure 5-5).

C. Site Selection Process

1. Overview of the Siting Process

Berkshire asserted that, consistent with the Siting Council's statutory mandate, it sought to select a pipeline route that would provide an appropriate level of reliability at the least cost and with minimal

environmental impact (Exh. HO-1, p. 5-1). The Company worked with HMM[70] and a task force formed by the Mayor of Pittsfield ("Task Force") to select a new pipeline route (id., p. 5-2). Berkshire stated that the Task Force conducted its route selection process in conjunction with HMM (id., pp. 5-7 through 5-9).[71]

According to Berkshire, the first stage of the site selection process consisted of three levels of analysis: (1) a determination of regions of interest, i.e., general areas through which the pipeline could be constructed so as to deliver gas from the Tennessee main line to the Altresco facility;[72] (2) a determination of areas to exclude or avoid within the regions of interest; and (3) an evaluation of route alternatives based upon the Siting Council's standards (id.).

Mr. Curtiss-Lusher[73] stated that the Task Force first looked at all the routes that had been reviewed in the 1990 Berkshire Decision (Phase II)

70/ HMM is an engineering, environmental consulting, and planning firm (Exh. HO-1, p. 5-2).

71/ The Company's witness, Mr. Wall, stated that the site selection process was an interactive one between the Task Force and HMM (Tr. 3, p. 8). Mr. Wall stated that some of the site selection criteria were developed by HMM based on their experience, while others were developed based on the interests of the Task Force members (id.).

72/ Berkshire stated that, based on the natural characteristics of the area, two general corridors were found to be technically suitable for a pipeline route from the Tennessee main line to the Altresco facility in Pittsfield. (Exh. HO-1, p. 5-9). One such corridor, the "Lee/Lenox Corridor", passed through the towns of Lee, Lenox, and Pittsfield (id.). The Lee/Lenox Corridor was rejected for numerous reasons, including pipeline length, engineering problems, higher costs, and greater potential environmental impacts (id., p. 5-10). The other corridor, the Richmond/Pittsfield corridor, continued to be pursued (id., p. 5-9).

73/ Mr. Curtiss-Lusher was a member of the Task Force representing Altresco (Exh. AP-1, p. 11).

including the route that was approved by the Siting Council in that Decision (Tr. 2, pp. 125, 133-135). Berkshire stated that the Task Force concluded that these route options were not desirable (Exh. HO-S-3). The Task Force then reexamined the possibility of Tennessee project alternatives, and examined new options which became available since the 1990 Berkshire Decision (Phase II) (id.). Based on this analysis, Berkshire stated that the Task Force, along with HMM, identified the Richmond Feedline route as the primary route, the Conrail/Cloverdale route as the alternative route, and numerous segment variations to the primary route (Tr. 2, pp. 126; Exh. HO-1, p. 5-10).[74]

Berkshire stated that in the second stage of the site selection process, HMM performed an analysis to validate the selection of the Richmond Feedline route based upon the Siting Council's criteria of reliability, least cost, and minimum environmental impact (Exh. HO-1, p. 5-11).[75] Berkshire stated that its analysis confirmed that the Richmond Feedline route was the superior route with respect to environmental impacts (id., sec. 5).

Subsequent to the selection of the Richmond Feedline route, Berkshire and Altresco discovered that the length of the proposed pipeline could be shortened due to the successful operation of the North Adams lateral and the interconnection facilities during the 1990-91 winter (Exh. AP-1, p. 17; Tr. 2, pp. 176-178). Reduced costs and further minimization of

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74/ Berkshire stated that segment variations to the primary route were developed because the Company identified a number of instances where potential engineering, environmental or regulatory concerns might make such variations necessary (Exh. HO-1, p. 5-19). These segment variations were also proposed by Berkshire in the event that easements could not be obtained for particular segments of the primary route (Tr. 4, pp. 229, 231, 248, 256, 258-259).

75/ In its route validation process, Berkshire used the route approved in the 1990 Berkshire Decision (Phase II) as a benchmark for evaluating other possible routes (Exhs. HO-1, p. 5-18, BGC-2, Attach. A, pp. A-33, A-34)). However, Mr. Curtiss-Lusher stated that this route was not considered to be an alternative in this proceeding (Tr. 2, pp. 149-150).

environmental impacts were cited by Berkshire as advantages of this approach (Exh. HO-1, p. 5-38). The Company stated that, for these reasons, it focussed on the selection of a shorter pipeline route commencing at the North Adams lateral, which resulted in the selection of the 6.2-mile Bousquet Feedline route (Exh. HO-2, p. 11).

After numerous meetings among Berkshire, Altresco, and Tennessee, in which analyses of available capacity were reviewed, Berkshire concluded that this shortened route, the Bousquet Feedline route, was the superior route in terms of providing a reliable energy supply with a minimum impact upon the environment at the least cost (id., p. 3).[76] The Bousquet Feedline route was then presented to the Task Force, which adopted the route as its primary route (Tr. 2, pp. 175-176). With the exception of one segment variation,[77] the Bousquet Feedline route is essentially the Task Force's Richmond Feedline route shortened by 4.5 miles (id., p. 176; Exh. HO-S-10). HMM performed a validation analysis for the Bousquet route similar to the one performed for the Richmond Feedline route (Exh. BGC-2, Attach. A, pp. A-25, A-26, A-33 through A-35).

2. Development of Siting Criteria

a. Description

Berkshire stated that the Task Force adopted the site selection

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76/ Mr. Curtiss-Lusher stated that in the process of developing a shorter primary route, there were numerous discussions and evaluations as to how far along the system Tennessee could guarantee adequate deliveries to the Altresco facility (Exh. AP-1, p. 17). Mr. Curtiss-Lusher asserted that Tennessee's calculations indicated that adequate volumes and pressures could be delivered if the pipeline commenced at a point 4.5 miles from the Tennessee main line, which is the Bousquet ski area (id.).

77/ Segment variation 6c originally was a variation to the Richmond Feedline route (Tr. 2, p. 132). The Company stated that due to concerns of the Audubon Society, it decided to include this segment variation in the Bousquet Feedline route. (Tr. 4, pp. 250-251).

criteria used by Berkshire in its selection of the route approved in the 1990 Berkshire Decision (Phase II) (Exh. HO-S-3). The criteria used by Berkshire in that proceeding were environmental impacts, cost, construction constraints, and reliability. 1990 Berkshire Decision (Phase II), 20 DOMSC at 161. In addition, Berkshire stated that the Task Force adopted a statement of principles which set forth its concerns in selecting a pipeline route (Exhs. HO-S-3, Attach., AP-1, Attach. A, p. 2). Those principles included concerns such as proximity of the pipeline to residences, pipeline safety, environmental impacts, costs, and minimizing time to obtain necessary permits (id.).

Berkshire indicated that the Task Force did not apply numerical scores or weights to the criteria it considered, but evaluated them in a more subjective fashion (Tr. 3, p. 4; Exh. HO-S-18). Mr. Curtiss-Lusher and Mr. Wall stated that the Task Force was most concerned about sensitive receptors (including proximity to residences and wells), wetlands, and open space and recreation (Exh. HO-S-20(d); Tr. 3, pp. 4, 10, 14).

Berkshire stated that HMM selected and defined a set of human and natural environmental criteria, based upon federal, state, and local environmental standards,[78] the professional judgment of Berkshire and its consultants, the Task Force, and the concerns expressed by officials and residents of Richmond and Pittsfield for use in its validation process (Exh. BGC-2, Attach. A, p. A-1). Further, Berkshire stated that HMM did apply numerical weights and quantified scores for the environmental criteria it utilized in its validation analysis (id., Attach. A). Berkshire stated that the human environmental criteria applied in HMM's validation process were selected to account for concerns associated with construction of a pipeline in proximity to populated areas (id., p. A-3). These criteria were identified

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78/ Berkshire stated that the environmental criteria were, in part, developed from pertinent criteria evaluated under the Massachusetts Environmental Policy Act ("MEPA"), by the Siting Council, and by other agencies involved in pipeline permitting (Exh. HO-S-20).

as: sensitive receptors,[79] archaeological and historic resources, open space and recreation, scenic roads,[80] roadway alignment[81] and community concern and acceptance[82] (id., pp. A-3 and A-4). Mr. Wall testified that the use of pipeline safety as a separate criterion was not possible because it could not be defined in a meaningful way for purposes of the validation analysis (Tr. 3, pp. 66-67). However, Mr. Wall also stated that proximity of the pipeline to sensitive receptors was an element of ensuring long-term safety (id.).

Berkshire stated that natural environmental criteria developed and used by HMM in its validation process were selected to account for those significant natural resources that would be impacted by construction and/or operation of the pipeline (Exh. BGC-2, Attach. A, p. A-4). The natural

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79/ Sensitive receptors include homes, churches, schools, and hospitals within close proximity of the pipeline route (Exh. BGC-2, Attach. A, p. A-3). The Company considered the proximity of the pipeline to sensitive receptors in its review, and attempted to maintain at least a minimum distance of 20 feet and, where possible, 50 feet, between the pipeline and residences (Tr. 3, p. 67, Tr. 5, pp. 40-41; Exh. HO-RR-35).

80/ Berkshire stated that scenic roads were originally chosen as a criterion due to concerns expressed regarding construction along roadways in Richmond (Exh. BGC-2, Attach. A, p. A-4). Berkshire added, however, that scenic roads are not an issue for the Bousquet Feedline route (id., p. A-25; Exh. HO-S-20, Tables S-20-3, S-20-4, S-20-8).

81/ Berkshire stated that roadway alignment was chosen as a criterion due to concerns related to potential traffic disruption during construction of the pipeline within roadways (Exh. BGC-2, Attach. A, p. A-4).

82/ Berkshire stated that this criterion was included to address the Siting Council's suggestion in the 1990 Berkshire Decision (Phase II) to include community input as part of the site selection process (20 DOMSC at 163), and to reflect the input of the Task Force (Exh. BGC-2, Attach. A, p. A-4).

criteria reviewed by Berkshire were identified as: wetlands,[83] water resources,[84] forest resources, wildlife habitat, and active agriculture (id., pp. A-4 through A-6).

As part of the validation analysis performed by HMM for Berkshire, subjective weights were developed for each of the human and natural environmental criteria (id., p. 5, Attach. A, p. A-1).[85] Berkshire stated that raw impact data was developed for each of the criteria for each route alternative based on field evaluations, literature searches, aerial photography, and review of topographic maps and other environmental data (id.). The impact data was then compared for the alternative routes and scaled to account for unit dissimilarity, i.e., the linear feet of roadways versus the number of sensitive receptors (id.). Berkshire stated that weights were applied to quantitatively evaluate the impacts for all of the natural and human environmental criteria (id.).[86] Berkshire noted that this methodology

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83/ Berkshire stated that this criterion included two subcategories -- wooded wetlands and open or shrub swamp (Exh. BGC-2, Attach. A, p. A-5).

84/ Berkshire stated that this criterion included two subcategories -- fishable streams and private water supplies (Exh. BGC-2, Attach. A, p. A-5).

85/ Berkshire stated that these weights were based on three factors: (1) short-term construction impacts; (2) long-term construction impacts; and (3) ability to mitigate impacts associated with construction and operation of the facility (Exh. BGC-2, Attach. A, p. A-1). Numerical weights were assigned to each criterion based on the severity of the impact, i.e., a high impact was assigned a value of three, a medium impact was assigned a value of two, while a low impact was given a value of one (id., pp. A-16, A-17). The highest possible weight under this methodology would be 9.0, while the lowest weight would be 3.0 (id.).

86/ The raw data were scaled on the basis of 100 percent to account for the dissimilarity of units of measurement among the criteria (Exh. BGC-2, Attach. A, p. A-23). The route alternative with the greatest amount of impacted resource received a 100 percent designation, while the compared alternative received a proportional

did not include a quantitative analysis of the criteria of cost or reliability (id., p. A-2).

