COMMONWEALTH OF MASSACHUSETTS
ENERGY FACILITIES SITING BOARD

Petition of Holyoke Gas and Electric Department Pursuant to G.L. c. 164 § 69J for Approval to Construct a New Liquefied Natural Gas Storage Facility in the City of Holyoke, Massachusetts	))))))	EFSB 22-07

FINAL DECISION

Daniel Keleher
Presiding Officer

April 24, 2026

On the Decision:
Dean Hazle
Nathaniel Strosberg

APPEARANCES:

Kevin M. Considine, Esq.
CONSIDINE & FUREY, LLP
One Beacon Street, 22nd Floor
Boston, MA 02108
FOR: Holyoke Gas & Electric Department
Petitioner

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LIST OF ABBREVIATIONS

Apremont Alternative	Project alternative located east of Apremont Highway
ASHP	air source heat pump
BTU/ft^2-hr	British thermal units per square foot per hour
CFR	Code of Federal Regulations
CMR	Code of Massachusetts Regulations
CNG	compressed natural gas
Colonial Gas (2016)	Colonial Gas Company d/b/a National Grid, EFSB 16-01 (2016)
Company	Holyoke Gas & Electric
dBA	A-weighted decibel(s)
Department	Department of Public Utilities
Dth	dekatherm(s)
Dth/day	dekatherms per day
EEA	Executive Office of Energy and Environmental Affairs
EIR	Environmental Impact Report
EJ	Environmental Justice
G.L. c.	Massachusetts General Laws chapter
HDD	heating degree days
HG&E	Holyoke Gas & Electric Department
LNG	liquefied natural gas
Lowell Tewksbury	Colonial Gas Company d/b/a National Grid, EFSB 18-01/D.P.U. 18-30 (2019)
MassDEP	Massachusetts Department of Environmental Protection
NEC	Northeast Energy Center

NFPA	National Fire Protection Association
NHESP	Natural Heritage and Endangered Species Program
Northampton Loop	1.7-mile "loop" segment along the Northampton Lateral
Northeast Energy Center	Northeast Energy Center LLC, EFSB 18-04/D.P.U. 18-96 (2021)
OSHA	Occupational Safety and Health Administration
PFAS	per- and poly-fluoroalkyl substances
Project	LNG Infrastructure and Resiliency Project
Project site	fenced boundary of the current LNG storage facility
Secretary	Secretary of Energy and Environmental Affairs
Siting Board	Energy Facilities Siting Board
TGP	Tennessee Gas Pipeline
ULSD	ultra-low sulfur diesel oil
VOCs	volatile organic compounds
WHF	West Holyoke Facility
2050 Roadmap	Massachusetts 2050 Decarbonization Roadmap

SUMMARY OF THE FINAL DECISION

The Final Decision proposes to approve with conditions Holyoke Gas & Electric's ("Company's," "HG&E's") proposal to add a new 70,000-gallon liquefied natural gas ("LNG") storage tank to the Company's existing West Holyoke Facility ("WHF"). The addition would expand the facility's onsite LNG storage capacity by 31 percent.

The Company's existing gas distribution system serves about 11,500 customers. The system relies on both the Tennessee Gas Pipeline's ("TGP") Northampton Lateral and vaporized LNG from the WHF (when customer demand exceeds firm pipeline capacity). Tanker trucks are the only means of refilling the WHF; it lacks equipment for liquefying pipeline gas. The WHF has insufficient LNG storage relative to the Company's design day forecast and cold-snap requirements. At peak or near-peak conditions, the facility can supplement the firm supply of pipeline gas for only about two days before requiring a truck delivery. During the coldest days, the Company must schedule multiple truck deliveries per day for consecutive days to maintain steady LNG inventory. In 2019, due to a lack of incremental firm pipeline capacity and storage limitations at the WHF, the Company instituted a moratorium on adding new gas customers and incremental load.

The Company's gas supply portfolio is limited. The Company cannot purchase any incremental firm capacity from the TGP, as the Northampton Lateral is fully subscribed, and it also cannot depend on emergency overtakes from the pipeline since interstate pipeline capacity in Massachusetts is constrained. Additionally, the Company cannot rely on future deliveries from the Everett Marine Terminal due to its volatile prices and uncertain future, and though the Company is looking to the Northeast Energy Center ("NEC") in nearby Charlton as a potential source, it anticipates that it will still have to continue to rely on more distant terminals for most deliveries. The Final Decision finds that, by expanding onsite LNG storage, the new tank would allow for increased duration between LNG replacement deliveries and thus improved service reliability during cold weather events. The new tank would also allow the Company to ease the moratorium on new customers and incremental load. The Final Decision finds that new resources are needed for the Company to maintain a reliable supply of gas in its service territory.

The Company considered demand side alternatives, including accelerated heating sector electrification. HG&E offers financial incentives for electrification. With the institution of the moratorium in 2019, about 40 HG&E customers electrified their heating systems each year between 2019 and 2023. Each year, this rate of electrification in the HG&E service territory reduces peak gas use by only one percent of the peak day capacity that the proposed Project would provide and is insufficient to meet the identified need. The Company also examined an alternative site for incremental LNG storage by Whiting Farms Road, with a proposed facility design (i.e., single, 70,000-gallon LNG storage tank) similar to that of the Project. The Company, however, rejected this site in favor of the WHF's already established Company LNG operations. The Final Decision finds that because electrification is infeasible in meeting the identified need in the near term, the Project is the superior alternative. In sum, the Company examined a reasonable range of siting alternatives; environmental impacts from the Project would be minimized; and the Project would be consistent with the current health, environmental protection, and resource use and development policies of the Commonwealth.

Pursuant to G.L. c. 164, § 69J and subject to the conditions set forth below, the Massachusetts Energy Facilities Siting Board ("Siting Board") hereby APPROVES the Petition of Holyoke Gas & Electric ("HG&E" or the "Company") to construct and operate a new liquefied natural gas storage facility in the City of Holyoke.

I. INTRODUCTION

A. Description of the Proposed Project

Holyoke Gas & Electric, a municipally-owned utility company, ("HG&E" or the "Company") proposes to add a new 70,000-gallon liquefied natural gas ("LNG") storage tank and spill impoundment dike to the Company's existing West Holyoke Facility ("WHF"), thereby increasing WHF's onsite LNG storage capacity by 31 percent (Exh. HGE-1, at 1-1). The new storage tank, spill impoundment dike, and related facilities comprise the "Project." HG&E would integrate the Project with existing facilities at WHF; the Company indicated that WHF's operations would not change significantly (Exh. HGE-1, App. C at 6 of 39). HG&E would construct the Project entirely within WHF's existing fence line and the area that the Project would impact is already graded and gravel-covered (Exh. HGE-1, at 6-11, Fig. 1-3(d)). The Project would impact approximately 31,000 square feet (0.71-acres) of the 4.5-acre WHF site (Exh. HGE-1, at 6-7).

The Company stated that by increasing its onsite LNG storage, it would increase the amount of time before LNG deliveries are critically needed during extended cold periods; therefore, the Project would provide operational flexibility to secure and schedule LNG replacement deliveries and improve service reliability during cold weather events (Exhs. HGE-1, at 33; EFSB-N-26). The Project would also enable HG&E to relax a moratorium it imposed in 2019 on adding new customer load to its natural gas system (Exh. HGE-1, at 1-1).

WHF is located at 91 Mueller Road, approximately one mile north of Highway 202, in southwest Holyoke (Exh. HGE-1, at Fig. 1-1, 6-19). The key features of WHF consist of an LNG truck unloading station, four existing 55,000-gallon LNG storage tanks (220,000 gallons total), LNG vaporization equipment, and related secondary containment and safety facilities (Exh.

HGE-1, at 1-1, 2-4, 2-5). The Company stated it has safely and reliably operated WHF since 1971 (Exh. HGE-1, at 1-1).

In addition to the new LNG storage tank, the Project would incorporate: (1) a new LNG impoundment dike consistent with 980 CMR 10.00;[1] (2) an impoundment sump pump system; (3) foundations for the proposed tank; (4) a stormwater management system; (5) process piping and valves to tie the new tank into existing systems; (6) instrumentation and control devices to integrate the new tank with existing systems; and (7) integration of new fire and combustible gas detection equipment with existing systems (Exh. HGE-1, at 2-1). The new tank would be a horizontal, shop-fabricated tank installed north of and parallel to the existing LNG storage tanks (Exh. HGE-1, at 2-1, 2-5, App. C at 6 of 39).

Recognizing the opportunity to efficiently use specialized contractors required for the Project, HG&E identified safety and reliability improvements for WHF that would complement the Project (Exh. HGE-1, at 1-4). The Company proposes the following complementary activities, none of which is within the jurisdiction of the Board:[2] (1) replacing the existing single LNG vaporizer with two new vaporizers to provide redundancy; (2) civil work to restore and enhance a 50-year old containment berm; (3) a new fire alarm control panel and improvements to WHF's process and safety control system; (4) installing remotely operating valves; and (5) upgrading the standby electric generator to match the increased electrical load as a result of the Project (Exh. HGE-1, at 1-4, 2-1, App. C at 15).

The Company estimated the cost of the Project at $4.4 million, with an accuracy of -20/+30 percent (in 2022 dollars, based on an Association for the Advancement of Cost Engineers Class III estimate) (Exh. HGE-1, at 2-5). The Company estimated that construction would last

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1 The required impoundment dike provides secondary containment for LNG in the event of a spill; 980 CMR 10.04(1) requires the impoundment dike to be capable of storing 150 percent of the onsite LNG storage (Exh. HGE-1, App. I at 6).

2 The Company intends to complete the complementary improvements regardless of whether the Siting Board approves the Project (Exh. HGE-1, at 1-4). HG&E estimated the cost of the complementary site improvements to be $3.4 million (Exh. HGE-1, at 2-5).

approximately 21 months (Exh. HGE-1, at 2-5). Figure 1, below, displays the location of WHF and the location of the proposed Project.

Figure 1. West Holyoke Facility and Proposed Project Site

Source: Exh. HGE-1, Fig. 1-2.

B. Procedural History

On December 7, 2022, pursuant to G.L. c. 164, § 69J, HG&E filed a Petition to Construct, docketed as EFSB 22-07. In preparation for a virtual public comment hearing, the Company timely published, mailed, and otherwise widely distributed a Notice of Public Comment Hearing/Notice of Adjudication ("Notice") in compliance with a letter of instruction from the Presiding Officer, dated March 9, 2023. The Siting Board conducted the virtual public comment hearing on March 29, 2023, and received public comments on the Project. No one sought to

participate in the proceeding as an intervenor or a limited participant. Consequently, after the public comment hearing, HG&E remained the only party in this proceeding.

The Siting Board staff issued one set of discovery requests to the Company, and the Company responded to those requests. The Siting Board conducted two days of evidentiary hearings, on November 27 and November 29, 2023. The Company presented five witnesses in support of its Petition: James M. Lavelle, general manager, HG&E; Brian Roy, gas superintendent, HG&E; Kate Sullivan Craven, director of marketing and communications, HG&E; John A. Gamble, owner and principal consultant, Energy Technical Services PLLC; and John Zimmer, principal, Epsilon Associates.

The Company filed a brief on January 12, 2024. Siting Board staff prepared a Tentative Decision and distributed it to the Siting Board members and HG&E for review and comment on April 10, 2026. Siting Board staff allowed HG&E until April 17, 2026, to file written comments. HG&E timely filed written comments on April 16, 2026. The Board conducted a hybrid public meeting to consider the Tentative Decision on April 21, 2026. After deliberation and vote, the Board directed staff to prepare a Final Decision approving the Petition, subject to conditions, as set forth below.

II. JURISDICTION AND STANDARD OF REVIEW UNDER G.L. C. 164, § 69J

G.L. c. 164, § 69J[3] requires the Siting Board to approve a petition to construct if the Siting Board determines that the petition meets the requirements of that section, including that the plans for the construction of the applicant's facilities are consistent with the policies stated in G.L. c. 164, § 69H (i.e., provide a reliable energy supply for the Commonwealth with a minimum impact on the environment at the lowest possible cost) and also with current health, environmental protection, and resource use and development policies of the Commonwealth. See Town of

[3] On November 20, 2024, Governor Healey signed into law An Act Promoting a Clean Energy Grid, Advancing Equity and Protecting Ratepayers, St. 2024, c. 239 ("2024 Climate Act" or the "Act"). Regulations promulgated under the Act "shall apply to all jurisdictional projects submitted to the [Siting Board] on and after July 1, 2026." St. 2024, c. 239, §132. Since this proceeding was filed before July 1, 2026, it is governed by rules in place before the effective date of the 2024 Climate Act.

Sudbury v. Energy Facilities Siting Board, 487 Mass. 737, 746-747 (2021); Northeast Energy Center LLC, EFSB 18-04/D.P.U. 18-96, at 14-15 (2021) ("Northeast Energy Center"). Pursuant to G.L. c. 164, § 69J, a project applicant must obtain Siting Board approval for the construction of a proposed energy facility before a construction permit may be issued by another state agency.

G.L. c. 164, § 69G defines a "facility" to include "a unit, including associated buildings and structures, designed for or capable of the manufacture or storage of gas, except such units below a minimum threshold size as established by regulation." See also 980 CMR 1.01. The regulatory threshold amount is 25,000 gallons of total gas storage capacity and also a manufacturing capability of less than 2,000 million British thermal units per day. Since the proposed Project exceeds the 25,000-gallon threshold and has no manufacturing capability, and none of the limited exemptions apply, see 980 CMR 1.01(4), the proposed Project is a "facility" with respect to Section 69J.

Pursuant to Section 69J, the Siting Board requires that an applicant establish the following: (1) additional energy resources are needed (see Section III, below); (2) on balance, the proposed project is superior to alternative approaches in terms of reliability, cost, and environmental impact and in its ability to address the identified need (see Section IV, below); (3) the applicant has considered a reasonable range of practical facility siting alternatives, and the proposed facility is sited in a location that minimizes costs and environmental impacts while ensuring a reliable energy supply (see Section V, below); (4) environmental impacts of the Project are minimized, and the Project achieves an appropriate balance among conflicting environmental concerns as well as among environmental impacts, cost, and reliability (see Section VI, below); (5) the proposed facility will comply with the Board's regulations governing the siting of LNG facilities, as set forth at 980 CMR 10.00 (see Section VII, below); and (6) plans for construction of the proposed facility are consistent with the current health, environmental protection, and resource use and development policies of the Commonwealth (see Section VIII, below).

III. NEED FOR THE PROJECT

A. Standard of Review

In carrying out its Section 69J mandate to ensure a reliable energy supply with a minimum impact on the environment at the lowest possible cost, the Siting Board evaluates a proposal to construct a gas facility to determine whether the Commonwealth needs the additional gas facility to meet reliability, economic efficiency, or environmental objectives. See Northeast Energy Center at 16; Colonial Gas Company d/b/a National Grid, EFSB 18-01/D.P.U. 18-30, at 78 (2019) ("Lowell-Tewksbury"); Colonial Gas Company d/b/a National Grid, EFSB 16-01, at 5-6 (2016) ("Colonial Gas (2016)").

In evaluating the need for a new energy facility to meet reliability objectives, the Siting Board may evaluate the ability of the existing system to accommodate changes in aggregate demand or supply, to serve major new loads, or to maintain reliable service. The Siting Board previously has approved proposals to construct gas facilities to accommodate load growth within a utility's service territory and to transport natural gas to generating facilities. See Northeast Energy Center at 16; Lowell-Tewksbury at 7; Colonial Gas (2016) at 13-15. In such cases, the proponent must demonstrate that additional energy resources are necessary to meet reliability objectives by establishing that its existing system is inadequate to serve the anticipated load with acceptable reliability. See Northeast Energy Center at 16-17; Lowell-Tewksbury at 7.

B. Description of the Company's Demonstration of Need

1. Existing System

HG&E, a municipal utility, operates and maintains a gas distribution system in Holyoke and a portion of Southampton that serves approximately 11,500 customers (Exh. HGE-1, at 3-1). The Company's gas supplies consist of 11,800 dekatherms per day ("Dth/day") of contracted, firm capacity from TGP, plus vaporized LNG from WHF (Exh. HGE-1, at 1-1). The Company's only connection to the interstate gas pipeline system is a gate station on TGP's Northampton Lateral, a dead-end branch off TGP's 200 Line (Exh. HGE-1, at 3-1, 3-4). When customer demand exceeds HG&E's firm pipeline capacity, HG&E must vaporize LNG from WHF to maintain service (Exh. HGE-1, at 3-1).

WHF stores up to 220,000 gallons of LNG, equivalent to approximately 16,000 dekatherms ("Dth") (Exh. EFSB-N-4). Tanker trucks are the only means of refilling WHF with LNG; WHF does not have equipment to liquefy pipeline gas (Exh. HGE-1, at 2-2). HG&E argued that WHF has limited LNG storage relative to the Company's design day forecast and cold-snap requirements (Exh. HGE-1, at 3-3, 3-7). At peak or near peak conditions, WHF can supplement the firm supply of pipeline gas for only about two days before requiring a truck delivery (Exh. HGE-1, at 31). During the coldest weather, HG&E must schedule multiple truck deliveries per day for consecutive days to maintain steady LNG inventory (Exhs. HGE-1, at 38; EFSB-N-19). HG&E's distribution system operates near capacity during peak conditions and in 2019, due to a lack of available incremental firm capacity from TGP and the inherent storage limitations of WHF, the Company adopted a moratorium on adding either new gas customers or incremental load (Exh. HGE-1, at 1-1, 3-2 n.1).

2. Planning Standards and Demand Forecast

The Company annually conducts a resource plan analysis that includes a design day forecast and cold snap analysis (Exh. HGE-1, at 3-1). The Company explained that the purpose of its resource plan is to identify its gas supply requirements and to provide a basis for securing necessary gas resources to maintain reliable service (Exh. HGE-1, at 3-1). As a municipal utility, HG&E does not submit forecast and supply plans to the Department of Public Utilities ("Department") for review and approval (Tr. 2, at 216).

HG&E created a "design day" forecast that modeled the Company's send-out requirements under reasonably foreseeable severe cold weather conditions (Exh. HGE-1, at 3-1). HG&E considers its design day forecast to be an important reliability standard for assessing its resource portfolio adequacy (Exh. HGE-1, at 3-1; HG&E Brief at 13). The gas in HG&E's system is used primarily for space-heating; gas consumption for space-heating correlates inversely to the outdoor temperature (Exhs. HGE-1, at 3-1, 3-2; EFSB-N-11). HG&E's design day is based on the lowest mean daily temperature recently observed (on February 14, 2016) in Holyoke (-3 degrees

Fahrenheit), which corresponds to 68 heating degree days ("HDD") (Exh. HGE-1, at 3-1; Tr. 1 at 49-50).[4]

To calculate gas demand on a "design day," the Company starts with its previous year's summer baseload gas use (i.e., non-heating gas demand), adds the space-heating gas demand associated with 68 HDD (i.e., the Company's selected "design day standard"), and then makes assumptions for a weather related contingency factor, reductions from energy efficiency programs, and service abandonment[5] (Exh. HGE-1, at 3-1; RR-EFSB-12). The Company provided design day forecasts for five consecutive years reflecting conditions with and without the moratorium (Exh. EFSB-N-3; RR-EFSB-13). The design day forecasts are summarized in Table 1, below. HG&E also confirmed its forecast is net of energy-efficiency reductions and interruptible customers (Exhs. HGE-1, at 3-3; EFSB-N-3; RR-EFSB-12).[6]

Table 1. 5-Year Design Day Forecast

Winter Season:	2023-24	2024-25	2025-26	2026-27	2027-28
Design Day Demand (Dth) (moratorium in-place)	20,034	20,017	19,998	19,977	19,952
Design Day Demand (Dth) (moratorium lifted)	20,134	20,217	20,298	20,377	20,495

Source: Exh. EFSB-N-3; RR-EFSB-13

The Company reported that its system peak daily gas consumption was 19,668 Dth on January 21, 2019 (Exh. HGE-1, at 3-2). Accordingly, with a firm pipeline capacity of 11,800 Dth daily, vaporized LNG accounted for approximately 40 percent of peak send-out on that day (Exh.

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4 An HDD value is the difference between a base temperature of 65 degrees Fahrenheit and the mean daily temperature for a given day (Exh. HGE-1, at 3-1).

5 HG&E explained that "service abandonment" means a customer ends its natural gas service; HG&E stated that it increased the number of assumed service abandonments for each year of its forecast to represent increasing adoption of heating sector electrification (Exhs. HGE-1, at 3-1; EFSB-N-3; RR-EFSB-12).

6 HG&E stated it has approximately 25 commercial and industrial customers enrolled in an interruptible service rate program; these customers are required to shift from using gas to a back-up heating system (using oil or propane) upon notification (Exh. EFSB-N-8; Tr. 1, at 50).

HGE-1, at 3-5). Based on the design day gas demand presented in Table 1 and HG&E's firm supply from TGP (11,800 Dth/day), HG&E would continue to serve more than 40 percent of design day gas demand with LNG from WHF through at least 2027-28 (see Table 1) (Exh. HGE-1, at 3-5). The Company contends that its actual system peak demand validates its design day standard as reasonable (Exh. HGE-1, at 3-2; HG&E Brief at 13).

3. Resource Portfolio

As noted above, the Company's gas supply portfolio consists of 11,800 Dth/day of firm capacity from TGP's Northampton Lateral and additional capacity, when necessary, from WHF (Exh. HGE-1, at 1-1, 3-4, 3-5). On the Company's peak day in 2023/2024, WHF supplied an additional 8,334 Dth/day of LNG (RR-EFSB-13). The Company explained that its customer demand frequently exceeds its firm pipeline capacity and that, on average, HG&E vaporizes stored LNG 42 days per heating season (Exh. HGE-1, at 1-1, 3-7).