With respect to the meter station site, Berkshire stated that the criteria used by HMM to identify and select a meter station site included: (1) reasonable distance to the North Adams lateral; (2) reasonable distance to the proposed Bousquet Feedline route; (3) a location along the North Adams lateral that would ensure reliable delivery of necessary gas supplies; (4) site availability; and (5) environmental concerns (Exh. HO-MC-1A). Berkshire stated that HMM utilized the same environmental criteria used for selecting the pipeline route in the meter station site selection process (Exh. BGC-2, Attach. B, pp. 2, 4-7). In addition, Mr. Curtiss-Lusher testified that there were discussions with the residents in the vicinity of the Bousquet ski area concerning the siting of the meter station (Tr. 3, p. 172-174). The record does not indicate that any weighting, ranking or quantitative analysis of the criteria was performed with respect to the meter station sites (Exh. BGC-2, Tables 1 and 2).

b. Arguments of the Parties

Berkshire and Altresco noted that in the 1990 Berkshire Decision (Phase II), the Siting Council found that the Company had developed a reasonable set of siting criteria (Berkshire/Altresco Initial Brief, p. 60). Berkshire and Altresco argued that the site selection process in this proceeding improves upon the process utilized in the 1990 Berkshire Decision (Phase II), because of the involvement of the Task Force and the use of HMM's environmental validation methodology (id.).

Motyl/Clerici argue that they and other residents in the vicinity of the proposed Bousquet meter station site had little or no opportunity to provide input to the Task Force with respect to the site selection process

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fraction of 100 percent based on its impact (id.). These percentages were then multiplied by the weights assigned to the particular criterion to obtain a score for each criterion for each route (id.).

(Motyl/Clerici Initial Brief, pp. 7, 10, 13, 14-16, 18).

c. Analysis

The Siting Council notes that in previous reviews of gas pipelines it has accepted criteria such as those developed by Berkshire for use in the identification and evaluation of pipeline routes. The Siting Council has found previously that a range of criteria such as cost, environmental impacts, and reliability generally are appropriate for siting natural gas pipelines. 1991 Berkshire Decision, 23 DOMSC at 329; 1990 Bay State Decision, 21 DOMSC at 54; 1990 Berkshire Decision (Phase II), 20 DOMSC at 162. At the same time, however, the Siting Council has stated that these criteria are very broad, and therefore do not provide insight into how potentially conflicting concerns within these criteria are addressed. Id. In this case, Berkshire has developed very specific natural and human environmental criteria for the proposed pipeline and for the meter station site as well.

In addition, Berkshire has incorporated community input into its site selection process in this case through the Task Force and has included community concern as one of its siting criteria. In response to public input, Berkshire identified a primary route, an alternative route and segment variations that were more acceptable to the community than the route previously approved in the 1990 Berkshire Decision, Phase II. Clearly, Berkshire has significantly improved its consideration of community input through its involvement with the Task Force.

With respect to the selection of the meter station site, however, the record indicates that consideration of community input was not as extensive as the consideration given community input in selecting the pipeline route. The Siting Council notes that there was no representation on the Task Force from the area in the vicinity of the proposed Bousquet meter station site. In the future, we encourage companies to consider input from all affected communities on all aspects of a proposal.

The Siting Council also notes that the Company did not develop any specific cost or reliability criteria. Further, cost was not a criterion

considered in the selection of the meter station site, nor was any cost analysis performed for the various meter station sites reviewed by Berkshire. The Siting Council encourages project proponents to develop specific cost and reliability criteria, to the extent possible.

With respect to weighting site selection criteria, in previous decisions, the Siting Council has expressed concerns regarding the absence of weights for site selection criteria. Enron, 23 DOMSC at 127; EEC, 22 DOMSC at 321; West Lynn, 22 DOMSC at 78-79; MASSPOWER, 20 DOMSC at 378-379; 1990 Berkshire Gas Decision (Phase II), 20 DOMSC at 161-162. The Siting Council has stated that the development of numerical values and weights and the ranking of alternatives based on such numerical values and weights is a necessary step in any process for identifying and evaluating routes or sites. 1991 Berkshire Decision, 23 DOMSC at 329. In the 1990 Berkshire Decision (Phase II), the Siting Council was concerned that the Company did not establish weights for its identified criteria in order to balance potentially competing concerns among the criteria, such as weighing cost and environmental impacts (20 DOMSC at 162).

In this case, Berkshire developed weights for each environmental criterion to provide a score for each route. However, weights were not developed for the cost and reliability criteria. Consequently, while the Company's methodology allows for quantitative comparisons among competing environmental criteria, it does not provide for a quantitative comparison among environmental criteria and the other siting criteria of cost and reliability.[87] Berkshire also failed to perform any weighting, ranking or

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87/ The Siting Council also notes that the analysis performed by HMM to validate the Richmond Feedline route was performed after the route was chosen by the Task Force. While the Task Force did consider the criteria spelled out in its statement of principles and those criteria utilized in the 1990 Berkshire Decision (Phase II), the Task Force did not apply an objective, quantitative analysis to the possible routes. Although the Siting Council encourages companies to incorporate community input into their siting decisions, (1990 Berkshire Decision (Phase II), 20 DOMSC at 163), the ultimate

quantification of criteria used to select the meter station site. Thus, Berkshire has only partially addressed the Siting Council's concerns regarding the absence of weights for site selection criteria.

With respect to the weights developed for the environmental criteria, generally those weights were developed appropriately by the Company. The Company developed a weighting approach incorporating the likely severity of project impacts for respective criteria. Specifically, weights were assigned based both on observation of the quality of potentially affected resources in the field and on general characterizations of the manner in which proposed facility construction is likely to affect such resources in the short term, in the long term, and with consideration of mitigation potential. The assigned weights were then applied to raw data values reflecting the quantity of affected resources identified in the field. This weighting approach thus goes well beyond those presented by applicants in previous Siting Council reviews and, by-and-large, represents an improvement over the weighting approaches used in those previous proceedings.

However, the Siting Council notes some concerns with the Company's weighting approach for environmental criteria. In developing subcategories for some of its criteria, the Company may have increased the relative overall weight for such criteria in unintended ways. For example, the Company developed three subcategories for its roadway alignment criteria -- primary, secondary and local roadways -- and assigned weights of 5.0 to each subcategory, summing to a total of 15.0 for the criteria as a whole (Exh. BGC-2). In the case of the sensitive receptor criteria, however, no subcategories were established and an overall weight of 6.0 was assigned (id.). The Siting

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responsibility for demonstrating that clearly superior options have not been overlooked or eliminated continues to rest squarely with the applicant. 1990 Bay State Decision, 21 DOMSC at 58. The Siting Council is concerned that, in this case, the objective weighting of criteria and ranking of pipeline routes took place after the route was already selected, rather than as part of the process leading to the selection of that route.

Council notes that, as a possibly incidental result of the subcategorization of criteria, the overall roadway alignment weight is more than twice the sensitive receptor weight.

Although the Siting Council has some concerns with the Company's weighting approach for environmental criteria, a strength of the Company's process is the incorporation of an approach for standardizing raw data scores prior to applying weights to the raw data. This is an additional difference from approaches considered in previous Siting Council reviews. Under this approach, a raw data value of 100 percent, or 1.0, is assigned to the alternative with the greatest quantity of affected resources for each criterion, and the other alternatives are assigned scaled values between zero and 1.0 for that criterion. The Siting Council notes that this approach facilitates aggregation of the weighted scores in standardized terms. However, the approach also limits the ability to reflect the relative importance of impacts between criteria, based on the relative significance of the quantity of affected resources under each criterion. Although the Company intended that its use of weights accommodate any necessary balancing among criteria, it is unclear whether the Company's overall approach in fact incorporates an ability to accurately reflect differences between criteria in the quantity of affected resources -- particularly in instances where an alternative shows an unusually large raw data value.[88] Rather, as described

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88/ As an example, the number of sensitive receptors affected by the route approved in the 1990 Berkshire Decision (Phase II), revised from 11.5 miles to 6 miles, is 219 -- more than three times that of the Bousquet Feedline route (Exh. HO-S-20). Based on the Company's standardization approach, the corresponding sensitive receptor scores for the revised previously approved route and the Bousquet Feedline route are 6.0 and 1.92, respectively -- representing fractions of the overall scores of 44.4 and 52.3 for the two routes, respectively (id.). Further, if it were hypothetically assumed that the number of affected receptors along the revised previously approved route were double the actual count, that is 438 receptors, the net effect on the Company's comparison of the two routes would be minimal -- a change of only 0.96 in the relative scores of the two routes. In fact, for infinitely large increases in

above and reflected in the Company's analysis, the weights reflect a largely generic assessment of the nature and severity, but not the quantity, of impacts for each criterion.

Finally, with respect to the manner in which weights were applied to specific criteria, the Siting Council notes that the criteria of wooded wetlands and forest resources should have been given greater weight, since trees will be removed from these areas and will not be replaced within the permanent ROW, and only about half of the cleared area will be allowed to return to its natural state. Otherwise, under the weighting system established by Berkshire, impacts to forest resources and wooded wetlands were undervalued when the route comparisons were made. Nevertheless, the Siting Council finds that, on balance, Berkshire has developed a reasonable set of criteria for identifying and evaluating alternative routes and sites.

3. Application of Siting Criteria

a. Description

Berkshire used its site selection criteria to identify the Bousquet Feedline route, the revised Conrail/Cloverdale alternative route, and numerous segment variations to the primary route. As part of the validation analysis described above, Berkshire stated that HMM performed a comparative analysis of environmental impacts associated with the Bousquet Feedline route, the revised Conrail/Cloverdale alternative route, the route approved in the 1990 Berkshire Decision (Phase II), the Richmond Feedline route, and segment variations to the Richmond and Bousquet Feedline routes (Exhs. BGC-2, Attach. A, HO-S-20).

When compared to the revised Conrail/Cloverdale alternative route,

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the number of receptors along the revised previously approved route, the maximum change in the relative scores would be 1.92. Thus, in situations where the raw data score of a particular route under a particular criterion is unusually large, the Company's standardization approach imposes limitations on the ability of the Company's overall methodology to proportionately reflect the actual magnitude of impact.

the Bousquet Feedline route compared favorably to the alternative route with respect to environmental criteria (Exh. HO-S-20, Table S-20-3).[89] Further, the Company performed a comparison of the Bousquet Feedline route to both the Richmond Feedline route and the full-length 11.5-mile route approved in the 1990 Berkshire Decision (Phase II) (Exh. BGC-2, Attach. A, p. A-34). That comparison resulted in a conclusion that the shorter 6.2-mile Bousquet Feedline route would have less environmental impact (id.).[90] Finally, based on application of its siting criteria, Berkshire stated that none of the segment variations were found to be environmentally superior to the Bousquet Feedline route (Exh. HO-RR-25).

With respect to meter station sites, Mr. Curtiss-Lusher testified that Berkshire attempted to place the meter station as close to the Altresco

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89/ The Bousquet Feedline route had an overall score of 50.2, and the revised Conrail/Cloverdale alternative route received a score of 62.4 (Exh. HO-S-20, Table S-20-3). A lower score implies less environmental impact (Exh. BGC-2, Attach. A, p. A-23).

90/ The Siting Council notes that while Berkshire has not presented the route approved in the 1990 Berkshire Decision (Phase II) as a noticed alternative here, the Company did compare both the full 11.5-mile and a revised 6-mile version of that route to the Bousquet route. Based on a quantitative analysis of environmental criteria alone, the revised 6-mile version of the previously approved route appears to be superior to the Bousquet Feedline route. However, Berkshire noted that legislative approval required under Article 97 of the Massachusetts Constitution could not be obtained for a portion of this route, thereby rendering the route impractical. (Exh. HO-S-20; Tr. 2, p. 171-173).

Berkshire also noted that substantial community opposition to portions of that route through more densely populated areas render it undesirable from both a cost and a reliability perspective, primarily due to delays in permitting and construction (Tr. 3, pp. 33-34). The Siting Council has previously recognized the appropriateness of siting high pressure natural gas transmission pipelines in a manner which avoids densely populated areas and minimizes exposure to possible pipeline accidents. 1990 Bay State Gas Decision, 21 DOMSC at 54-55; 1990 Berkshire Decision (Phase II), 20 DOMSC at 199.

facility as possible, thereby reducing the length of the pipeline and its associated costs as much as possible (Tr. 2, pp. 180-181). Based on calculations performed by Tennessee, Berkshire determined that the vicinity of milepost 4.5, the Bousquet ski area, was the farthest point along the North Adams lateral whereby sufficient volumes and pressures of gas could be sustained to both the Altresco facility and to the North Adams meter station (id., pp. 181-182). Once the Bousquet ski area was selected, Berkshire tried to identify sites in that area large enough to build a meter station (id. p. 181).[91]

Berkshire stated that six areas were identified as possible meter station sites based upon the criteria developed by the Company (see Section III.C.2, above), information provided by Tennessee, and HMM's familiarity with the project and the area (Exh. HO-MC-1A). The six sites identified were: (1) the primary meter station site;[92] (2) Bousquet East site; (3) Dan Fox Drive site; (4) Old Tamarack Road site; (5) Bousquet North site; and (6) West Pittsfield meter station site (Exh. BGC-2, Attach. B, p. 1).[93]

91/ A site study area extending from Knox Road to a point 500 feet east of Old Tamarack Road and south from the Tennessee North Adams Lateral north to the upper portion of Old Tamarack Road was evaluated by HMM at the request of Berkshire and Altresco, utilizing the criteria developed by the Company (see Section III.C.2, above) (Exh. HO-MC-1A).

92/ The Company stated that the primary meter station site was selected in a decision making group that included the landowner, Tennessee, Berkshire, and Altresco (Tr. 4, p. 117). The site was then presented to the Task Force as part of the approval process for the Bousquet Feedline route, and then ratified by the Task Force (id., pp. 117, 120).

93/ The Dan Fox Drive, Old Tamarack Road, and Bousquet North sites were recommended to Berkshire by the landowner (Tr. 3, p. 144). According to Mr. Curtiss-Lusher, although the owner of the Bousquet ski area property initially suggested the Old Tamarack Road site, the owner was later unwilling to allow a sufficiently-sized parcel of land to be used for the construction and operation of a meter station

Berkshire stated that HMM prepared an environmental assessment of the various sites for the meter station based upon raw data,[94] and the same human and natural environmental criteria used in evaluating the various pipeline routes (Exh. BGC-2, Attach. B, pp. 1-2, 4-7, Tables 1 and 2). Mr. Wall stated that, based upon the environmental criteria examined, the primary site is comparable to the Bousquet East, Dan Fox Drive, and Old Tamarack Road sites and superior to the Bousquet North and West Pittsfield meter station sites (id., p. 8).[95,96]

Berkshire stated that the location of the meter station at the Bousquet East, Dan Fox Drive, and Old Tamarack Road sites would not provide adequate volumes and pressures to the Altresco facility and Berkshire's

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at that location (id., p. 167).

94/ The raw data was based on field evaluations, literature searches, aerial photography, topographic maps and other environmental materials (Exh. BGC-2, Attach. B).

95/ Berkshire stated that construction at the Bousquet North site would require filling 0.6 acres of vegetated wetland, thereby altering 0.6 acres of wildlife habitat designated by the Massachusetts Division of Fisheries and Wildlife, Natural Heritage and Endangered Species Program (Exh. BGC-2, Attach. B, pp. 10-11). Berkshire stated that such a wetland alteration is not permittable in Massachusetts (id., Attach. B, p.11).

Berkshire stated that the West Pittsfield meter station site would require the greatest amount of new pipeline construction, thereby having the most environmental impact (id., Attach. B, p. 11, Tables 1 and 2). In addition, the Company determined that it was not possible to use the already existing meter station for a number of reasons, including inadequate size and regulatory concerns (id.; Tr. 3, p. 166). Berkshire also determined that the physical location of that particular site would make it very difficult to construct a second meter station there, and would necessitate additional pipeline construction in wetlands (Tr. 2, pp. 179-180).

96/ As noted in Section III.C.2.a, above, although Berkshire compared the raw data for these sites, no weighting, ranking or quantitative analysis of the criteria was performed with respect to the meter station sites (Exh. BGC-2, Attach. B, Tables 1 and 2).

customers (Exhs. BGC-2, pp. 8-9, HO-RR-12). Berkshire indicated that locating the meter station at any of those three sites would result in lowering the pressure at the North Adams meter station to unacceptable levels (Exh. HO-RR-12). Thus, based upon the criterion of reliability, Berkshire stated that these sites were eliminated from further consideration (Exh. BGC-2, pp. 8-9).[97]

With respect to the criterion of site availability, Berkshire stated that the owner of the ski area would not make the Bousquet East and Old Tamarack Road sites available to Berkshire because a meter station would interfere with the ski area's commercial activities on those sites (id., p. 9). Berkshire stated that, therefore, these sites did not meet the Company's criterion of site availability.[98, 99]

b. Arguments of the Parties

The Town of Richmond, Biss and Brandon support the Bousquet Feedline

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97/ Mr. Wall also testified that Berkshire considered Tennessee's concerns regarding the length of the interconnect required at the Old Tamarack Road site (Exh. BGC-2, p. 9). The interconnect at that site would have to be approximately 850 linear feet (id., Attach. B, p. 10). According to Berkshire, Tennessee was concerned that its FERC authorization might not cover an interconnect of that length and that they would have to refile for FERC approval (id., p. 9; Exh. HO-E-52; Tr. 3., pp. 122-126).

98/ Berkshire also asserted that the Dan Fox Drive and Old Tamarack Road sites could be affected by proposed roadway improvements to Dan Fox Drive, including the construction of a roadway interchange (Exh. BGC-2, Attach. B, pp. 9-10). Berkshire stated, however, that the roadway proposal appears to be dormant at this time, having been defeated in municipal elections (Tr. 3, pp. 154-155, Tr. 4, p. 204).

99/ Mr. Wall testified that Berkshire considered Tennessee's concerns regarding site security at the Bousquet East, Dan Fox Drive, and Bousquet North sites (Exh. BGC-2, p. 9). However, site security was not listed as one of the site selection criteria for the meter station site (id., Attach. B).

route as the superior route (Richmond Initial Brief, p. 15; Biss/Brandon Reply Brief, p. 1). Motyl/Clerici present numerous arguments with respect to the selection of the meter station site. First, Motyl/Clerici contend that the record is inadequate to support Berkshire and Altresco's assertion that gas pressures and volumes would be inadequate to serve both Altresco and the North Adams meter station if the meter station is located beyond the primary site further along the lateral toward the Altresco facility (Motyl/Clerici Initial Brief, pp. 6, 51). Motyl/Clerici assert that Berkshire failed to provide calculations to substantiate modeling results demonstrating that pressures at North Adams would be inadequate if the meter station is located at either the Bousquet East, Dan Fox Drive, or Old Tamarack Road sites (id., pp. 6, 30, 51). Motyl/Clerici also argue that the siting of the meter station should not be based upon "contractual requirements", which could be amended subject to FERC approval (id., pp. 6, 21).

Motyl/Clerici further contend that Berkshire did not provide at least two viable alternative meter station sites, and failed to provide a reasonable range of practical site alternatives by selecting sites that did not meet the Company's own siting criteria or had major flaws (id., pp. 28, 33, 43, 44, 49). Finally, Motyl/Clerici assert that the Old Tamarack Road site is the superior site for numerous reasons, including site size, and impacts on forests or wildlife (id., pp. 27, 29, 60).[100]

c. Analysis

In this section, the Siting Council examines whether Berkshire applied its siting criteria to its siting options in a consistent and appropriate manner which ensured that no clearly superior routes or sites were overlooked or eliminated.

100/ With respect to Tennessee's concern about the length of the interconnect at the Old Tamarack Road site, Motyl/Clerici point out that there is nothing in the record establishing that FERC regulations prohibit interconnects exceeding a specified length (Motyl/Clerici Initial Brief, pp. 30, 50).

The Siting Council notes that Berkshire, along with the Task Force, conducted a thorough search to identify feasible routes for the proposed pipeline. The Company's Bousquet Feedline route, the revised Conrail/Cloverdale alternative route, and the segment alternatives were subjected to a set of weighted criteria encompassing natural and human environmental impacts, and then compared to each other utilizing scores derived from the methodology described in Section III.C.2.a, above.

Accordingly, with respect to the pipeline, the Siting Council finds that Berkshire has applied its site selection criteria consistently and appropriately and in a manner which ensures that it has not overlooked or eliminated any siting options which are clearly superior to its proposal.

With respect to the meter station sites, the Bousquet East, Dan Fox Drive, and Old Tamarack Road sites fail to meet the Company's criterion that the site should ensure reliable delivery of necessary gas supplies. In addition, the Bousquet East and the Old Tamarack Road sites fail to meet Berkshire's criterion of site availability, since, according to Berkshire, the owner of those sites is unwilling to make them available for construction of a meter station.

However, Berkshire did evaluate three other sites that meet the criteria -- the primary site, the Bousquet North site, and the West Pittsfield meter station site. These sites are all within a reasonable distance of the North Adams lateral and the Bousquet Feedline route, meet the criteria of reliability and site availability, and were analyzed for environmental impacts.

Motyl/Clerici argue that the record is insufficient to support the Company's assertions that gas pressures and volumes would be inadequate to serve the Altresco facility and North Adams if the meter station is located beyond the primary site. We note, however, that the record demonstrates that pressures at the North Adams meter station would be reduced to unacceptable levels, assuming firm deliveries are made to the Altresco facility and Berkshire fully utilizes its pipeline delivery entitlements, if the proposed

meter station were located beyond the primary site.[101,102]

Finally, turning to Motyl/Clerici's argument that the Old Tamarack Road site is the superior site, the Siting Council notes that the Old Tamarack Road site does not meet the threshold criteria of reliable delivery of gas supplies and site availability and, therefore, is not a clearly superior site.

Based on the foregoing, the Siting Council finds that Berkshire has appropriately applied a reasonable set of criteria for identifying and evaluating alternative routes and sites in a manner that ensures that it has not overlooked or eliminated any clearly superior routes and sites.[103]

4. Geographic Diversity

In this section the Siting Council considers the second prong of our practicality test -- whether the Company's site selection process included consideration of site alternatives with some measure of geographic diversity.

The Company alleged that in order to meet the Siting Council's geographic diversity requirement, it considered two routes for the proposed gas pipeline, the Bousquet Feedline route and the revised Conrail/Cloverdale

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101/ While contractual volumes, taken alone, do not establish need for proposed facilities, they do warrant consideration in a company's determination of where to site facilities.

102/ Motyl/Clerici's arguments regarding contractual requirements and the West Pittsfield meter station's impact on pressure at the North Adams meter station are addressed in Section II.A.3.c, above.

103/ The Siting Council notes that had we found one of the alternative meter station sites to be a clearly superior site, the Siting Council could not have approved that site since none of the alternative meter station sites were included in the Notice of Adjudication and Public Hearing. Therefore, the Siting Council encourages all companies to carefully consider this possible outcome in deciding whether to notice alternative sites for ancillary facilities.

alternative route (Berkshire/Altresco Initial Brief, pp. 58-59). The Company also asserted that due to the location of the existing Altresco and Tennessee facilities, the area of consideration for pipeline alternatives is necessarily limited (id.). Further, the Company indicated that the Bousquet Feedline travels approximately 14,000 feet within roadways while the revised Conrail/Cloverdale route travels approximately 3,400 feet within roadways (Exh. HO-S-20, Table S-20-3).