The TGP Northampton Lateral is fully subscribed, and, therefore, the Company cannot purchase any incremental firm capacity from TGP (Exh. HGE-1, at 3-4; Tr. 2, at 196-200). HG&E has no expectation of new interstate pipeline capacity becoming available because doing so would require TGP to undertake expensive and impactful facility upgrades (see Section IV.B.6 – Pipeline Alternative), and HG&E is not aware that TGP has any plans to make upgrades (Exhs. HGE-1, at 3-4; EFSB-N-7; EFSB-N-14).[7]

HG&E stated that, although TGP has previously granted an emergency overtake,[8] TGP has limited ability to grant emergency overtakes and that the opportunity to do so depends on TGP's system-wide operations (Exh. HGE-1, at 3-8; Tr. 2 at 195-197). HG&E stated that approval of emergency overtake requests will remain unlikely because: (1) interstate pipeline capacity in

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[7] Recent proposed regional pipeline projects that could have supplied HG&E's territory, such as the TGP's Northeast Energy Direct project, have been cancelled, and HG&E has no expectation of any new interstate pipeline capacity becoming available to HG&E in the foreseeable future (Exh. HGE-1, at 3-4).

[8] An emergency overtake is an event in which a pipeline company allows a user, such as HG&E, to purchase gas beyond its capacity rights, for a single day (Tr. 2, at 195).

Massachusetts is constrained; and (2) other TGP customers (including gas distribution companies connected to the Northampton Lateral) typically require their full contracted capacity when HG&E most needs additional supply (Tr. 2, at 198, 200).

The Company has contracted rights for five LNG truck deliveries per day to WHF, which according to HG&E, is appropriate for the "nature of its operations" (Exh. HGE-1, at 3-5). The Company indicated that a typical LNG tanker truck carries about 10,000 gallons of LNG (equivalent to approximately 700 Dth) (Tr. 1, at 112). HG&E stated that historically it secured LNG truck deliveries from the Everett Marine Terminal[9] in Everett, Massachusetts (Exh. HGE-1, at 3-6). However, due to EMT's volatile prices and EMT's uncertain continued existence, HG&E has recently contracted for LNG deliveries from more distant terminals in Montreal, Canada, and Pennsylvania to secure competitive pricing (Exhs. HGE-1, at 3-6; EFSB-N-7; EFSB-N-12). The Company reported that, from 2013-2023, it required an average of 78 LNG trucks per heating season (Exh. EFSB-N-20).

The Company reported that it was in discussions with a new LNG supplier in Charlton, Massachusetts known as Northeast Energy Center ("NEC") (Tr. 1, at 55). The Company would like to contract with NEC to enhance reliability from a closer source (Tr. 1, at 55). However, the Company anticipates that the bulk of its LNG deliveries will continue to come from more distant sources (HG&E Brief at 11).

4. Assessment of Need

Given its supply requirements (see Table 1) and TGP's inability to offer additional firm capacity, the Company maintains that LNG will continue to be a critical element of its supply portfolio and that WHF's LNG capacity is undersized relative to the Company's peak send-out requirements (Exh. HGE-1, at 3-4, 3-7, 3-9; HG&E Brief at 16). The Company stated that, at design day or near-design day conditions, WHF can, in the absence of continued truck deliveries, supplement TGP for only about two days (Exh. HGE-1, at 3-5). Given HG&E's firm TGP

[9] The Everett Marine Terminal receives global deliveries of LNG and has historically been a major supplier of trucked LNG for Massachusetts and the rest of New England (Exh. HGE-1, at 3-6).

capacity of 11,800 Dth/day and assuming a full WHF inventory (16,000 Dth), the Company's 2023/2024 design day demand projection of 20,034 Dth (see Table 1, moratorium in-place) would require 8,234 Dth/day from WHF – just over half of WHF's maximum inventory (Exh. HGE-1, at 3-5; RR-EFSB-12, at 1; RR-EFSB-13). In this scenario, the Company would require approximately 10 LNG truck deliveries per design day to maintain WHF's LNG inventory (Exh. HGE-1, at 3-5).

In the event of a TGP pipeline interruption or curtailment for an entire design day, the Company observed that WHF could supply customer load for less than one day (Exh. HGE-1, at 3-7). HG&E stated that TGP has provided reliable service but noted that interstate gas infrastructure is subject to outside risks, e.g., the May 2021 Colonial Pipeline ransomware attack,[10] that could affect HG&E's supply (Exh. EFSB-N-2; HG&E Brief at 12, citing Exh. EFSB-N-5).

HG&E assessed its ability to meet system demand over an extended period of near-design day weather conditions, i.e., during a "cold snap" (Exh. HGE-1, at 3-3). The Company asserts that its actual system operation during the 2017-2018 ten-day cold snap demonstrates the challenges HG&E would face under similar conditions in the future (Exh. HGE-1, at 3-8). HG&E reported key operational data from this ten-day period, summarized in Table 2, below.

Table 2. Summary of HG&E's 2017-2018 Cold Snap Operating Conditions

Cold Snap	HDD	System Demand (Dth)	Starting LNG Inventory (Dth)	LNG Vaporized (Dth)	LNG Truck Deliveries	Ending LNG Inventory (Dth)	Emergency TGP Overtake (Dth)
Day 1	63.0	18,247	12,250	5,954	5	10,546	500
Day 2	60.5	17,620	10,546	5,330	5	9,446	500
Day 3	62.8	17,086	9,466	4,787	6	9,779	500
Day 4	64.3	18,683	9,779	6,252	4	6,926	500
Day 5	65.1	18,623	6,926	5,829	0	1,097	1000
Day 6	55.9	17,258	1,097	3,937	5	1,410	1000
Day 7	51.3	15,985	1,410	2,663	10	7,247	1000
Day 8	47.8	16,191	7,247	2,873	4	7,775	1000
Day 9	59.3	18,315	7,775	5,005	7	8,720	1000
Day 10	67.1	19,657	8,720	6,332	5	6,637	1000

Source: HGE-1, at 3-8.

[10] See: https://www.energy.gov/ceser/colonial-pipeline-cyber-incident.

HG&E submitted that maintaining reliable service during the 2017-2018 cold snap required "extraordinary measures," including extensive coordination with regional LNG suppliers and discretionary emergency overtakes from TGP (Exh. HGE-1, at 3-7, 3-9; HG&E Brief at 14). The 2017-2018 cold snap required HG&E to schedule multiple LNG deliveries per day amidst challenging regional weather patterns, including three days when HG&E exceeded its contracted amount of five deliveries per day and one day (Day 5) when HG&E did not receive any LNG deliveries due to weather-related transportation issues (Exh. HGE-1, at 3-7 – 3-8; Tr. 2 at 196).

The Company stated that, had TGP not granted emergency overtakes during the 2017-2018 cold snap, the Company would have proceeded to curtail customers in accordance with HG&E's Emergency Plan to ensure gas service for essential operations (e.g., hospitals, emergency responders) (Exhs. HGE-1, at 3-8; EFSB-N-6). HG&E stressed that curtailing customers during a cold snap could have dire consequences, including public health and safety hazards related to freezing conditions, the need to coordinate public warming shelters, and extensive property damage related to frozen water pipes (Exh. EFSB-N-6).

HG&E indicated that LNG truck deliveries during cold-snap conditions may be precarious due to hazardous road conditions and supplier constraints (Exh. HGE-1, at 3-7 to 3-8). The Company also stated that WHF's relatively small capacity necessitates as-needed LNG deliveries to restore inventory levels (Exh. EFSB-N-21).[11] Coordinating as-needed LNG deliveries is complicated because LNG suppliers endeavor to keep their drivers on the road as much as possible, not waiting for a call, and, therefore, are not easily available on short notice (Exh. EFSB-N-21).

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[11] In contrast, other gas distribution companies in Massachusetts operate LNG storage and vaporization facilities that have sufficient LNG inventory for an entire heating season and are filled by truck deliveries during the offseason (e.g., Boston Gas Company and Colonial Gas Company operate satellite LNG facilities with storage capacities as large as 12.6 million gallons). See Northeast Energy Center at 18.

5. Economic Considerations

HG&E submitted that its gas moratorium creates economic hardship and hinders economic development (Exhs. HGE-2, at 3; EFSB-PA-15(1) at 2; Tr. 2, at 225; RR-EFSB-14). The Company stated it could relax its moratorium and enable new customer connections only after completing the Project and the proposed non-jurisdictional, complementary facility upgrades (e.g., boiler system and redundant vaporizer) (Exh. HGE-1 at 3-9, 6-22; Tr. 2, at 202-204, 217-218).

HG&E maintains that the moratorium creates economic hardship for individuals replacing oil or propane heating systems because the alternative options (i.e., oil, propane, or electric-based systems) have higher total costs (installation and operation) over a 15-year period compared to gas systems (RR-EFSB-14; RR-EFSB-19.1(1) at 4). HG&E calculated the total heating system costs for ten different systems (for single-family residences) over a 15-year period. The costs appear in Table 3, below and are net of available incentives, either from the federal government or from HG&E (RR-EFSB-19). Table 3 summarizes the Company's analysis and displays the data for the lowest total cost system (among those analyzed) among each respective fuel source.

Table 3. Summary of 15-Year Total Heating System Costs

Heating System	Installation Cost	Heating cost over 15 years	Total 15-year Cost	Life expectancy (years)
Propane boiler	$5,500	$49,218	$54,718	26.5
Oil boiler	$5,690	$45,906	$51,596	23
Electric ductless mini-split heat pump (i.e., whole-home air source heat pumps ("ASHP") net of rebates[12])	$9,000	$16,043	$25,043	15.3
Natural gas furnace	$4,320	$19,974	$24,294	21.5

Source: RR-EFSB-19.1(1) at 4.

12 According to HG&E, the typical installation cost of a whole-home ASHP is $20,000 (RR-EFSB-19.1(1) at 2). HG&E reported that ASHPs for low-income households were eligible for an up to $8,000 rebate from the federal Inflation Reduction Act; in addition, HG&E offers up to a $3,000 incentive for residential ASHPs to all its customers (RR-EFSB-19.1(1) at 2). On July 4, 2025, H.R. 1, An Act to Provide for Reconciliation

HG&E further argued that the shorter "life expectancy" of an ASHP compared to a natural gas furnace could negate the ASHP's lower annual heating costs (RR-EFSB-19; RR-EFSB 19.1(1) at 5, 6). HG&E reported that (1) approximately 17 percent (or approximately 2,500) of residential structures in HG&E's service territory use oil or propane heating systems (Tr. 2, at 218). Between 2019 and 2023, the Company denied approximately 140 residential requests for natural gas service (Exh. HGE-1, App A, Part 1, at 4; Tr. 1, at 102). HG&E stated it provides individuals and businesses requesting a new service connection with information about ASHPs and related incentives (Tr. 1 at 93; Tr. 2, at 233). HG&E reported that only about three percent of individuals who inquired about gas service took advantage of the Company's ASHP incentives and that many individuals installed new propane or oil heating systems instead (Exhs. EFSB-N-10; EFSB-N-24).[13] The Company believes the higher installation costs of ASHPs are a deterrent (Exh. EFSB-N-24). HG&E reported that customers and elected officials have expressed concern about a lack of affordable heating options (Exh. EFSB-G-4).

The Company maintains that the moratorium has hindered economic growth because: (1) alternative heating sources, including ASHPs, are less affordable for commercial and industrial businesses than natural gas; and (2) many industrial operations directly require gas for manufacturing (Tr. 1, at 60-61, 82). HG&E stated it has denied approximately 45 new service requests from potential business customers since instituting its moratorium and further stated that general awareness of the moratorium likely dissuades developers from even inquiring about service (Tr. 1, at 102-103).

The Company reported that Holyoke city officials also view the moratorium as an impediment to economic growth and that in January of 2022, the Holyoke City Council directed HG&E to "take all necessary steps to end the gas moratorium" (Exhs. HGE-1, at 1-5; HGE-1,

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Pursuant to Title II of H. Con. Res. 14, Public Law 119-21 was signed into law that ended the Inflation Reduction Act's federal tax credit provisions (30 percent tax credit, up to $2,000 per year) for residential ASHPs, placed in service after December 31, 2025. This decision does not attempt to determine the extent of such potential ASHP benefits.

[13] The Company also noted that a customer decision to use oil or propane would entail higher emissions than use of natural gas (Exh. HGE-1, at 4-9, 6-22)

App. A, Part 2, at 70, 145-146).[14] HG&E indicated that, to strike a balance among climate objectives (its own and the Commonwealth's), affordable heating options, and economic growth, HG&E would endeavor to relax but not terminate its moratorium on new gas connections (Tr. 2, at 217-218). The Company stated that if it relaxed its moratorium, it would, before granting a new service request, assess non-gas alternatives for each such request and only permit a new gas connection if there were no cost-effective gas alternatives (Tr. 2, at 217-218).

C. Analysis and Findings on Need

The record evidence establishes that LNG is a critical resource for HG&E to reliably serve its 11,500 customers. During HG&E's heating season, customer demand frequently exceeds the Company's firm pipeline capacity, necessitating that HG&E supplement with vaporized LNG; HG&E supplements its firm pipeline supply with vaporized LNG 42 days per year, on average. The Company cannot secure incremental firm pipeline capacity because TGP's Northampton Lateral is fully subscribed. The record supports HG&E's view that TGP is unlikely to increase capacity on the Northampton Lateral in the foreseeable future and that emergency overtakes are not a reliable source of incremental pipeline capacity; TGP's approval of emergency overtakes is discretionary and unused pipeline capacity is least likely to be available precisely when HG&E is most likely to need additional supplies, i.e., during prolonged cold weather.

HG&E's WHF does not have liquefaction capabilities and, during the heating season and especially during colder weather, HG&E must repeatedly refill WHF tanks with LNG delivered by trucks. Due to a lack of any available incremental firm pipeline capacity and WHF's limited onsite LNG storage, the Company operates its gas distribution system at or near capacity. In 2019, HG&E self-imposed a moratorium on adding either new gas customers or incremental load.

The Company's design day forecast for the 2025/2026 heating season (i.e., 19,996 Dth) narrowly exceeds the Company's 2019 actual record peak-day send-out of 19,668 Dth. HG&E's

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[14] On October 4, 2022, the Holyoke City Council adopted a resolution supporting the Project; the resolution also stated, "HG&E will evaluate each application [for gas service] in order to ensure there is not a feasible, cost comparable alternate solution that better positions HG&E to meet the State's clean energy goals" (Exh. HGE-1, App. A, Part 2, at 146).

design day forecast is based on locally observed weather conditions that yield a design day with 68 HDD. The Company's design day demand forecast is net of the Company's energy efficiency programs and interruptible customers and includes assumptions for increasing adoption of heating sector electrification. The forecast's deviation of only 1.7 percent above the Company's actual record peak day send-out indicates that HG&E's design day forecast is realistic.

The Siting Board accepts the numbers in HG&E's Demand Projections (Table 1) as fair and accurate. If the moratorium remains in place, HG&E expects a 0.4 percent decrease in design day demand from the 2023-2024 through the 2027-2028 heating seasons, and, if the moratorium is relaxed, HG&E expects 1.8 percent growth over the same period (Table 1). In either case, the Siting Board concurs that HG&E's firm pipeline deliveries will continue to fall well short of the Company's send-out requirements, leaving HG&E reliant on WHF for the foreseeable future.

HG&E is particularly exposed to reliability issues during prolonged periods of intense cold, when the Company must secure multiple LNG trucks per day for consecutive days to maintain adequate LNG inventory at WHF. Under the assumption that WHF starts with a full inventory, WHF has capacity to support only approximately two design or near-design days before requiring LNG truck deliveries.

The record shows that a sufficiently prolonged gap in truck delivery during high periods of use, as exemplified during the 2017-2018 cold snap, would deplete WHF's LNG inventory. Such depletion would result in service curtailment and related consequences (e.g., extensive property damage because of frozen pipes). As shown on Table 2, during the 2017-2018 cold snap, HG&E avoided such depletion by securing emergency overtakes from TGP each day of the cold snap and, on several days of the cold snap, by securing more LNG truck deliveries than HG&E's contractual rights. On Days 6 and 7, HG&E vaporized more than double the volume of LNG it started each day with, indicating that each truck delivery on Day 6 and 7 was essential for maintaining service. Given these circumstances, it appears that an interruption of truck deliveries on Days 6 or 7 – or a denied emergency overtake from TGP – would have triggered service curtailments. This thin margin illustrates that the current system is not sufficiently reliable.

Coordinating and securing multiple LNG deliveries per day is possible, as shown by the Company's track record, but this undertaking presents multiple opportunities for logistical failures

(e.g., short notice scheduling, weather-related delays or cancellations). As evidenced by the Company's experience on Day 5 of the 2017-2018 cold snap, the prospect of weather-related interruptions to critical LNG deliveries is not speculative. The risk of weather-related transportation issues is compounded by the considerable distance from WHF to HG&E's LNG suppliers in Pennsylvania and Canada. Contracting LNG deliveries with the NEC facility in Charlton would reduce the travel distance to WHF; nevertheless, NEC's location does not eliminate WHF's fundamental shortcoming of insufficient onsite LNG capacity relative to the Company's demand projections and recently observed cold-snap effects.

Regarding economic considerations of the Company's gas moratorium, the record shows that HG&E denied at least 140 residential service requests and 45 commercial requests from 2019 to 2023. Of those requests, HG&E gained only about four new residential customers who opted for electrification. The record shows that many customers who, due to affordability, otherwise would have chosen natural gas heat, had it been available to them, instead chose propane or oil heating. The record does not indicate that customers would have chosen natural gas over electrification if the moratorium was paired with more robust incentives that would attract new customers and increase electrification in its service territory.

To date, the Company has seen only modest uptake in ASHPs for individuals requesting new gas service connections, with only about three percent of these gas service requests ultimately engaging HG&E's ASHP incentives. The relatively low utilization of HG&E's ASHP incentives implies that they fail to meaningfully steer many Holyoke residents away from opting to install a new oil or propane heating system under the gas moratorium. While installation costs for oil or propane heating systems are comparable to a natural gas system, oil or propane heating systems have significantly higher fuel costs as well as higher air emissions than natural gas systems, and even higher fuel costs and air emissions than ASHPs. (see Table 3). Accordingly, the Siting Board finds that without more robust incentives to offset installation costs of ASHPs, the moratorium may have adverse economic impact on Holyoke residents installing new heating systems and may also deter commercial development.

For the above reasons, the Siting Board finds that additional measures, including potentially enhanced incentive offerings, are needed for HG&E to address its overreliance on LNG

truck deliveries and to maintain a reliable supply of, or reduce demand for, gas in its service territory.

IV. PROJECT ALTERNATIVES

A. Standard of Review

G.L. c. 164, § 69J requires a project proponent to present alternatives to the proposed facility. Such alternatives may include: (1) other methods of transmitting or storing energy; (2) other sources of electrical power or gas; and (3) a reduction of demand through load management. Northeast Energy Center at 40; Lowell-Tewksbury at 19; Colonial Gas (2016) at 11.[15] In implementing its statutory mandate, the Siting Board requires an applicant to show that, on balance, its proposed project is superior to alternative approaches in terms of cost, environmental impact, and ability to meet the identified need. Northeast Energy Center at 40; Lowell-Tewksbury at 19; Colonial Gas (2016) at 11. In addition, the Siting Board requires a petitioner to consider reliability of supply as part of its showing that the proposed project is superior to alternative project approaches. Northeast Energy Center at 40; Lowell-Tewksbury at 19; Colonial Gas (2016) at 11.

B. Company Analysis of Alternative Approaches to Meet Need

The Company considered a range of alternatives for providing additional energy resources (Exh. HGE-1, at 4-1). The Company first considered the feasibility of whether an alternative could meet the need, then compared the feasible alternatives on the bases of reliability, environmental impact, and cost (Exh. HGE-1, at 4-1). The Company's analysis of these alternatives, compared to the Project (described above at pp.1-2), is outlined below.[16]

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[15] G.L. c. 164, § 69J also requires an applicant to present "other site locations." This requirement is discussed in Section V, below.

[16] Under a no-build alternative, the Company would neither make any improvements to WHF nor add any energy resources to its supply portfolio (Exh. HGE-1, at 4-1). The Company rejected the no-build alternative because it would not address the reliability need (Exh. HGE-1, at 4-1).

1. Demand Side Alternatives

HG&E recognized that reducing its peak-day demand would lessen its peak-day send-out from WHF and, in turn, reduce the Company's reliance on LNG truck deliveries during extended cold weather (Exh. HGE-1, at 4-6).

a. Energy Efficiency and Demand Response Programs

HG&E stated it maintains "competitive" incentives for energy efficiency (e.g., energy audits and weatherization, appliance rebates, programmable thermostats) (Exh. HGE-1, at 4-6).[17] HG&E indicated that it evaluated energy efficiency on an equal basis with available supply and facility options and noted that the Company routinely reviews its incentives to balance customer savings, climate policy objectives, and cost (i.e., impact to the Company's distribution rates) (Exhs. HGE-1, at 4-6; EFSB-N-25).

The Company stated that its energy efficiency programs provide minimal daily load reductions (Exh. HGE-1, at 4-6). HG&E estimated that over recent years, its energy efficiency programs yielded only 10-20 Dth of peak-day load reduction – less than one percent of peak-day LNG send-out (Exh. HGE-1, at 4-6). HG&E concluded that expanding its energy efficiency programs cannot achieve sufficient demand reduction to meet the identified need (Exh. HGE-1, at 4-6).

HG&E also considered load reductions from demand response programs (Exh. HGE-1, at 4-6). HG&E stated it has approximately 25 commercial and industrial customers enrolled in its interruptible service rate program; these customers can shift from using gas to a back-up heating system (using oil or propane) upon notification (Exh. EFSB-N-8; Tr. 1 at 50). HG&E stated that

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[17] As a municipal utility, HG&E is not compelled by statute to participate in the MassSave energy efficiency program, and the Company offers its own efficiency incentives to its gas and electric customers (RR-EFSB-22, citing G.L. c. 25, § 19). HG&E indicated that it strives to be competitive with MassSave offerings, but its own program is "cost-conscious" to avoid putting any "undue burden" on its customer base (Tr. 2, at 250). HG&E's energy efficiency budget in 2024 was $1.55 million, or approximately 3.73 percent of its annual distribution revenues (RR-EFSB-20).

load reductions from interruptible customers are already reflected in the Company's design day forecast and records of historical peak demand (Exh. HGE-1, at 3-3).