In the present case, the primary and the alternative routes overlap for approximately one mile (Exh. HO-E-9, Table E-9-1). Although there is some overlap, the Siting Council notes that this overlap is not significant and occurs at the beginning of the pipeline route, near the primary meter station site, and at the end, as the routes approach the Altresco facility. Since both routes have a common starting point and have to interconnect at the Altresco facility, it is not unreasonable to assume that there may be some limitations regarding the location of the routes at the beginning and ending points. Further the Siting Council notes that the Company chose two different routes that traverse different terrain. The revised Conrail/Cloverdale alternative route, for the most part, travels cross-country along an existing pipeline ROW while the Bousquet Feedline route follows roadways for approximately half its distance. Therefore, the record demonstrates that the primary and the alternative routes are geographically diverse.

With respect to the meter station, Motyl/Clerici argue that the additional meter station sites evaluated by the Company are just variations of the primary meter station site, and therefore, do not meet the Siting Council's standard of geographic diversity (Motyl/Clerici Initial Brief, p. 44).

The Siting Council notes that five of the six meter station sites evaluated by the Company, including the primary site, are in the vicinity of the Bousquet ski area (Exh. BGC-2, pp. 3, 9). The location of the other meter station site is at the West Pittsfield meter station which is approximately 3,500 feet from the Bousquet delivery point (Exh. BGC-2). Therefore, the record demonstrates, that in this case, the primary meter station site and the

West Pittsfield meter station site are geographically diverse.

Based on the foregoing, the Siting Council finds that Berkshire has identified at least two practical routes and sites with some measure of geographic diversity.

5. Conclusion on the Site Selection Process

The siting Council has found that: (1) Berkshire has developed a reasonable set of criteria for identifying and evaluating alternative routes and sites; (2) Berkshire has appropriately applied a reasonable set of criteria for identifying and evaluating alternative routes and sites in a manner that ensures it has not overlooked or eliminated any clearly superior routes and sites; and (3) Berkshire has identified at least two practical routes and sites with some measure of geographic diversity.

Accordingly, the Siting Council finds that Berkshire has considered a reasonable range of practical siting alternatives.

D. Cost Analysis of the Proposed and Alternative Facilities

The Company asserted that construction of the proposed pipeline along the primary route is the least cost alternative (Exh. HO-C-1). Berkshire estimated that construction of the proposed pipeline along the primary route would cost $7,290,000 while construction along the alternative route would cost $8,845,000 and provided a breakdown of expenses as follows:

Category	Primary Route	Alternative Route
Engineering, design & planning	$1,580,000	$1,655,000
Construction & materials	3,275,000	4,050,000
Licenses, permits & approvals	465,000	535,000
Easements	490,000	750,000
Miscellaneous & contingency	575,000	950,000
Meter station	905,000	905,000

(Exhs. HO-C-1, HO-C-2)

The Company indicated that it did not anticipate actual costs would

vary more than five percent from estimated costs because cost estimates were based on firm price quotations, unit price quotations, material already purchased and experience with similar projects (Exh. HO-C-1; Tr. 1, p. 187).

The Company explained that the greater design and construction costs of the alternative route result primarily from the Housatonic River crossing and a number of road crossings that would require boring as well as blasting and ledge removal (Exh. HO-C-6). Additionally, the Company explained that easement costs would be higher for the alternative route because a greater number of private landowners would be affected by the alternative route than by the primary route (id.). The Company further explained that the miscellaneous and contingency costs of the alternative route are potentially greater than corresponding costs of the primary route due to anticipated community opposition to portions of the alternative route (id.).[104]

In addition, Berkshire provided estimates of the cost differences between construction of each segment variation and the corresponding segment of the primary route (id.). In each instance, Berkshire noted that construction along the segment variation would be more costly than construction along the corresponding segment of the primary route (id.).[105]

Based on the foregoing, the Siting Council finds that the Company's primary route is preferable to the alternative route and to the primary route with any of the segment variations with respect to cost.

104/ Mr. Curtis-Lusher indicated that anticipated community opposition to segments of the alternative route includes the opposition of the Audubon Society to the Canoe Meadows crossing (Tr. 4, p. 239).

105/ The Company indicated that the increased cost of construction of route segment variations would range from $35,400 to $91,100 more than the cost of construction of corresponding segments of the primary route due primarily to increased permitting, right-of-way and construction costs (Exh. HO-C-1).

E. Environmental Analysis of the Proposed and Alternative Facilities

1. Environmental Impacts of the Primary Route

a. Land and Water Resources

i. Trees

The Company indicated that construction of the proposed facilities along the primary route would require clearing of approximately seven acres of forest, including 4.85 acres in the vicinity of Brattlebrook Park, 1.3 acres within the Pittsfield Country Club for construction of the pipeline, and an additional 0.8 acre within the Bousquet Ski Area for construction of the meter station (Exhs. HO-1, Figure 5-5, BGC-2, Attach. A, pp. A-25, A-26, Attach. B, p. 8).[106,107] In addition, the Company stated that a small number of mature trees, approximately 17, would be cleared in order to construct within Canoe Meadows (Exh. HO-E-29; Tr. 5, p. 43). However, the Company asserted that impacts to trees both within the ROW and adjacent to the ROW have been minimized by (1) limiting the number of trees that will be removed by pipeline construction, and (2) avoiding potential construction impacts to remaining trees (Tr. 5, pp. 44-46).

With regard to tree clearing, the Company maintained that tree clearing within the vicinity of the Pittsfield Country Club would be limited by (1) minimizing the size of the construction ROW, and (2) adjusting the pipeline alignment in one area to avoid a number of significantly large trees (id.). The Company explained that the 50-foot wide construction ROW that would be utilized within this area is substantially less than a typical

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106/ Tree clearing for the meter station construction includes construction of both the Tennessee and Berkshire portions of the meter station as well as the interconnecting pipeline to the North Adams lateral (Exh. BGC-2, Attach. B, p. 8).

107/ Of the seven acres, 4.85 acres in the vicinity of Brattlebrook Park is wooded wetland and the remainder is upland forest (Exh. BGC-5, Attach. 4). Impacts to wooded wetlands are discussed in Section E.1.a.iii, below.

construction ROW of 80 to 100 feet for a 12-inch diameter pipeline (id.). The Company indicated that it would not be feasible to further reduce the width of the construction ROW because the cleared area must be wide enough to allow adequate swing room for operation of construction equipment, and adequate clearance from the trench edge for equipment (Exh. HO-E-37). In addition, the Company stated that, if soils are found to be unstable, the trench width would need to be increased and a larger area for spoils would be necessary (id.).[108] The Company noted that only a ten-foot wide permanent ROW would be maintained within the Pittsfield Country Club (Exh. HO-E-54).[109] However, the Company noted that it would not replant trees within the temporary ROW and that it would take from 20 to 30 years for the forested area to be restored by natural regrowth (Tr. 5, p. 50).[110]

In addition, the Company noted that tree removal within Canoe Meadows could be avoided by construction along a route segment variation, labeled segment variation 6b by the Company, which would follow Holmes Road and William Street instead of crossing the sanctuary (Exh. HO-C-6). However, the Company indicated that this portion of Holmes Road and William Street is densely populated and that there is significant City of Pittsfield and

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108/ The Company noted that it would not be feasible to shore the trench sides in order to reduce trench width because trench shoring would be time consuming, costly, and would not significantly reduce the width of trenches or construction ROW's (Exh. HO-RR-36).

109/ The Company indicated that although it would prefer at least a 20-foot permanent ROW, a ten-foot ROW was the maximum the Company could negotiate in this area (Exh. HO-E-54). The Company added that part of this section of the ROW would be adjacent to an existing Berkshire 10-foot ROW (id.).

110/ The Company stated that it would not replant trees in order to (1) encourage the reestablishment of the herbaceous layer which would better stabilize the disturbed area, and (2) minimize costs of reclamation (Tr. 5, pp. 47-48).

community opposition to this route segment variation (Exh. HO-C-6).[111]

The Company further asserted that potential construction impacts to trees located adjacent to the route, along both the cleared ROW and roadways, would be avoided or minimized (Exhs. HO-E-30, HO-E-35; Tr. 5, p. 46). Berkshire stated that, although tree roots encountered within the trench alignment would be cut and removed, the trench would be located approximately 15 feet from standing trees along the cleared ROW, providing sufficient separation between the pipeline and any significant root systems (Tr. 5, p. 46). The Company also stated that although trees border the route along Old Tamarack Road, South Mountain Road, Holmes Road, William Street and along the property of Miss Hall's School, it would avoid removing any of these trees and would minimize construction impacts by: (1) trimming branches to provide adequate space for construction equipment and to avoid accidental breakage of tree limbs; (2) maintaining at least five feet between roadside trees and the pipeline; and (3) consulting with the tree warden or other appropriate officials in Pittsfield to determine the appropriate alignment of the pipeline within public ways to minimize tree impacts (Exhs. HO-E-30, HO-RR-35). The Company noted that it is unlikely that major root systems would be encountered during roadway construction in that large tree roots are not generally found within the compacted soil under roadways (Exh. HO-E-30). However, the Company agreed to replace any trees outside of the construction ROW damaged by construction (Exh. HO-RR-35).

The record indicates that construction of the meter station and proposed pipeline along the primary route would require the clearing of approximately seven acres of forest. In addition, the record indicates that the Company has attempted to minimize tree removal in off-street areas, where feasible, by restricting the width of the ROW and adjusting the alignment of

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111/ The Company noted that the City of Pittsfield has indicated that street opening permits would not be granted for construction along this segment variation and that any approved licenses or permits for this routing would be challenged (Exh. HO-C-6).

the pipeline. The record further indicates that the Company would: (1) avoid removal of trees along the roadway portion of the route; (2) maintain adequate distance between the pipeline trench and adjacent trees; (3) employ measures to mitigate construction impacts to adjacent trees; and (4) replace any trees outside of the construction ROW damaged by construction.

Based on the foregoing, the Siting Council finds that construction of the proposed facilities along the primary route, with mitigation measures as described above, would have an acceptable impact on trees.

ii. Groundwater and Wells

The Company indicated that there are no public water supply source wells, and no surface water or aquifer protection zones within 100 feet of the primary route, but that there are six private wells within 100 feet of the primary route along Old Tamarack Road (Exh. HO-E-35). The Company asserted that since no blasting is anticipated for pipeline trench excavation along Old Tamarack Road, construction of the proposed pipeline would not impact the private wells (id.).[112] To verify that construction does not impact wells, the Company agreed to test these wells for pressure before and after construction (Exh. HO-E-62).

In addition, the Company maintained that construction of the proposed pipeline would not impact existing groundwater drainage patterns (Exhs. HO-E-36, HO-RR-35). The Company indicated that construction measures to preserve existing groundwater drainage patterns would include (1) installation of anti-seepage collars in the pipeline trench in sections where the backfilled trench could become a conduit for the subsurface flow of water, and (2) backfilling of the trench primarily with the same material excavated from the trench to minimize any difference between the soil backfilled in the trench and surrounding soil (id.).

112/ The Company noted that it would install a municipal water line along Old Tamarack Road in conjunction with construction of the proposed pipeline, affording residents the opportunity to connect to the public water supply service (Exh. HO-E-62).

The record indicates that no public water supply sources and only six private wells are in the vicinity of the primary route. Even though construction impacts to these wells would be unlikely, the Company will test the wells for pressure before and after construction. The record also indicates that construction techniques will ensure that existing groundwater drainage patterns are maintained after pipeline construction. Based on the foregoing, the Siting Council finds that construction of the proposed facilities along the primary route, with the mitigation measures described above, would have an acceptable impact on groundwater and wells.

iii. Wetlands and Surface Water

The Company asserted that although the proposed pipeline would cross streams and vegetated wetlands along the primary route, construction practices would minimize disturbance to wetlands and water bodies (Exh. HO-4, p. 3-2).