HG&E stated that, based on its experience, other types of demand response programs are not currently able to reduce load at a scale comparable to the need (Exh. HGE-1, at 4-6). HG&E stated that, for example, its voluntary "Beat the Peak" demand response program, in which customers are notified of peak events and asked to reduce their thermostat, only has 15 customers enrolled (Exh. EFSB-N-8). HG&E reported that a demand response program in New York in 2018-19 found that 517 residential properties only saved, in aggregate, six Dth (Exh. EFSB-N-8). HG&E stated it will continue to monitor the development of demand response programs (e.g., utility-controlled thermostats) but maintains that demand response could not offer load reductions at a scale comparable to the identified need (Exh. HGE-1, at 4-6, 4-7; HG&E Brief at 25). Because neither energy efficiency nor demand response programs are feasible for meeting the need, HG&E did not analyze the reliability, environmental impacts, or costs of either approach (Exh. HGE-1, at 4-6, 4-7).

b. Accelerated Electrification

HG&E asserts that it is committed to achieving the Commonwealth's incremental carbon-reduction targets to be net-zero by 2050 and has considered whether it could significantly accelerate heating sector electrification as a demand-side alternative to the Project (Exh. HGE-1, at 4-7; HGE-1, App. G at 1, 4; Tr. 2, at 285). The Company stated it is initially focusing on electrifying those residential structures that now have oil or propane heating systems, which are more costly for customers to operate and which emit greater levels of pollutants and greenhouse gases compared to natural gas heating systems (Exh. HGE-1, at 4-7; Tr. 2 at 285).[18] The Company stated that its principal means of encouraging customer adoption are financial incentives and customer education and that both approaches ultimately rely on individual gas customers choosing

[18] HG&E indicated that residential heating electrification is a strategic starting point because single-family residential structures are typically less expensive for switching to ASHPs compared to multi-family structures or commercial/industrial buildings (Exh. EFSB-N-28; RR-EFSB-19.1(1) at 4; Tr. 1, at 60-61, 106-107).

to adopt electric heating technologies (Tr. 1, at 106; Tr. 2, at 223-225; RR-EFSB-1; RR-EFSB-1(1) at 16; RR-EFSB-5; RR-EFSB-21).

The Company stated that, under its existing incentives,[19] approximately 163 customers used Company-sponsored incentives for ASHPs from 2019 to 2023 – a rate of approximately 40 customers per year (Exhs. EFSB-N-25; EFSB-PA-16). HG&E stated that it considers 250-400 gas-to-ASHP conversions per year a high adoption rate, which, over 20 years, would result in peak day reduction of approximately 5,000-8,000 Dth (Exh. RR-EFSB-5). HG&E indicated that a single-family residence uses one Dth on a peak day (Exh. RR-EFSB-5). The Company further stated that an average of 490 ASHP conversions per year is required to achieve 100 percent residential heating electrification by 2050 (Exh. RR-EFSB-21(1) at 1).

ASHPs typically have higher up-front installation costs net of incentives compared to gas, oil, or propane heating systems (as of 2023) (see Table 3), and the Company argues that the higher installation cost deters customer adoption of ASHPs (Exh. EFSB-N-24; Tr. 2, at 231; RR-EFSB-19; RR-EFSB-19.1(1) at 5, 6). Based on HG&E's gas and electricity rates, ASHPs have slightly lower fuel costs compared to gas, but ASHPs' shorter equipment lifespan typically necessitates that customers reinvest in installation costs sooner compared to natural gas systems (RR-EFSB-19; RR-EFSB-19.1(1) at 5, 6). HG&E also noted that multi-unit structures and commercial/industrial buildings can be significantly more expensive to convert to electric heating compared to a single-family residence; the Company cited one example of retrofitting a 3-unit residential structure with ASHPs costing approximately $100,000 (Exh. EFSB-N-23; Tr. 1, 106-107).

HG&E acknowledged that increasing its financial incentives would accelerate customer adoption but did not estimate the specific incentive levels that could achieve 490 gas-to-ASHP conversions per year (RR-EFSB-21; Tr. 2, at 258). Nevertheless, the Company noted that

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[19] HG&E stated its ASHP-related financial incentives include (1) up to $3,000 in rebates for a whole-home ASHP; (2) up to $3,000 for home weatherization; (3) on-bill, zero percent interest financing up to $10,000 (paid back over 60 months); and (4) (as of December 2023) an additional up to $8,000 ASHP rebate that the federal Inflation Reduction Act offered low-income residents (Exhs. HGE-1, App. G at 7; EFSB-N-29; RR-EFSB-19.1(1) at 4).

increasing its ASHP incentives would necessarily increase the Company's revenue requirement (since the money for those incentives would come from the Company) and would in turn raise distribution rates for all its customers (RR-EFSB-21; Tr. 2, at 258). HG&E explained that in accordance with its mission of providing competitive rates, it must balance and justify the cost of any incentive program with its potential effect on customer rates (Exh. HGE-1, at 1-8, 3-10).

MassSave offers greater ASHP rebates (e.g., up to a $10,000 rebate for all customers and up to $16,000 rebate for qualifying low-income customers) compared to HG&E (up to $3,000 rebate for all customers) (Exh. EFSB-N-29; RR-EFSB-21). HG&E estimated that matching MassSave rebate levels and achieving 490 ASHP conversions per year would require HG&E to increase its electric distribution revenue requirement by approximately 63 percent (RR-EFSB-21). HG&E did not comment on whether it believed matching MassSave incentive levels would induce 490 ASHP conversions per year (RR-EFSB-21).

Finally, the Company stated that heating sector electrification will require costly upgrades to its electric distribution system to accommodate increased electric load (Exh. HGE-1, at 4-7). The Company estimated that electric distribution system upgrades required for full heating and transportation electrification will cost at least $150 million (in 2022 dollars) (Exh. HGE-1, at 4-7, App. H at 1-2). HG&E stressed the importance of completing these upgrades in an orderly manner and spreading costs over a longer period (e.g., 15 to 20 years) (Exh. EFSB-N-29). The Company argued that, since the identified need is immediate, accelerated electrification would trigger unsustainable increases to the Company's revenue requirement (Exh. EFSB-N-29).

HG&E stated that accelerated electrification would not offer a timely or cost-effective approach to enable HG&E to continue to provide safe and reliable service to its existing natural gas customers. Therefore, the Company did not consider this alternative further (Exh. HGE-1, at 4-8).

2. Compressed Natural Gas Alternative or Propane-Air Alternative

The Company considered whether it could use supplemental fuels – compressed natural gas ("CNG") or propane-air – as alternatives (Exh. HGE-1, at 4-5). HG&E noted that both CNG and propane-air involve transporting the fuel via tanker trucks (Exh. HGE-1, at 4-5). CNG trucks have

a maximum capacity of about 400 Dth and dispatch CNG through truck-mounted, pressure-regulating equipment directly into the distribution system; a CNG truck must be onsite for the entire duration it dispatches CNG (Exh. HGE-1, at 4-5). Liquid propane is unloaded into a storage tank[20] but must be blended with air to reduce its heat content as it is vaporized into the distribution system (Exh. HGE-1, at 4-5). HG&E concluded that neither CNG nor propane-air would mitigate the Company's reliance on tanker trucks' delivering supplemental fuels during cold weather events and, therefore, would not meet the reliability need (Exh. HGE-1, at 4-5). Because neither CNG nor propane-air could reliably meet the need, the Company did not analyze the reliability, environmental impacts, or costs of using either (Exh. HGE-1, at 4-6).

3. Enhanced Interconnection with Neighboring Utility Natural Gas Distribution Systems

HG&E considered enhancing its distribution system interconnections with neighboring utilities (Exh. HGE-1, at 4-4). Such interconnections could permit gas flow between utilities, subject to negotiated terms, during emergency events or planned maintenance activities (Exh. HGE-1, at 4-4). The Company stated that, at its existing interconnections, HG&E's operating pressure is higher than the neighboring system; therefore, HG&E would need to lower its operating pressure to receive any gas (Exh. HGE-1, at 4-4 to 4-5). HG&E stated that lowering pressure when demand is high would compromise its pressure-regulating stations and limit gas supply to customers, negating any benefit that it might secure by enhanced interconnections (Exh. HGE-1, at 4-5). Therefore, HG&E rejected the enhanced interconnection alternative as infeasible and did not analyze its reliability, environmental impacts, or costs (Exh. HGE-1, at 4-5).

[20] HG&E noted that only a limited amount of propane-air can be blended with natural gas due to safety concerns and the risk of damaging appliances (Exh. HGE-1, at 4-5). HG&E previously operated a propane-air system at WHF but decommissioned that system in 2005 due to fuel interchangeability concerns (Exh. HGE-1, at 4-5).

4. Alternative LNG Facility – Apremont Highway

HG&E stated that a new, standalone LNG facility with onsite storage capacity for an entire heating season could also meet the identified need (Exh. HGE-1, at 4-2).[21] The Company indicated that such a facility would involve a single, field-erected 1.7-million-gallon LNG storage tank, operating equipment (e.g., truck unloading, vaporizer, metering, distribution system interconnection), and access roads (Exh. HGE-1, at 4-2). HG&E stated that trucks would deliver LNG to such a storage tank only during the non-heating season and not during winter months (Exh. EFSB-N-33). HG&E would retire the WHF once the new facility was operational (Exh. HGE-1, at 4-2).

HG&E stated that the minimum area for the alternative LNG facility described above is ten acres (Exh. HGE-1 at 4-2). HG&E identified a site located east of Apremont Highway and north of Route 202 in southwest Holyoke; the Apremont Alternative site is an approximately 550-acre parcel[22] controlled by the City of Holyoke (Exh. HGE-1 at 4-2, 5-4). The Apremont Alternative site is largely undeveloped and heavily forested and has sufficient area for a new LNG facility to comply with applicable LNG siting regulations, codes, and standards (Exh. HGE-1 at 5-4).

HG&E stated that site preparation would involve tree clearing, grading, bedrock removal, and installation of access roads and utilities (e.g., gas, electric, water) (Exh. HGE-1, at 4-10, 5-4). The Apremont Alternative site contains wetlands, a perennial stream, and potential habitat suitable for federal and state-listed rare bat species (Exh. HGE-1, at 5-4). According to the Company, the Apremont Alternative site would require significant natural resource surveys and permitting; construction would likely be subject to time-of-year restrictions (Exh. HGE-1, at 5-4).

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21 The Company also evaluated a second site for incremental LNG storage on Whiting Farms Road (Exh. HGE-1, at 4-2). The proposed design and engineering characteristics for this site (i.e., adding a single, 70,000-gallon LNG storage tank) are similar to that of the Project, and, therefore, this site is not treated as distinct approach to meeting the identified need (Whiting Farms Road is, however, treated as distinct in Site Selection (see Section V.B.2)). In contrast, the proposed strategy for the Apremont Alternative site offers a distinct approach for meeting the identified need (i.e., 1.7-million-gallon storage tank that eliminates heating-season trucking and retires WHF).