With regard to vegetated wetlands, the Company indicated that construction of the proposed pipeline along the primary route would require clearing of 7.1 acres of wetlands including 4.85 wooded acres and 2.2 open/shrub acres, located primarily within the Brattlebrook wetland system (Exh. BGC-5, p. 6).[113] However, the Company maintained that there would be no net loss of wetlands and that the crossing of wetlands would be carefully engineered such that impacts to vegetation, hydrology and soils would be avoided or minimized (id.).

The Company stated that vegetative clearing in wetlands would be kept to the minimum amount necessary and that the majority of wetlands construction within the Brattlebrook wetland system would take place within the ROW recently cleared by Tennessee to construct the NOREX facilities (Exhs. HO-4, pp. 3-3, 5-6, HO-E-39; Tr. 4, pp. 226-228).[114] The Company explained

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113/ Potential impacts to wildlife within the Brattlebrook wetland system are discussed in Section E.1.a.iv, below.

114/ The Company indicated that of the 50 to 60 foot wide construction ROW that would be required, approximately 35 feet was

that the unstable nature of wetlands soils require wide trenches and construction ROW's and that decreasing the width of the trench or construction ROW would not be a feasible means of minimizing wetlands disturbance (Exhs. HO-E-9, HO-E-31).[115] However, the Company stated that (1) expeditious construction during the seasonal low-flow period, (2) general construction techniques and mitigation measures including sedimentation and erosion controls, restoration of ground contours, maintenance of tree stumps in the temporary workspace, and (3) specialized construction techniques specific to each resource area, would effectively minimize disturbance to wetlands (Exhs. HO-4, pp. 3-21 through 3-25, section 5, HO-E-31, HO-E-61).[116]

The Company indicated that the temporary workspace would be allowed to revegetate to pre-construction conditions but that the area directly over

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cleared for the NOREX project (Exh. HO-E-9, Table 9-1, Tr. 4, p. 227). The Company further indicated that the existing permanent Tennessee ROW is 40 to 50 feet wide, that approximately 10 to 15 feet of this ROW will be used for temporary construction workspace and that the permanent Berkshire ROW will extend 20 to 25 feet beyond the Tennessee ROW (Exhs. HO-E-9, Table 9-1, HO-E-10, Table 10-1).

115/ The Company stated that, due to the unstable nature of wetland soils, trench excavation within wetlands would require gradual side slopes resulting in trench widths of 14 to 26 feet and overall construction ROW's of 50 to 60 feet (Exhs. HO-E-9, HO-E-31). The Company further stated that minimizing the ROW width for construction would not effectively reduce impacts because a narrower ROW would restrict equipment movement and increase construction time, therefore increasing the potential for erosion problems, sedimentation, and disruption of hydrology and soils (Exh. HO-E-54).

116/ The Company stated that, in the saturated wetland on either side of Brattle Brook where the trench cannot be dewatered, the pipeline would be put in place by the "push-pull" method (Exh. HO-4, p. 3-25). The Company explained that the push-pull method involves constructing the trench in a straight alignment, joining pipeline segments in an upland staging area, and guiding the pipeline into the trench by pushing from the upland staging area and pulling from the opposite end (id.). The Company noted that this method would minimize the number of vehicle passes over the wetland surface (id.).

the pipeline, approximately 20 feet in width, would be kept permanently clear of mature woody vegetation (Exhs. HO-3, p. 6-59, HO-4, pp. 5-1, 5-6).[117] In addition, the Company stated that an environmental inspector would be employed to monitor compliance with all environmental regulations, that a wetlands biologist would be on-site during construction in wetland areas, and that construction work in wetlands would be subject to Orders of the Pittsfield Conservation Commission (Exhs. HO-4, pp. 5-1, 5-8, BGC-6).[118]

With regard to surface water, the Company indicated that the Housatonic River, four culverted streams under roadways, two intermittent streams in the vicinity of the Pittsfield Country Club, and two perennial and one intermittent stream in the Brattlebrook wetland system would be crossed by the primary route (Exhs. HO-4, pp. 3-2 through 3-17, HO-E-34). The Company asserted that impacts to the Housatonic River, culverted streams and intermittent streams would be avoided because: (1) the Housatonic River would be crossed entirely within an existing bridge utility bay; (2) the pipeline would be placed above or below roadway culverts; and (3) intermittent streams would be crossed during dry periods (Exh. HO-4, pp. 3-2 through 3-17, 3-23).

With regard to the two perennial streams within the Brattlebrook wetland system, the Company maintained that impacts would be minimized by (1) construction of the pipeline under flume pipes which would temporarily carry stream flows, and (2) a comprehensive erosion and sedimentation control plan which would prevent siltation within streams (Exhs. HO-4, pp. 3-23, 3-24, BGC-2, Attach. A).

The record indicates that construction of the proposed pipeline along the primary route would impact approximately seven acres of wetland

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117/ The Company indicated that it would monitor ROW revegetation for at least two growing seasons, that ROW management would be coordinated with Tennessee, and that no herbicides would used for ROW maintenance (Exh. HO-4, pp. 5-6, 6-2, HO-RR-34).

118/ The Company submitted its Notice of Intent to the Massachusetts Department of Environmental Protection and Pittsfield Conservation Commission in March 1992 (Exh. HO-RR-30).

resources but that impacts to wetland vegetation, soils and hydrology would be minimized by constructing largely within a recently cleared pipeline ROW and by expeditious scheduling of construction during periods of low water flow. The Company also would utilize specialized construction techniques to minimize disturbance and restore wetlands to pre-construction conditions to the greatest extent possible. In addition, construction within wetland resource areas would be supervised by an environmental inspector and wetlands biologist and will be subject to Orders of Condition of the Pittsfield Conservation Commission.

The record further indicates that construction of the proposed pipeline would avoid impacts to most water bodies along the route because construction would take place above or below existing culverts and, in the case of the Housatonic River, within an existing bridge utility bay. Where water bodies would be directly crossed, impacts would be minimized by the timing of construction during dry periods, use of flume pipes and sedimentation and erosion controls.

Based on the foregoing, the Siting Council finds that construction of the proposed facilities along the primary route, with mitigation measures as described herein, would have acceptable impacts to wetland resources and surface water.

iv. Wildlife

The Company indicated that the primary route would traverse the habitat of rare species in the northern portion of the Brattlebrook wetland system and also would be located close to nesting habitat within Canoe Meadows (Exhs. HO-4, p. 3-26, HO-RR-29, updated sup.).

The Company explained that the wetland area north of Brattlebrook Park is designated as "estimated habitat" for two rare wetland wildlife species, the wood turtle and American bittern, which are state-designated

species of special concern (Exhs. HO-3, Tables 7-1, 7-2, HO-4, p. 3-26).[119] The Company noted that recorded locations of these species away from the proposed construction ROW makes it unlikely that these species would be impacted during construction (Exh. HO-4, p. 3-26). However, the Company asserted that construction timing during the seasonal low flow period from summer to early fall as well as careful construction procedures would minimize any potential disturbance (Exh. HO-4, pp. 3-26, 3-28).

With regard to the wood turtle, the Company indicated that although the construction time-frame would avoid the wood turtle's aquatic and hibernating phases, it would coincide with the wood turtle's terrestrial phase where there is potential for individuals to migrate long distances (id., pp. 3-26, 3-28). In order to protect transient wood turtles, the Company stated that it would (1) inspect the work area prior to construction and daily during construction for wood turtles and move them to adjacent suitable habitats outside the construction ROW, and (2) install siltation barriers on either side of the construction ROW during construction to deter potential wood turtle access (id., p. 3-28).[120] The Company also stated that post-construction impacts would be minimized by (1) restoration of the area to pre-construction conditions resulting in no permanent loss of wood turtle habitat, and (2) modification of siltation barriers to allow wood turtle migration across the ROW (id., p. 29).[121] With regard to the American

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119/ The Company indicated that a species of special concern is a Massachusetts rare species that has been documented to be suffering a decline that could threaten the existence of the species in Massachusetts if allowed to continue unchecked (Exh. HO-3, p. 7-4).

120/ The Company stated that Tennessee followed these same construction procedures when constructing the Tenneco interconnect in this habitat area and successfully avoided impacts to rare species (Exh. HO-4, pp. 3-28, 3-29).

121/ The Company indicated that siltation barriers would remain in place until revegetation is established (Exh. HO-4, p. 3-29). In order to allow wood turtle migration across the ROW, the

bittern, the Company stated that construction during the low flow period would avoid the nesting season but would coincide with rearing of young chicks (id., pp. 3-26, 3-28). However, the Company noted that, based on field inspections, it is unlikely that any American bittern nests would be encountered within the work space (id., p. 3-28). The Company stated that a field inspection will be conducted prior to construction and, if nests are found within the construction ROW, the Company will proceed in accordance with recommendations from the Massachusetts Natural Heritage Program (id., p. 3-28; Tr. 5, p. 105).

In addition, the Company noted that a portion of Canoe Meadows, to the east of the proposed pipeline route, contains bobolink nesting habitat (Tr. 5, pp. 96-97). The Company indicated that, although the nesting habitat is not directly within the pipeline ROW, it would avoid the nesting period by deferring construction in this area to the fall (id., p. 97).

The record indicates that the primary route would traverse the habitat of two rare species and would also be located in the vicinity of additional nesting habitat. However, the Company will time construction to minimize impacts to wildlife, and also will monitor the construction ROW to avoid impacts. In addition, the Company will consult with appropriate wildlife agencies if necessary.

Based on the foregoing, the Siting Council finds that construction of the proposed facilities along the primary route, with mitigation measures as described herein, would have an acceptable impact on wildlife.

b. Land Use, Traffic/Roadways and Safety

i. Land Use

The Company indicated that the construction of the proposed pipeline and meter station along the primary route would potentially impact sensitive receptors including residences and a school, as well as recreational, agricultural and cultural resources located along the route (Exhs. BGC-5, HO-

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Company would create breaks in the siltation barrier and install a second siltation barrier one foot in front of each break (id.).

E-11, HO-E-12, HO-4, pp. 2-6, 4-3).

With regard to residential impacts, the Company indicated that fifteen residences would potentially be within 50 feet of the pipeline construction (Exh. HO-E-24). The Company agreed that residents have legitimate concerns in requesting that their distance from the pipeline facilities be maximized (Tr. 4, pp. 189-190).[122] The Company agreed to install the pipeline a minimum of 20 feet from all residences, but stated that it would attempt to maximize the distance between structures and the pipeline, and, where possible, maintain at least a 50-foot separation between the pipeline and residential structures (Exh. HO-RR-35; Tr. 5, pp. 40-41).[123] The Company added that it would attempt to weld pipeline segments away from residential areas, thereby minimizing construction noise (Tr. 5, p. 42).

The Company noted that the approximately two acre meter station site is located within a residentially zoned area but that the closest residence is located more than 200 feet to the west of the site (Exhs. HO-E-8, BGC-2, Attach. B, p. 8, HO-SC-AL-10, exhibit 1).[124] The Company provided that a wooded buffer would be maintained on all sides of the meter station within the site boundary (Exh. BGC-2, Attach. B, p. 8, Exh. HO-SA-AL-10, exhibit 1).

On June 24, 1992, Berkshire indicated that test borings have shown that there is ledge present at the meter station site and that, depending on the extent of the ledge, blasting and/or mechanical excavation measures would be used to remove the ledge (Exh. HO-E-64, sup.). The Company noted that the entire meter station site consists of approximately two acres but that only

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122/ See Section E.1.b.iii, below for a discussion of safety issues.

123/ For instance, the Company indicated that it would construct the pipeline on the south side of William Street where the residences are located further from the street than the residences on the north side of the street (Tr. 4, pp. 193-195).

124/ With respect to the meter station site, Berkshire and Tennessee have petitioned the DPU for an exemption from certain provisions of the City of Pittsfield zoning ordinance (Exh. HO-E-51).