22 The Company stated that it would subdivide a 25-acre site from the current 550-acre parcel to provide sufficient area for the Apremont Alternative (Exh. HGE-1, at 5-4).

HG&E estimated the capital cost of the Apremont Alternative to be $70.1 million; because the Apremont Alternative would be a more complex facility, it would have incremental annual operating costs of approximately $784,000 compared to an incremental increase of $40,000 for the Project at WHF (Exh. HGE-1, Fig. 5-2, Fig. 5-3).

5. Pipeline Alternative – Northampton Lateral Loop

HG&E stated that increasing the delivery capacity of TGP's Northampton Lateral could meet the need (Exh. HGE-1, at 4-4).[23] HG&E stated this pipeline alternative – the Northampton Loop – would involve TGP's installing a new 1.7-mile "loop" segment of high-pressure pipeline along the Northampton Lateral (Exh. HGE-1, at 4-4). The Northampton Loop would be approximately parallel to and east of North Longyard Road and Pontoosic Road (i.e., two adjacent segments of the same road) in Southwick and Westfield, Massachusetts, starting approximately 0.2 miles north of Route 57 (Exh. HGE-1, Fig. 4-7).

HG&E stated the Northampton Loop would require easements on at least 24 properties for a 100-foot-wide temporary work area and an approximately 50-foot-wide permanent right-of-way (Exh. HGE-1, at 4-10). HG&E assessed that the Northampton Loop would involve: (1) approximately ten acres of permanent land alteration, including conversion of forested land, for the right-of-way; (2) working near residences; (3) crossing wetlands; and (4) blasting or hammering to remove shallow bedrock (Exh. HGE-1, at 4-10, 4-11).

HG&E stated that, with the Northampton Loop, the Company could increase its firm pipeline capacity, reducing the need for LNG deliveries during cold snaps (Exhs. HGE-1, at 4-9; EFSB-PA-12). HG&E stated it would continue to operate WHF along with the Northampton Loop because the Northampton Loop would still represent a single failure point for the Company's distribution system (Exhs. HGE-1, at 4-9; EFSB-PA-12). HG&E stated that overall operating costs for the Northampton Loop would be comparable to existing conditions at WHF (Exh. HGE-1, at 4-9). HG&E stated that construction of the Northampton Loop would cost at least $70 million (Exh. HGE-1, at 4-9).

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[23] The Northampton Lateral currently operates at capacity (see Section III.B.1) and cannot provide additional supply without an expansion of the TGP system (Exh. HGE-1, at 4-4).

C. Company Comparison of Alternatives

HG&E stated that the Project, the Apremont Alternative, and the Northampton Loop alternative could all meet the identified need (Exh. HGE-1, at 4-8). Therefore, the Company compared the Project and two alternatives on the basis of environmental impacts, cost, and reliability (Exh. HGE-1, at 4-8 to 4-11). The Company stated it did not anticipate that the Project would have substantial environmental impacts and reiterated that the WHF site does not contain any wetland resources, rare species habitat, or cultural resources (Exh. HGE-1, at 4-10). HG&E stated that, once constructed, the Project would have minimal impact during operations (e.g., noise, air, or visual impacts), and, because of established vegetation buffers between WHF and abutting properties, the Company stated it did not expect the Project to impact the WHF neighbors (Exh. HGE-1, at 4-10). In contrast, the Apremont Alternative and Northampton Loop alternatives would each require approximately ten acres of permanent land alteration (entailing tree clearing, grading, and rock removal) and would result in direct natural resource impacts and significant disruption to neighbors (Exh. HGE-1, at 4-10 to 4-11).

The Company stated that the Project and two alternatives are comparable with respect to reliability because each approach would meet the identified need of reducing reliance on LNG tanker truck deliveries and providing incremental operational flexibility during cold snap periods (Exh. HGE-1, at 4-9). HG&E stated the Project would cost $7.8 million (including the related, non-jurisdictional facility improvements), whereas preliminary cost estimates for Apremont Alternative and Northampton Loop are each at least $70 million (Exh. HGE-1, at 4-8 to 4-9). HG&E concluded that the Project would have significantly lower environmental impacts and financial costs compared to the Apremont Alternative and Northampton Loop alternatives, without compromising reliability (Exh. HGE-1, at 4-11).

D. Analysis and Findings on Project Alternatives

The Company's assessment of alternative approaches to the proposed Project included supply- and demand-side alternatives. Regarding demand-side alternatives, the evidence shows that: (1) load reductions from interruptible customers are already reflected in the Company's

demand forecast; and (2) neither energy efficiency nor demand response provide peak-day load reductions on a scale comparable to the Project need. HG&E endeavors to offer beneficial and cost-effective energy-efficiency incentives; however, the Company's existing incentives have failed to reduce peak-day demand by more than about one percent of peak-day LNG send-out. The record shows a similarly limited potential for demand response programs (e.g., a recent demand response pilot program by HG&E enrolled only 15 participants). Therefore, the Siting Board agrees that it is impractical to expect that expanding energy efficiency or demand response programs could in the short-term significantly reduce the need for LNG truck deliveries during cold snaps.

Given that the Company will need to electrify essentially its entire heating sector to reach net-zero carbon emissions by 2050, HG&E considered accelerated electrification as a demand-side alternative to the Project. HG&E's promotion of Company-sponsored incentives and other incentives (e.g., federal tax incentives) are HG&E's main ways of encouraging customer adoption of electric heating technologies. The record shows that HG&E's ASHP incentives (as of 2023) have attracted only about 40 customers per year (2019-2023) compared to the estimated 490 gas-to-ASHP conversions per year required to electrify HG&E's heating sector by 2050. A single-family residence uses about one Dth of gas on a peak day; therefore, obviating even a single LNG truck delivery (approximately 700 Dth) during a cold snap requires hundreds of residential[24] gas-to-electric heating source conversions. The Siting Board expects HG&E to continue its demand response efforts.

The record shows that if HG&E more than tripled its ASHP incentive (to match MassSave) and were able to achieve 490 gas-to-ASHP conversions per year, the Company's electric distribution revenue requirement would increase by nearly two-thirds. In addition, HG&E expects that electrification levels necessary for net-zero would trigger costly upgrades to the Company's electric distribution system (estimated at $150 million). In consideration of the above, the Siting Board finds that accelerated electrification is not a feasible alternative to the Project for solving the

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[24] The record indicates that, while a multi-family, commercial, or industrial structure may use more gas on a peak day, those structures are more complex and costly to convert to electric heating sources than are single-family residences.

short-term need of reducing the Company's reliance on LNG tanker truck deliveries during cold snaps, and easing the current moratorium on new gas service due to peak supply constraints. Nonetheless, the Siting Board expects the Company will endeavor to improve its energy efficiency offerings, including electrification, consistent with state policy.

The Siting Board also notes that the gas moratorium has presented HG&E with a significant incentive to electrify as any new customers since 2019 have been those opting for electric service. Additionally, expanded electrification could have avoided the vulnerabilities presented by reliance on LNG truck deliveries. The Siting Board is expecting HG&E to further enhance its electrification incentives in order to reduce its peak-day gas demand by a margin much greater than one percent of the Project's peak-day LNG send-out.

The record shows that CNG and liquid propane have operational drawbacks compared to LNG. CNG requires a delivery truck to be onsite for the entire duration CNG is dispatched. Blending propane with air and natural gas may present safety risks. Both alternatives rely on truck deliveries and therefore would not mitigate the Company's reliance on fuel truck deliveries during cold weather events. The evidence shows that enhancing HG&E's distribution interconnections with adjacent gas distribution systems is not a feasible way of securing additional capacity during high-demand periods because the Company's system typically operates at higher pressures than neighboring utilities. Therefore, neither CNG, propane-air, nor distribution alternatives can reliably meet the identified need.

The Project, the Apremont Alternative, and the Northampton Loop Alternative could each reliably meet the identified need and allow the Company to relax its moratorium. The Apremont Alternative has a reliability advantage compared to the Project: a single, 1.7-million-gallon storage tank would not require any truck deliveries during the heating season. However, the Apremont Alternative and Northampton Loop alternatives would each involve approximately ten acres of permanent land alteration and direct natural resource impacts, and both alternatives have preliminary cost estimates of $70 million. The record shows that the Project would have minimal natural resource impacts, no land-use alterations, and an estimated cost of $7.8 million.

The Siting Board acknowledges that if the Company relaxes its moratorium and adds new gas customers – thereby increasing the Company's design day demand – the additional load could

immediately erode the Project's reliability benefit of storing additional LNG onsite for its existing gas customers. The Siting Board notes the Company's design day demand forecast in 2027-28 anticipates adding 361 Dth of new customer load compared to 2023-24 (see Section III.B.2). The 361 Dth of new customer load represents approximately 7.2 percent of the Project's capacity (5,000 Dth). Because a single LNG tanker delivers approximately 700 Dth (see Section III.B.3 citing Tr. 1, at 112), adding 361 Dth of new customer load would still allow the Company to reduce its reliance on LNG tanker deliveries during a cold snap compared to existing conditions. However, the Siting Board cautions HG&E that new customer additions beyond its forecasted amount will erode the Project's primary objective to improve reliability for its existing gas customers.[25]

The Siting Board finds that, on balance, the Project is superior to the other alternatives identified with respect to meeting the identified need and providing a reliable energy supply for the Commonwealth with minimum impact on the environment at the lowest possible cost.

V. SITE SELECTION

A. Standard of Review

Section 69J requires the Siting Board to review alternatives to planned projects, including "other site locations." In implementing this statutory mandate, the Siting Board requires a petitioner to demonstrate that it has considered a reasonable range of practical siting alternatives, while seeking to minimize cost and environmental impacts and ensuring a reliable energy supply. Northeast Energy Center at 47-48; Lowell-Tewksbury at 31; Colonial Gas (2016) at 20. See also Town of Sudbury v. EFSB, 487 Mass. 737, 754-755 (2021); Town of Winchester v. EFSB, 98 Mass.App.Ct. 1101 (2020) (unpublished decision). To do so, a petitioner must satisfy a two-pronged test: (1) the petitioner must first establish that it developed and applied a reasonable set of criteria for identifying and evaluating alternative sites in a manner that ensures that it has not

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[25] Although heating sector electrification appears to be an infeasible project alternative for meeting the immediate identified need, the Siting Board expects HG&E to vigorously pursue and enhance its ongoing efforts to promote heating sector electrification and avoid future reliability issues its gas customers currently face.

overlooked or eliminated any sites that, on balance, are clearly superior to the proposed site; and (2) the petitioner must, unless it has good reason otherwise, establish that it identified at least two noticed sites with geographic diversity. Northeast Energy Center at 48; Lowell-Tewksbury at 31; Colonial Gas (2016) at 20-21. But see Lowell-Tewksbury at 31; Colonial Gas (2016) at 21, where the Siting Board found the company's decision not to notice an alternative site to be reasonable.