2,000 square feet would be required for the structures (Exhs. HO-2, pp. 8-9, SC-AL-10, Exh. 1).

In addition, the Company indicated that although the primary route would traverse the property of Miss Hall's School, all construction would take place when school is out of session (Exhs. HO-4, p. 5-14, SC-AL-6).[125]

With regard to recreational resources, the Company indicated that the primary route would traverse four private/public recreation areas, the Bousquet Ski Area, the Pittsfield Country Club, Canoe Meadows, and Brattlebrook Park (Exh. HO-4, pp. 2-6, 5-14). However, the Company asserted that impacts to the Bousquet Ski Area, Pittsfield Country Club and Canoe Meadows would be minimized by the scheduling of all construction and restoration work such that interference with recreational activities would be minimized (Exhs. HO-4, p. 5-14, HO-SC-AL-7).[126] With regard to Brattlebrook Park, the Company stated that, in exchange for an easement through a portion of the park, the Company has agreed to donate a 40 acre parcel to the City of Pittsfield in order to expand the park (Exh. HO-4, p. 2-7).[127]

With regard to agricultural resources, the Company stated that the primary route would traverse agricultural fields and community gardens within

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125/ Berkshire stated that construction could take place either during the summer or Thanksgiving recess but that summer construction would be preferable (Exh. HO-AS-AL-6). The Company identified a noticed route realignment along Kris Lane that would avoid school property but stated that such realignment would not be preferable because it would entail additional roadway construction and negotiation with additional landowners (id.).

126/ The Company noted that construction within the Bousquet Ski Area would take place during July and August (Exh. HO-SC-AL-7). The Company originally anticipated construction within the Pittsfield Country Club and Canoe Meadows to take place in the early spring but indicated that it could construct in these areas after October 15th (Exhs. HO-4, p. 5-14, HO-RR-33).

127/ The Company noted that required approvals for the Brattlebrook Park easement have been obtained from the Pittsfield City Council and State Legislature (Exh. HO-4, p. 2-7).

Canoe Meadows (Exh. HO-4, p. 5-14; Tr. 5, p. 97). However, the Company indicated that construction would be deferred until mid October to avoid interference with the planting and harvesting of crops (Tr. 5, p. 97).[128] In addition, the Company indicated that the Audubon Society has requested that the depth of cover over the pipeline in the agricultural area be increased to five feet (Exh. HO-RR-29, updated sup.).

With regard to cultural resources, the Company identified six historic sites and one archaeological site within 100 feet of the primary route (Exh. HO-E-11; Tr. 5, p. 24). The Company indicated that all historic sites would be located at least 50 feet from the proposed pipeline, and, as such, would not be impacted by construction (Exh. HO-4, p. 5-12; Tr. 5, pp. 25-26). The Company further indicated that, after consultation with the Massachusetts Historical Commission ("MHC"), it had adjusted the centerline of the pipeline along a portion of the route in a wooded area of the Pittsfield Country Club in order to avoid three small prehistoric sites which were located within the original ROW (Exh. HO-4, pp. 3-30, figure 3-9). In order to avoid inadvertent encroachment onto the archaeological sites, the Company indicated that the MHC also has requested that the Company: (1) maintain a minimum ten-meter buffer zone between the archaeological sites and any areas of construction-related activities; (2) specify no access to the site areas on the construction documents; and (3) erect a fence prior to the commencement of any site preparation or construction activities (Exh. HO-RR-29, updated sup.).

The record also indicates that there is ledge present on the meter station site. However, the Company has not determined the extent of the ledge or whether they would be able to remove it by mechanical means rather than by blasting. The Siting Council notes that the two acre meter station parcel is large enough to accommodate some adjustment of the layout of the meter station structures, which will require only 2,000 square feet, so that blasting can be

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128/ The Company noted that this construction time-frame also would avoid interference to bird nesting within Canoe Meadows. See Section E.1.a.iv, above.

avoided to the greatest extent possible. The record indicates that the primary route passes near residences and a school, historic resources and also traverses a number of recreational areas as well as one agricultural area. In addition, the meter station will be constructed in a residential area. However, the record further indicates that the Company's construction schedule and construction techniques will avoid or minimize potential impacts. The Company will attempt to maximize the separation between residences and the proposed facilities and will maintain a tree buffer around all sides of the meter station. The construction schedule has been carefully planned to avoid interference with school, recreational and agricultural activities and, upon consultation with the MHC, the Company has realigned the centerline of the pipeline to avoid prehistoric sites. Compliance with additional recommendations of the MHC and the Audubon Society will further ensure that construction of the proposed facilities does not impact prehistoric sites or agricultural resources.

Based on the foregoing, the Siting Council finds that the construction of the proposed facilities along the primary route, with mitigation measures as described herein, would have an acceptable impact on land use.

ii. Traffic/Roadways

The Company indicated that construction of the proposed pipeline along the primary route would require approximately two and one half miles of parallel construction adjacent to the roadway layout, plus additional road crossings (Exh. HO-E-15, Table 15-1). However, the Company asserted that temporary disruption of traffic in the vicinity of ongoing construction would be minimized by maintenance of at least one lane of traffic during roadway construction (Exhs. HO-4, p. 3-30, HO-E-16, HO-E-38).[129] The Company noted

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129/ The Company noted that a 30-foot workspace would be required for roadway construction and, as such, there is adequate workspace in all roadways (Exhs. HO-E-37, HO-E-38). The Company explained that roadway construction requires a narrower construction

that although one roadway, Old Tamarack Road, would be closed to traffic during construction to install a new waterline in conjunction with the proposed pipeline, alternate traffic routes would be established and access to residences would be maintained during construction (Exh. HO-E-56).[130]

The Company indicated that Old Tamarack Road would be repaved curb-to-curb and that all other roadway surfaces would be patched to the standards of the Pittsfield Department of Public Works (Exh. HO-E-60). The Company added that, following initial roadway resurfacing, it would monitor the condition of all roadways for two years and repair any subsequent settling, and also repair or reimburse affected property owners for any damage to existing utilities as a result of roadway excavation (Exhs. HO-E-19, HO-RR-35).

The record indicates that temporary construction impacts to the traffic flow will be minimized by maintenance of at least one lane of traffic during construction on all roadways, excepting Old Tamarack Road. Where Old Tamarack Road will be closed to traffic during construction, the Company will establish alternate traffic routes and provide residential access. The record further indicates that the Company will ensure that the condition of the roadways is not impaired by pipeline construction.

Based on the foregoing, the Siting Council finds that the construction of the proposed facilities along the primary route, with mitigation measures as described herein, would have an acceptable impact on roadways and traffic.

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workspace than cross-country construction because: (1) the trench width at the surface can be narrower; (2) it is possible to work closer to the edge of the trench; and (3) the clearing on both sides of the roadways allows adequate swing room for operation of cranes and other equipment (Exhs. HO-E-37, HO-E-38).

130/ The Company stated that as part of its easement agreement with the owners of the Bousquet Ski Area, it had agreed to install a water line on Old Tamarack Road and that construction of both the water line and pipeline would require use of the full width of the established roadway layout (Exh. HO-E-56; Tr. 4, p. 57).

iii. Safety

The Company asserted that risk of natural gas pipeline accidents is extremely low and that the design, installation and operation of the proposed pipeline will ensure that it will be constructed and operated in a safe and reliable manner (Exh. HO-E-49; Tr. 1, pp. 157-159, Tr. 3, pp. 68-69; Berkshire/Altresco Initial Brief, p. 75-77). The Company stated that design features of the proposed pipeline would meet or exceed required minimum federal safety standards (Exh. HO-1, p. 4-1; Tr. 1, pp. 115-120).[131] The Company further asserted that damage to its system usually results from third party excavation, and that therefore it had incorporated measures to protect the pipeline from accidental damage, including: (1) use of heavy wall thickness pipe; (2) installation of the pipeline three to four feet below the surface; (3) installation of a highly visible warning tape above the pipeline for its entire length; and (4) Company participation in Dig Safe, a program that requires contractors to register all excavation related activity prior to construction (HO-E-48).[132] In addition, the Company stated that operation of the pipeline would be monitored continuously by electronic equipment and that

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131/ The Company explained that federal regulations regarding certain aspects of pipeline design, including materials, wall thickness and pressure, vary according to the classification of the population density along the pipeline route (Tr. 1, pp. 118-9). The Company noted that the pipeline has been designed for the most restrictive classification, multi-story buildings, even though the pipeline traverses less restrictive classifications for its entire route (id., pp. 119-120).

132/ The Company stated that although the state code requires three feet of cover for the pipeline, it would attempt to attain four feet of cover along the route (Tr. 1, pp. 133-134). The Company further stated that, based on preliminary engineering, the pipeline would be buried three feet or less in one location where it would cross over a culvert, and that a concrete cap would be placed over the pipeline in this location to provide mechanical protection to the pipeline (HO-RR-14, Tr. 1, p. 140).

three isolation valves, which would segment the pipeline in the event of any pipeline malfunction, would be installed along the route (Exhs. HO-E-41, HO-E-47; Tr. 1, pp. 164-171).[133] Finally, the Company stated that the pipeline would be cathodically protected to prevent erosion and that the pipeline route would be periodically inspected by Company personnel (Exh. HO-E-47; Tr. 1, pp. 172-174).

The Company also asserted that safety features would be incorporated into the design and operation of the meter station, including: (1) utilization of fire-proof and fire-resistant materials and explosion-proof equipment; (2) operation of piping systems below design pressure ratings; and (3) installation of gas and fire detection systems (Exh. AL-RR-1). The Company further stated that the meter station facilities would be manually inspected on a weekly basis, safety and operating conditions would be continuously monitored by electronic equipment and public access to the meter station area would be restricted (id., Exh. HO-RR-27).

In addition, the Company specifically agreed to implement the following procedures: (1) to develop appropriate emergency response plans for possible accidents or related contingencies resulting from operation of the pipeline in cooperation with appropriate federal, state and local officials, and provide a copy of such plans to the Siting Council prior to operation of the pipeline; (2) to publish emergency response plans and procedures in a brochure to be mailed or delivered to all property owners and residents abutting the route, and, if requested, hold public educational forums, prior to the operation of the pipeline; (3) to implement the pipeline safety

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133/ Berkshire indicated that above-ground valve stations would be located at the proposed meter station and at the Altresco facility (Exh. HO-E-41). The Company stated that a third valve station would be located at the mid-point of the route, on the side of the road near the entrance to Canoe Meadows (id., Tr. 1, p. 168). The Company added that this valve station would be installed below-grade in a concrete vault but would require a small, above-ground cabinet to house telemetry equipment (Exh. HO-E-41; Tr. 1, pp. 167-168).

features as presented in the record, including: (a) the installation of pipeline warning tape and above-ground markers; (b) the installation of a 24-hour flow monitoring and automatic shut-off valve system; and (c) the performance of regular inspections of the pipeline route to detect any leaks and to monitor construction activity by outside parties; (4) after consultation with appropriate local officials, to select a style, material and color for above-ground pipeline markers that is aesthetically acceptable, and provide vegetative screening on all sides of all above-ground valve facilities; and (5) to make available for public inspection at Berkshire's offices a plan of the exact location of the pipeline, indicating the depth of the pipeline and showing locations of abutting property lines and existing utility, water and sewer lines (Exh. HO-RR-16).[134]

Motyl/Clerici assert that pipeline failures cannot be avoided entirely and that the safety concerns of the neighborhood in the vicinity of the meter station have not been addressed (Motyl/Clerici Initial Brief, pp. 53-56). Motyl/Clerici question the effectiveness of the Company's participation in Dig Safe and the reliability of its monitoring system (id.). In addition, Motyl/Clerici state that, upon construction of the proposed facilities, seven residences would be "pinned" between two metering stations in the immediate vicinity of three natural gas pipelines, and, thus, in the event of a meter station or pipeline accident, would have no escape route (id., p. 54).