B. The Company's Site Selection Process

1. Study Area, Screening Criteria, and Candidate Sites

HG&E started its site selection process by identifying a study area within which the Company could locate potentially suitable sites (Exh. HGE-1, at 5-2). HG&E's study area was its service area, with a preference for Holyoke, to identify sites that could readily interconnect to the Company's high-pressure gas distribution system (Exh. HGE-1, at 5-2). HG&E stated it applied screening criteria[26] to potential sites (Exh. HGE-1, at 5-2). The Company identified potential sites by reviewing municipal maps, consulting with the Holyoke Office of Planning and Economic Development, and performing site reconnaissance (Exh. HGE-1, at 5-3). The Company noted it incorporated the "in-depth" knowledge of Project team members who are experienced with HG&E operations, and of long-time Holyoke residents (Exh. HGE-1, at 5-3). In total, HG&E identified three potentially suitable sites: WHF, a site referred to as "Whiting Farms Road," and the Apremont Alternative site[27] (described in Section IV.B.5) (Exh. HGE-1, at 5-3).

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[26] The Company's screening criteria included the following: at least ten acres; owned/controlled by the City of Holyoke (or a known, relatively low acquisition cost); proximity to HG&E's high-pressure gas distribution system; site and surrounding area land use; access to major roads and highways; and key stakeholder input (e.g., Holyoke Fire Department) (Exh. HGE-1, at 5-2, 5-3).

[27] The Siting Board analyzed – and rejected – the Apremont Alternative in Section IV.D, above, on the basis of that alternative having higher environmental impacts and costs compared to the Project. The Apremont Alternative site also ranked lowest in the Company's suitability criteria and in the required "alternative sites evaluation matrices" (Exh. HGE-1, Figs. 5-1 through 5-4). Therefore, we do not consider further the Apremont Alternative in this decision.

2. Candidate Sites – WHF and Whiting Farms Road

HG&E stated that WHF was an obvious site for the Project due to its existing use as an LNG facility and interconnection with the Northampton Lateral (Exh. HGE-1, at 5-2). The Company determined that WHF had sufficient space within its 4.5-acre developed area for the Project and that, with the Project, WHF will continue to meet all applicable LNG siting and operational codes (Exh. HGE-1, at 5-3, 5-12, 6-19). Finally, HG&E stated it has (1) existing positive relationships with the surrounding community; (2) appropriate vehicle access; and (3) familiarity with the Holyoke Fire Department and other first responders (Exh. HGE-1, at 5-3).

HG&E stated that the Whiting Farms Road site consists of two parcels with a combined area of 10.98 acres[28] that are located off Whiting Farms Road in southeast Holyoke and are owned by the Holyoke Economic Development and Industrial Corporation (Exh. HGE-1, at 5-4). The Whiting Farms Road site is heavily wooded; the site is north of a commercial development and south of a residential area designated as an Environmental Justice community (Exh. HGE-1, at 5-4). Given the undeveloped nature of the site, the Company stated it would require more involved environmental review and permitting (Exh. HGE-1, at 5-4). HG&E stated that if it used Whiting Farms Road to construct the additional storage tank, the Company would continue to operate WHF (Exh. HGE-1, at 4-2). The Company stated a facility at Whiting Farms Road comparable to the Project would involve a single, 70,000-gallon LNG storage tank plus all the elements of a new LNG facility (e.g., truck unloading station, process piping, LNG vaporizer, and gas distribution interconnection) (Exh. HGE-1, at 5-3).

a. Comparative Suitability and Reliability Analysis

HG&E conducted a comparative suitability analysis that included 18 criteria for which each potential site was deemed "highly suitable," "suitable," "marginally-suitable," or "not suitable" (Exh. HGE-1, at 5-6, Fig. 5-1). The Company's suitability criteria included factors related to environmental and community impacts and constructability (Exhs. HGE-1, at 5-6;

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[28] HG&E stated that 10.98 acres is sufficient area to comply with the requirements of all applicable LNG siting and operational codes and standards for a "smaller" shop-fabricated tank facility (Exh. HGE-1, at 5-4)

EFSB-RS-5). The Company's suitability criteria were as follows: flood plain (100 year), flood plain (500 year), existing site and adjacent land use, driveway access road constructability, wetlands, subsurface conditions, maximum commercial lot site, archaeological considerations, site grading, highway access/traffic, utilities, vegetation, visibility, environmental justice, commercial terms, environmental impact, socioeconomics, and overall suitability (Exh. HGE-1, Fig. 5-1). Combining the individual suitability ratings, HG&E concluded that the WHF site rated as having the highest degree of "overall suitability" and that the Whiting Farms Road site was the next most suitable site (Exh. HGE-1, at 5-6, Fig. 5-1).

HG&E also compared WHF and the Whiting Farms Road sites in terms of reliability (Exh. HGE-1, at 5-6). HG&E stated that WHF has a reliability advantage because it already has operating equipment, facilities, safety systems, and highly experienced operating staff (Exh. HGE-1, at 5-6). The Company maintained that since the Whiting Farms Road site involves constructing a separate LNG facility – and then operating both it and WHF – that WHF has a reliability and safety advantage in terms of simplified operations and emergency response capabilities (Exh. HGE-1, at 5-6). The Company acknowledged that Whiting Farms Road is closer to highways facilitating truck deliveries but maintained that this slight transportation advantage does not overcome the broader reliability advantages of WHF, which offers a single, well-established site for the Company's LNG operations (Exh. HGE-1, at 5-6).

b. Alternative Sites Evaluation Matrices Required by 980 CMR 10.02(4)

HG&E compared the WHF and Whiting Farms Road sites using the "alternative sites evaluation matrices" for environmental factors and capital and operating costs required by 980 CMR 10.02(4) (Exh. HGE-1, at 5-5 to 5-7, Figs. 5-2 to 5-4). For the environmental factors matrix, the Company stated it scored and compared the total score for each site to determine the site's overall appropriateness (Exh. HGE-1, at Fig. 5-4). HG&E stated that engineering and environmental subject matter experts participated in this analysis, and that scores were largely developed and assigned based upon a consensus-based process (Exh. HGE-1, at 5-7). The summarized results of the Company's environmental evaluation are shown below in Table 4, with one being the worst and two being the best.

Table 4. Alternative Sites Evaluation Matrix - Environmental Factors

Factor	WHF	Whiting Road Farms
Ease of Acquisition	2	1
Climatology	2	2
Geology	2	1
Hydrology	2	2
Transportation Access	1	2
Ecological Sensitivity	2	1
Socioeconomics	2	1
Special Resource Commitment	2	1
Other*	2	2
TOTAL	17	13
* HG&E indicated that it used the "Other" category to account for the relative size of buffers between existing residences and the Project.		

Source: Exh. HGE-1, Fig. 5-4.

For the capital and operating costs evaluation matrices (reproduced below in Tables 5 and 6), HG&E stated it relied on engineering experts familiar with the construction and operation of LNG facilities and that it secured price quotes from vendors of major equipment (Exh. HGE-1, at 5-5). The Company stated WHF would have significantly lower capital and operating costs because HG&E already owns the property and the Project would integrate with existing LNG equipment (whereas entirely new truck unloading and LNG vaporization equipment are required for the Whiting Farms Road site) (Exh. HGE-1, at 5-5). Additionally, the Whiting Farms Road site would require tree clearing, grading, and other site preparation activities, which – in addition to causing environmental impacts – and increase the cost of construction (Exh. HGE-1, at 5-5).

Table 5. Alternative Sites Evaluation Matrix – Capital Cost Factors

Factors	WHF Site	Whiting Farms Road Site
Land Acquisition	$500,000	$3,527,000
Site Preparation	$299,000	$800,000
Structures & Improvements	$424,000	$4,431,000
LNG Process Equipment	$5,548,000	$7,980,000
LNG Transportation Facilities	N/A	$800,000
Other Equipment	$1,023,000	$2,970,000
TOTAL	$7,794,000	$20,508,000

Source: Exh. HGE-1, Fig. 5-2.

Table 6. Alternative Sites Evaluation Matrix – Operating Cost Factors

Factors	WHF Site	Whiting Farms Road Site
Operating Expenses*	$ -	$388,000
Maintenance Expenses	$40,000	$331,550
TOTAL	$40,000	$719,550
* Operating expenses represent incremental costs based on existing operations. There are no new operating expenses associated with the West Holyoke Facility Site.		

Source: Exh. HGE-1, Fig. 5-3.

3. Selection of the Primary Site

Based on its identification and analysis of alternative sites, HG&E argues that WHF is superior to the Whiting Farms Road site in terms of environmental impacts, cost, and reliability (Exh. HGE-1, at 5-7). Therefore, the Company selected WHF as its preferred site for the Project (Exh. HGE-1, at 5-7). HG&E maintained that providing public notice of an alternative site was not warranted due to: (1) the clear superiority of WHF, (2) the significant expense of doing so; and (3) the likelihood of causing unnecessary concern to potential abutters (Exh. HGE-1, at 5-12). The Company maintains that its efforts to identify and evaluate alternative locations ensured that no clearly superior site was omitted from consideration (Exh. HGE-1, at 5-12).

4. Application of Design Standards

The final step of HG&E's site selection process was to confirm whether the Project at WHF would comply with applicable LNG siting and safety regulations,[29] including the Siting Board's "performance standards for determining site sizes" (see 980 CMR 10.03) (Exh. HGE-1, at 5-7). The Siting Board's site size performance standards focus on providing sufficient area for a

[29] Relevant codes and standards applicable to the Project's design and operation include: 980 CMR 10.00: *Massachusetts Siting of Intrastate Liquefied Natural Gas Storage*; 220 CMR 112.00: *Massachusetts Design, Operation, Maintenance and Safety of LNG Plants*; 49 CFR Part 193-- *Liquefied Natural Gas Facilities: Federal Safety Standards*; National Fire Protection Association ("NFPA") 59A: *Standard for Production, Storage and Handling of Liquefied Natural Gas* (Exh. HGE-1 at 5-7, 5-8).

thermal protection zone and a vapor dispersion exclusion zone (Exh. HGE-1, at 5-8, 5-9). [30] HG&E completed an assessment of the thermal protection zone and vapor dispersion exclusion zones and confirmed that WHF (with the Project) would continue to have a sufficient area for both (Exh. HGE-1, at 5-8 to 5-9). Detailed discussion of compliance with 980 CMR 10.03 is in Section VII, below. HG&E also provided an overview of "additional site design requirements" and confirmed that the Project would comply with key size, location, and safety standards contained in regulations other than 980 CMR 10.00 (See fn. 26) (Exh. HGE-1, at 5-9 to 5-12).[31]

C. Analysis and Findings

The Siting Board requires that applicants consider a reasonable range of practical siting alternatives and that proposed facilities are in locations that minimize cost and environmental impacts. In past decisions, the Siting Board has found various criteria to be appropriate for identifying and evaluating site and/or route options for Section 69J jurisdictional energy facilities, including criteria addressing natural resources, land use, community impact, constructability, cost, and reliability. Northeast Energy Center at 59; Lowell-Tewksbury at 36, 40-41; NSTAR Electric Company, EFSB 15-4/D.P.U. 15-140/15-141, at 38,65,67 (2018) ("Woburn-Wakefield"); Colonial Gas (2016) at 22, 23, 28. The record indicates that the HG&E used reasonable criteria to score and rank potential project locations. These criteria, which included natural resource, community, and constructability factors, are consistent with the types of criteria that the Siting Board previously has found acceptable. The Siting Board has found similar designs for criteria scoring to be an important part of an appropriate site selection process. Northeast Energy Center at 60; Lowell-

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30 The thermal protection zone is an exclusion area around a facility that is designed to be protective in the event of a fire at the top of the secondary containment of an LNG tank (Exh. HGE-1, at 5-8). The vapor dispersion exclusion zone requires that the methane concentration in air not exceed two percent beyond property lines in the event of an LNG spill (Exhs. HGE-1, at 5-9; HGE-1, App. I, Att. 1, at 13).