The record indicates that the Company has incorporated extensive safety and monitoring features into the design of the proposed pipeline as well as safeguards to protect the pipeline from accidental third-party damage. In addition, the Company will develop, in cooperation with federal, state and local officials, emergency response plans for potential pipeline accidents.

With regard to Motyl/Clerici's concerns regarding safety of the

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134/ The Company agreed to implement these procedures that were included in the 1990 Berkshire Decision (Phase II) (Exh. HO-RR-16).

residents in the vicinity of the proposed meter station, there is no evidence in the record that location between the two metering stations would present any increased safety hazards. However, the Company's emergency response plan should specifically address evacuation procedures, including any special provisions warranted by the presence of multiple facilities, in the event of a pipeline or meter station accident potentially affecting the residences located between the Knox Road and proposed Bousquet meter stations.

Based on the foregoing, the Siting Council finds that construction of the proposed facilities along the primary route, with all proposed safety features, would have acceptable safety impacts.

2. Environmental Impacts of the Primary Route Segment Variations

a. Description

The Company stated that variations to certain portions of the primary route were considered to address specific environmental, regulatory or other potential impediments, or concerns, including potential difficulties in obtaining easements from certain landowners along the route (Exh. HO-1, pp. 5-34 through 5-36; Tr. 4, pp. 229, 231, 248, 256, 258-259).[135] Berkshire asserted that the environmental impacts of each of the route segment variations would be acceptable and comparable to the corresponding segments of the primary route (Exh. HO-1, pp. 5-36, 5-37). In support, Berkshire provided an analysis of the environmental impacts of each route segment variation to the corresponding portion of the primary route (id., appendix F; Exh. HO-RR-25). Berkshire noted that the route segment variations were not approved by

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135/ The Company indicated that it has obtained options for easements for all portions of the route with the exception of the Canoe Meadows crossing (Tr. 4, p. 260). With regard to the Canoe Meadows crossing, the Company indicated that the Massachusetts Audubon Society has agreed to the terms and conditions of a license agreement but that said agreement has not yet been completed (id., pp. 260-261; Exh. HO-RR-28).

the Task Force (Exh. HO-1, pp. 5-36, 5-37).

The Company stated that route segment variation 3b would travel cross-country between South Mountain Road and the Pittsfield Country Club, thereby eliminating the majority of the proposed construction within the roadway layout of South Mountain Road (Exhs. HO-1, Figure 5-5, HO-E-15).[136] By avoiding a portion of South Mountain Road, the Company stated that construction across one roadway culvert and within 50 feet of 11 residences along South Mountain Road would be avoided (Exhs. HO-1, Figure 5-5, HO-E-24). However, the Company stated that construction of this route segment variation would require blasting of bedrock and also would impact more wooded wetlands and forest resources than the corresponding segment of the primary route (Exh. HO-RR-25; Tr. 4, pp. 242-245). In addition, the Company noted that this route segment variation would be aligned within 100 feet of a day care center (id.).

The Company stated that route segment variation 4b was an alternative route through the Pittsfield Country Club that would follow an existing golf cart path and also would avoid construction across property owned by Miss Hall's school (Exh. HO-1, p. F-3; Tr. 4, p. 245).[137] The Company indicated that this route segment variation would be longer than the corresponding segment of the primary route but would have less impact on forest resources (Exh. HO-RR-25). However, the Company stated that this route segment variation would have greater residential impacts, require relocation of an existing gas pipeline and cross railroad tracks located within difficult terrain (Exhs. HO-RR-25, HO-E-24; Tr. 4, pp. 245-246).

136/ The Company indicated that route segment variation 3b initially was suggested by a landowner who had concerns regarding potential impacts to residences and a culverted stream within South Mountain Road (Tr. 4, p. 243).

137/ Berkshire stated that this route segment variation was included in the event easements could not be negotiated with the owners of Miss Hall's School or residents of Kris Lane (Tr. 4, p. 245).

With regard to the pipeline crossing of Canoe Meadows, the Company stated that it had considered three route segment variations (Exhs. HO-1, Figure 5-5, HO-RR-25). The Company noted that the primary route, which would follow the northern periphery of Canoe Meadows and exit the sanctuary onto William Street, was the path preferred by the Audubon Society (Exh. HO-RR-25; Tr. 4, pp. 250-251).[138] The Company stated that (1) route segment variation 6a would travel straight across the north central portion of the sanctuary;[139] (2) route segment 6b would avoid construction within Canoe Meadows completely and travel, instead, along Holmes and William Streets, and (3) route segment 6d would cross the northern periphery of the sanctuary and then turn to the south to exit onto New Lenox Road instead of William Street (Exhs. HO-1, Figure 5-5, HO-RR-25; Tr. 4, pp. 249-253). In comparing the Canoe Meadows route variations, the Company stated that route segment variation 6b would have significantly greater residential impacts than any of the other route segments,[140] and that route segment variation 6d was longer than the other route segments and would involve potentially difficult construction within a narrow roadway (Exhs. HO-1, Figure 5-5, HO-C-6). The Company stated that variation 6a would have fewer impacts to sensitive receptors and historical resources than the primary route, but would traverse a portion of the sanctuary that would likely be reforested under the Audubon Society's long-

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138/ The Company noted that the Department of Food and Agriculture's Bureau of Land Use also supported the primary route in comparison to all other route segment variations (Tr. 4, p. 251).

139/ The Company indicated that route segment variation 6a was originally proposed as the preferred segment variation (Exh. HO-RR-25).

140/ The Company noted that this route segment variation was included in the event the Company could not negotiate an easement with the Audubon Society (Tr. 3, p. 46). The Company added that this segment was part of the route approved in the 1990 Berkshire Decision (Phase II), and that there is significant community opposition to this segment (Tr. 4, p. 192). see Section E.1.a.i, above.

term management plan (Exhs. HO-1, p. F-4, HO-RR-25; Tr. 4, pp. 250-251).[141]

The Company stated that route segment variation 7b would follow Elm Street rather than travelling cross country from the eastern end of Williams Street to the existing Tennessee ROW (Exh. HO-1, Figure 5-5).[142] The Company noted that route segment 7b would have significantly greater impacts to sensitive receptors and slightly greater impacts to forest resources (Exhs. HO-E-24, HO-RR-25; Tr. 4, pp. 256-257).

The Company stated that route segment variation 8b was included as an alternative to the crossing of Brattlebrook Park (Exh. HO-RR-25). However, the Company stated that this segment would be significantly longer than the primary route segment and would impact forest resources, wetlands and wildlife habitat to a greater degree (Exh. HO-RR-25).

b. Analysis

The record indicates that the Company included variations to certain portions of the primary route, primarily to provide the Company with options in the event easement agreements could not be negotiated with specific landowners. The record further indicates that, the environmental impacts of the route segment variations would, for the most part, be comparable to the environmental impacts of the primary route. By incorporating the mitigation measures discussed in Section E.1, above, construction along each of the route

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141/ The Company indicated that there are three residences located within 100 feet of the pipeline along route variation segment 6a and 21 residences and one historic structure located within 100 feet of the pipeline along the corresponding portion of the primary route (Exhs. HO-RR-25, HO-E-11). The Company added that there are no residences or historic structures located within 50 feet of either route (Exh. HO-E-24; Tr. 5, pp. 25-26). In addition, the Company noted that alignment of the pipeline within Williams Street would maximize distance from residences (Tr. 4, pp. 193-195). see Section E.1.b.i, above.

142/ The Company indicated that this segment was included in the event easements could not be negotiated for the primary route (Tr. 4, p. 256).

segment variations would be acceptable.

However, the record also demonstrates that, although a number of the route segment variations have advantages with regard to specific environmental impacts, none of the route segment variations is clearly preferable to the corresponding portion of the primary route, with respect to overall environmental impacts.

Based on the foregoing, the Siting Council finds that the construction of the proposed facilities along the primary route is preferable to construction along the primary route with any of the segment variations with respect to environmental impacts.

3. Environmental Impacts of the Alternative Route

a. Land and Water Resources

Berkshire provided estimates of impacts to land and water resources of the construction of the proposed pipeline along the alternative route (Exhs. HO-E-29, HO-E-34, HO-E-35, HO-E-39, HO-E-44, HO-S-20, Tables S-2O-2, S-20-3). The Company indicated that construction of the proposed pipeline along the alternative route would require (1) clearing of nearly 17 acres of forest of which 7.2 acres would be upland forest, and (2) traversing 11.7 acres of vegetated wetlands, including 9.5 wooded acres and 2.2 open/shrub acres (Exh. HO-S-20, Table S-20-3). The Company indicated that, with the exception of one wetland area located along Dan Fox Drive, all wetland resource areas that would be cleared are adjacent to the ROW recently cleared by Tennessee during construction of the NOREX facilities (Exhs. HO-E-10, HO-E-39, Table 39-2). The Company further indicated that the alternative route would follow the same path through the Brattlebrook wetlands system as the primary route but that the alternative route also would traverse wetlands associated with the Housatonic River and Canoe Meadows (Exh. HO-E-39).[143]

143/ The Company stated that the Massachusetts Audubon Society has indicated that it would not negotiate for an easement to construct the pipeline through wetlands within Canoe Meadows (Exh. HO-E-63).

With regard to surface water and water supply, Berkshire indicated that construction of the alternative route would require a crossing of the Housatonic River, three intermittent stream crossings and four perennial stream crossings, including three crossings of Sackett Brook, a perennial stream within the wetland portion of Canoe Meadows (Exhs. HO-E-34, HO-E-63). The Company stated that, to avoid contamination problems, the Massachusetts Department of Environmental Protection would require the Company to bore under the Housatonic River (Exh. HO-E-57). In addition, the Company indicated that there are no private wells located along the alternative route, and that there are no public water supply wells or designated surface water or aquifer protection zones within the vicinity of the route (Exh. HO-E-35).

With regard to wildlife, the Company stated that the alternative route also would cross the estimated habitat for the wood turtle and American bittern in the wetland area north of Brattlebrook Park. see Section E.1.a.iv, above. The Company indicated that there is additional habitat suitable for the wood turtle along the alternative route in the vicinity of the Housatonic River and Sackett Brook and their associated wetlands systems (Exh. HO-63). The Company also indicated that there is state designated vegetative community of special concern along the alternative route, to the east of Dan Fox Drive (Exhs. HO-E-9, HO-E-45, HO-3, pp. 7-5 through 7-10).

Finally, the Company explained that blasting would be required to construct the proposed pipeline along the alternative route due to an outcrop of bedrock in the southern portion of the Pittsfield Country Club (Exh. HO-E-27).

The record demonstrates that construction of the proposed facilities along the alternative route would impact forest resources, wetlands resources, surface water, and wildlife habitat. However, the Company's comprehensive mitigation strategies discussed with reference to construction of the proposed facilities along the primary route also would serve to mitigate impacts along the alternative route. Although the Housatonic River is contaminated where it would be crossed by the alternative route, boring the pipeline under the river would minimize potential impacts. Further, although there are considerable

wetlands and a number of associated stream crossings in the vicinity of Canoe Meadows and the Housatonic River crossing, this routing has been used in the past for construction of the North Adams lateral.

The record also demonstrates that additional impacts of the construction of the proposed facilities along the alternative route relate to blasting that would be required in one area of bedrock outcrop and the crossing of a vegetative community of special concern. The Siting Council notes that state and local regulations would require blasting to be carried out in a safe and controlled manner. The Siting Council further notes that alignment of the pipeline close to the roadway layout of Dan Fox Drive as well as utilization of specialized construction techniques could potentially minimize impacts to the vegetative community of special concern.

Based on the foregoing, the Siting Council finds that construction of the proposed facilities along the alternative route, with mitigation measures, would have acceptable impacts to land and water resources.

b. Land Use, Traffic/Roadways and Safety

The Company estimated the impact of construction of the proposed facilities along the alternative route with regard to land use, traffic/roadway and safety concerns (Exhs. HO-E-11, HO-E-12, HO-E-15, HO-E-24, HO-E-27, HO-S-20, Tables S-20-1, S-20-2). The Company stated that land use along the alternative route includes recreational, residential, and conservation uses (Exh. HO-E-9, Table 9-2). The Company stated that impacts to recreational areas would be minimized by the timing of construction (Exh. HO-E-63). The Company stated that eight residences would potentially be located within fifty feet of the pipeline route, and that no historic sites, archaeological sites or schools would be located in the vicinity of the route (Exhs. HO-E-11, HO-E-12, HO-E-24). The Company further stated that construction work in roadways would involve only roadway crossings, the majority of which would be bored in order to reduce traffic impacts (Exhs. HO-E-18, HO-E-58). With regard to safety, the Company did not identify any proposed design, installation or operational features that would vary

according to the location of the facilities.

The record indicates that impacts to recreational facilities would be mitigated by timing of construction, that impacts to residences would be mitigated by use of the same construction techniques proposed by the Company with regard to the primary route, and that traffic impacts would be minimal. The record further indicates that the safety features of the proposed facilities would not vary according to the route chosen. Based on the foregoing, the Siting Council finds that the construction of the proposed facilities along the alternative route, with mitigation measures, would have acceptable impacts with regard to land use, traffic/roadways and safety.

4. Conclusions on Environmental Impacts

The Siting Council has found that the construction of the proposed facilities along the primary and alternative routes would have acceptable impacts with regard to water and land resources and acceptable impacts with regard to land use, traffic/roadways and safety. The Siting Council also has found that the primary route is preferable to the primary route with any of the segment variations with respect to environmental impacts.

In comparing the primary and alternate routes, the record indicates that the primary route would be constructed in the vicinity of a greater number of sensitive receptors including residences, a school and historic and archaeological resources, and also would have greater impacts to traffic and roadways. Specifically, the primary route would be located within fifty feet of eight more residences than the alternative route and would involve approximately 2.5 miles of roadway layout construction while the alternative route would involve only roadway crossings.

However, the record also indicates that such impacts, for the most part, would be construction-related and temporary, and would be minimized by the Company's commitment to appropriate construction techniques and mitigation measures. In addition, the Company will attempt to maximize the distance between the pipeline and residences. The Company also has agreed to significant design, installation and operational features to help ensure the

safe operation of the pipeline facilities, and also will establish detailed emergency procedures.

With respect to natural resource concerns, the record demonstrates that the most significant environmental impacts of both routes would be the permanent loss of forests and wetland resources. The primary route would impact approximately seven acres of forest and seven acres of wetlands while the alternative route would impact approximately 17 acres of forest and 12 acres of wetlands. Although construction-related impacts to both forests and wetland resource areas would be minimized by a variety of construction techniques and mitigation measures, forest and wetland vegetation would be permanently altered because the permanent ROW, directly over the pipeline, would be maintained clear of tall-growing woody vegetation. In addition, although a portion of the initially cleared forested areas would be allowed to revegetate to pre-construction conditions, the forest would not be reestablished for at least twenty years.

Consequently, overall, the primary route would involve greater impacts with respect to land use, traffic/roadways and safety, while the alternative route would involve greater impacts with respect to land and water resources. The Company would incorporate design, installation and operational procedures, as well as mitigation measures and procedures during construction, to minimize impacts in both the above categories. Nonetheless, some level of impact or risk, however small, must be recognized in each of the respective categories, and the offsetting advantages of the two routes with respect to different categories must be balanced, in order to determine the environmentally preferable route.

Given the approximate six mile length of both routes, there is not a significant difference in the number of residences within 50 feet of the pipeline. Considering, further, the temporary nature of construction impacts and the low risk of pipeline accidents, any advantage of the alternative route with respect to land use, traffic/roadways and safety is minimal.

With respect to land and water resources, however, the alternative route would result in the loss of 17 acres of forest and affect 12 acres of

vegetated wetlands -- levels approximately twice those of the primary route. Moreover, much of the additional wetland impact would occur in the sizeable area in the vicinity of the Housatonic River/Canoe Meadows with the associated multiple crossings of Sackett Brook. Finally, although this routing has been previously used for the North Adams lateral, Canoe Meadows is a designated conservation area.

Based on the foregoing, the Siting Council finds that construction of the proposed facilities along the primary route would be preferable to construction along the alternative route with respect to environmental impacts.

F. Conclusions on the Proposed and Alternative Facilities

The Siting Council has found that the Company considered a reasonable range of practical siting alternatives.

The Siting Council has found that construction of the proposed facilities along the primary route is preferable to construction along the alternative route and to construction along the primary route with any of the segment variations with respect to cost.

The Siting Council has found that construction of the proposed facilities along the primary route is preferable to construction along the primary route with any of the segment variations with respect to environmental impacts. The Siting Council also has found that construction of the proposed facilities along the primary route and alternative route is acceptable with respect to environmental impacts. The Siting Council has further found that construction of the proposed facilities along the primary route is preferable to construction along the alternative route with respect to environmental impacts.

Accordingly, the Siting Council finds that construction of the proposed facilities along the primary route is superior to construction along the alternative route and to construction along the primary route with any of the segment variations.

IV. DECISION

The Siting Council hereby APPROVES the petition of the Berkshire Gas Company to construct (1) a 6.2 mile, 500 pound per square inch natural gas pipeline along the primary route, and (2) a meter station at the primary site, subject to the following CONDITIONS:

(1) consult with the tree warden or other appropriate officials in Pittsfield to determine the appropriate alignment of the pipeline within public ways such as to minimize any tree impacts;

(2) utilize the following mitigation measures during construction of the pipeline in order to minimize impacts to trees along the pipeline route: (a) maintain at least 15 feet between the pipeline trench and standing trees along the cleared ROW; (b) maintain at least five feet between the pipeline trench and roadside trees; (c) trim tree branches to provide adequate space for construction equipment and to avoid accidental breakage of tree limbs;

(3) replace roadside trees and trees outside the construction ROW damaged as a result of pipeline construction, as determined by the Pittsfield tree warden or other appropriate official, and restore all landscaping, shrubbery and driveways along the roadway portion of the pipeline alignment to pre-construction conditions;

(4) install anti-seepage collars in the pipeline trench as necessary in order to maintain groundwater drainage patterns existing prior to construction;

(5) implement the mitigation measures and specialized construction techniques to minimize disturbance to wetland resource areas as presented in the record, including (a) construction during the seasonal low-flow period, and (b) utilization of erosion and

sedimentation controls;

(6) inspect the construction work area prior to construction and daily during construction for wood turtles and if found, remove them to adjacent suitable habitats outside the construction ROW;

(7) inspect the construction work area prior to construction for American bittern nests, and if found, proceed in accordance with recommendations from the Massachusetts Natural Heritage Program;

(8) perform construction in environmentally sensitive areas only after consultation with and in accordance with the recommendations of an environmental inspector and wetlands biologist;

(9) install the proposed pipeline at least twenty feet from all residences and other structures normally occupied by humans;

(10) maintain five feet of cover or more over the pipeline in agricultural areas;

(11) implement the mitigation measures recommended by the Massachusetts Historical Commission to minimize disturbance to archaeological areas;

(12) monitor the condition of all roadways impacted by construction for two years and repair any subsequent settling;

(13) repair or reimburse affected property owners for any damage to existing utility, water or sewer lines or pipes caused by construction of the pipeline;

(14) in cooperation with appropriate federal, state and local officials,

develop appropriate emergency response plans for possible accidents or related contingencies resulting from operation of the pipeline and meter station facilities, including evacuation procedures and any special provisions warranted by the presence of multiple facilities in the areas between the Knox Road and proposed Bousquet meter stations, and provide a copy of such plans to the Siting Council prior to operation of the pipeline;

(15) publish emergency response plans and procedures in a brochure to be mailed or delivered to all property owners and residents abutting the route, and, if requested, hold public educational forums, prior to operation of the pipeline;

(16) implement the pipeline safety features as presented in the record including: (a) the installation of pipeline warning tape and above-ground markers; (b) the installation of 24-hour flow monitoring and automatic shut-off valve system; and (c) the performance of regular inspections of the pipeline route to detect any leaks and to monitor construction activity by outside parties;

(17) implement the meter station safety features as presented in the record including: (a) utilization of fire-proof and fire-resistant materials and explosion-proof equipment; (b) operation of piping systems below design pressure ratings; (c) installation of gas and fire detection systems; (d) installation of 24-hour monitoring system; and (e) performance of regular inspections;

(18) establish and maintain tree buffer within the site boundary capable of providing all-season visual screening on all sides of the meter station;

(19) after consultation with appropriate local officials, select a style,

material and color for above-ground pipeline markers that is aesthetically acceptable, and provide vegetative screening on all sides of all above-ground valve facilities;

(20) make available for public inspection at Berkshire's offices a plan of the exact location of the pipeline, indicating the depth of the pipeline and showing locations of abutting property lines and existing utility, water and sewer lines;

(21) provide to all property owners and residents abutting the route the phone number of the Mayor's Task Force personnel or other Company designee who will serve as a contact for residents who have concerns regarding pipeline and meter station construction and restoration;

(22) submit a comprehensive report detailing progress or compliance with the conditions set forth in this Decision, on September 30, 1992, December 31, 1992 and March 31, 1993, to the Chairman of the Siting Council, the Siting Council staff, all intervenors and any other interested person.

(23) avoid blasting of ledge at the meter station site to the greatest extent possible by removal of ledge by mechanical means and adjustment of the layout of meter station structures, consistent with maintaining a tree buffer within the boundary site (see condition 18, above). If Berkshire determines that blasting cannot be avoided, Berkshire shall prepare a report detailing why blasting cannot be avoided by removal of ledge by mechanical means and adjustment of the layout of the meter station structures, prior to conducting any blasting. Berkshire shall submit this report to the Siting Council and shall not conduct any blasting at the meter station site until the Siting Council staff verifies that the report fully satisfies this condition. If blasting is required for

construction of the meter station, Berkshire shall notify abutting property owners and residents at least 48 hours prior to conducting any blasting.

The Siting Council notes that the findings in this decision are based upon the record in this case. A project proponent has an absolute obligation to construct and operate its facility in conformance with all aspects of its proposal with the Siting Council. Therefore, Berkshire must notify the Siting Council of any changes other than minor variations to the proposal so that the Siting Council may decide whether to inquire further into the issue.[144]

The Siting Council further notes that the conditional approval of the pipeline along the primary route and the meter station at the primary site in this proceeding supersedes our conditional approval of the primary pipeline route and meter station site in the 1990 Berkshire Decision (Phase II). However, all other aspects of the 1990 Berkshire Decision (Phase II) will remain in full force and effect.

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Robert W. Ritchie
Hearing Officer

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Jolette A. Westbrook
Hearing Officer

Dated this 26th day of June, 1992

144/ The petitioner is obligated to provide the Siting Council with sufficient information on changes to enable the Siting Council to make this determination.

UNANIMOUSLY APPROVED by the Energy Facilities Siting Council at its meeting of June 26, 1992 by the members and designees present and voting. Voting for approval of the Tentative Decision as amended: Gloria Larson, Secretary of Consumer Affairs and Business Regulation; Stephen Remen, Commissioner of Energy Resources; Andrew Greene (for Susan Tierney, Secretary of Environmental Affairs); Tom Black (for Stephen Tocco, Secretary of Economic Affairs); Mindy Lubber (Public Environmental Member); and Kenneth Astill, (Public Engineering member).

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Gloria C. Larson

Chairperson

Dated this 26th day of June, 1992

Appeal as to matters of law from any final decision, order or ruling of the Siting Council 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 Council be modified or set aside in whole or in part.

Such petition for appeal shall be filed with the Siting Council within twenty days after the date of service of the decision, order or ruling of the Siting Council, or within such further time as the Siting Council 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).