31 The Company included with its Siting Board application several technical engineering studies that document the Project's ability to comply with relevant regulations, codes, and standards; these studies include: Design Basis (see Exh. HGE-1, at App. B), Fire Study (see Exh. HGE-1, App. C), Construction Safety Plan (see Exh. HGE-1, App. E), Compliance with Siting Requirements within EFSB Regulations (see Exh. HGE-1, App. I).

Tewksbury at 36-38, 40-41; Woburn-Wakefield at 38-47, 65-71. The Siting Board accepts the Company's use of the proffered screening criteria to score each site and rank potential Project locations.

The Company did not provide a noticed alternative site. The Company maintains that providing public notice of an alternative site was not warranted due to: (1) the clear superiority of WHF; (2) the cost of doing so; and (3) the potential for causing unnecessary concern among potential abutters. While the Siting Board traditionally requires a noticed alternative for jurisdictional proposals, this practice is not mandated by Section 69J and, more recently, the Siting Board has accepted that a noticed alternative route may not be warranted in all cases. See Colonial Gas (2016) at 40-41. In this proceeding, where HG&E proposes to integrate a new storage tank with an existing LNG facility, the Siting Board finds that the Company's decision to evaluate, but not officially notice, an alternative site is reasonable.

Given the Project's role in serving HG&E's customers and the need to interconnect to HG&E's gas distribution system, the Company appropriately identified its service territory as a study area that would encompass reasonable siting options. In its application, the Company discussed both Whiting Farms Road and Apremont Alternative in Project Alternatives and again in Site Selection. To avoid redundancy, this Decision discusses the Apremont Alternative, which represents an entirely different approach to meeting the identified need, solely as a Project Alternative and the Whiting Farms Road project, which, like the proposed Project, proposes a 70,000-gallon storage tank, as a siting alternative. By scoring and ranking at least two sites within the study area according to the above-referenced screening criteria, the Company's evaluation shows that a clearly superior site was not overlooked. In doing so, the Company examined possible sites with diverse geographic considerations, including sites in distinct areas of Holyoke.

The Company provided the required "alternative sites evaluation matrices" for WHF and Whiting Farms Road consistent with 980 CMR 10.02(4). The alternative sites evaluation matrices confirmed WHF is superior to the Whiting Farms Road in terms of environmental impacts, capital costs, and operating costs. Regarding reliability, the Company appropriately determined that locating the Project at WHF, where HG&E can continue to operate a single LNG facility, is more reliable compared to Whiting Farms Road, which requires operating two separate LNG facilities.

HG&E selected WHF as its preferred site on the basis that the Project would be less costly and less environmentally impactful compared to using Whiting Farms Road. Lastly, the Company confirmed that WHF has enough area for a thermal protection zone and vapor dispersion zone, as required by the "Performance Standards for Determining Site Sizes" in 980 CMR 10.03. For purposes of designating a preferred site, the Siting Board finds these comparisons reasonable.

The Siting Board finds that the Company has: (1) developed and applied a reasonable set of criteria for identifying and evaluating alternative sites in a manner that ensures that it has not overlooked or eliminated any site that is clearly superior to the Project; and (2) identified a range of practical sites with some measure of geographic diversity. Therefore, the Siting Board finds that the Company has demonstrated that it examined a reasonable range of practical siting alternatives while seeking to minimize cost and environmental impacts and ensure a reliable energy supply.

VI. MINIMIZATION OF ENVIRONMENTAL IMPACTS

A. Standard of Review

In evaluating the proposed facility to ensure that it minimizes environmental impacts pursuant to G.L. c. 164, §§ 69H and 69J, the Siting Board first determines whether the petitioner has provided sufficient information regarding environmental impacts and potential mitigation measures to enable the Siting Board to make such an evaluation. The Siting Board then examines the environmental impacts of the proposed facility and determines: (1) whether environmental impacts would be minimized; and (2) whether an appropriate balance would be achieved among potentially conflicting environmental impacts, cost, and reliability. Northeast Energy Center at 62; Lowell-Tewksbury at 42-43; Colonial Gas (2016) at 29.

B. General Description of Project Construction

The Company stated that Project construction would take approximately 21 months and consist of: (1) final engineering and design; (2) procurement of major and long lead-time equipment, which would be prefabricated off-site (e.g., procurement of the LNG storage tank, whose fabrication and delivery would take more than 17 months); and (3) field construction, commissioning, and training, which would require a maximum of eight months (Exh. HGE-1,

at 2-5, App. D at 1). The Company indicated that equipment procurement and final engineering might overlap with field construction (Exh. HGE-1, at 2-5, App. D at 1).

Field construction would include: (1) preliminary activities, including mobilization of equipment and tools, and site preparation; (2) principal construction, including foundation installation for the LNG tank and associated equipment, LNG tank delivery and installation, and delivery and installation of other major equipment; (3) supplemental construction, including installation of process piping and electrical service components, and construction of additional structures (e.g., pipe supports); and (4) commissioning, testing, training, and documentation (Exh. HGE-1, App. D at 1-2).

The Company stated that the construction contractor would ultimately be responsible for ensuring safety, quality, and timely execution of construction and compliance with contract documents (Exh. HGE-1, App. D at 1). The contractor would also coordinate with the Company and equipment suppliers to arrange access to the construction site, and with subcontractors (Exh. HGE-1, App. D at 1). The Company would supervise the contractor to ensure compliance with Project approval conditions and contract documents (Exh. HGE-1, App. D at 1). Construction would typically occur between 7:00 a.m. and 5:00 p.m., Monday through Friday, though some work, especially activities associated with Project startup and commissioning, may need to occur at night or throughout the weekend (Exh. HGE-1, App. D at 2).

C. Environmental Impacts

1. Air

a. Company Description

The Company stated that, aside from LNG transport, Project operation would not generate new emissions and no modeling or testing for pollutants is required (Exh. HGE-1, at 6-12). The Project is also exempt from air permitting under the "de-minimis" condition of 310 CMR 7.02(2) (Exh. HGE-1, at 6-11). WHF already includes a boil-off gas system for sending passively vaporized LNG into the HG&E distribution system during normal operation and the Project would extend this system to the new tank (Exhs. HGE-1, at 2-3; EFSB-A-2). According to the Company, WHF historically has had no detectable gas leaks and the new tank would be expected to perform in a consistent manner (Exh. EFSB-S-3). With respect to LNG transport, the Company indicated

that Project operation would cause a slight increase in truck deliveries, and, consequently, a negligible increase in truck emissions (Exh. EFSB-A-1).

To control temporary construction emissions, the Company would manage construction equipment consistent with Massachusetts Department of Environmental Protection ("MassDEP") air quality regulations (310 CMR 7.00) and best industry practices (Exh. HGE-1, at 6-13). Regarding dust control, the Company would cover all onsite stockpiles, require contractors to deploy water trucks with misters at work areas, install anti-tracking pads at construction entrances, and regularly sweep adjacent roadway surfaces (Exh. HGE-1, at 6-13).

b. Analysis and Findings

The record demonstrates the Project will generate only temporary construction-related emissions estimated to occur for approximately 21 months (Exh. HGE-1, at 2-5), does not require an air permit, and will not generate emissions during the regular operation of the new LNG storage tank (Exh. HGE-1, at 6-11). In terms of curbing temporary construction emissions, the Company will adhere to state regulations, best industry practices, and standard dust control measures. Therefore, the Siting Board finds that the Project minimizes air impacts.

2. Water

a. Company Description

The Company reported that the Project would be situated 650 feet from the nearest wetland and would not trigger any federal, state, or local wetland protection requirements (Exhs. HGE-1, at 6-3; RR-EFSB-8). Further, the Company stated that there are no regulated floodplains or floodways within 0.25-miles of the existing facility site or proposed workspace areas and that the Project would have no adverse effects on designated floodplain areas (Exh. HGE-1, at 6-6, 6-7). The Company also reported that the Project would not be located in a Zone 1 or Zone 2 Surface Water Protection Area or in any locally mapped Groundwater Protection District (Exh. HGE-1, at 6-4).

The Company reported that the Project would not require WHF to increase its use of potable water, would not change WHF's minimal operational water use, and would not cause the facility to generate wastewater (Exh. HGE-1, at 6-6). Further, the Company noted that, after

Project completion, the existing well on WHF property would continue to meet the facility's water needs (Exh. HGE-1, at 6-6). With respect to stormwater, the Project would disturb approximately 31,000 square feet (i.e., about 0.71 acres) and, therefore, would not meet the one-acre threshold of new land disturbance under the United States Environmental Protection Agency's Construction General Permit for Stormwater Discharges from Construction Sites (Exh. HGE-1, at 6-7). The Company also noted that the Project would comply with MassDEP's stormwater management standards by not increasing the site's runoff rate (Exh. EFSB-CM-4).

The Company would minimize construction-based erosion and sedimentation by decreasing the quantity and duration of soil exposure, protecting areas of critical concern by redirecting runoff and reducing runoff velocity, and, following construction, promptly stabilizing exposed areas, where required (Exh. HGE-1, at 6-8). The Company also indicated that it would install and maintain erosion and sediment controls during construction and inspect the construction route and maintain these controls, as necessary, until final stabilization is achieved (Exh. HGE-1, at 6-8).

b. Analysis and Findings

The record demonstrates the Project would have a minimal impact on water resources. The Project includes no wetland areas, has no water or wastewater impacts from normal operations, and will comply with the Commonwealth's stormwater standards. The Company has committed to controlling erosion and sedimentation during and after construction. Therefore, the Siting Board finds that the Project minimizes impacts to water resources.

3. Land Use

a. Company Description

The Company stated that its WHF site consists of two parcels with a combined area of approximately 18.82 acres; the fenced boundary of the existing LNG storage facility (where the Project would be located) covers approximately 4.5 acres ("Project site") (Exh. HGE-1, Fig. 5-4, App. K at 5). The Project's total footprint would be approximately 6,960 square feet and situated directly to the north of the existing tanks (Exhs. EFSB-PA-7; HGE-1, at 6-19, 6-23). In terms of surrounding uses, the Project site borders solar fields to the north and west, an undeveloped

wooded area to the east, and residential parcels to the southeast and south (HGE-1, at 6-19, Fig. 1-2). The Project site is located near highway access, but does not abut major roadways. The Project site is more than one mile from the closest Environmental Justice Population (Exh. HGE-1, Fig. 5-4, at 2).

The Company stated that the Project would not create any material changes to the existing topography because the Project site is already graded and would require minimal site preparation (Exh. HGE-1, at 6-11). The Company noted that the Project site's existing ground surface is relatively level and covered mainly by gravel, bituminous concrete, and several grassy areas (Exh. HGE-1, App. K at 5). The Project would be situated 440 feet from the nearest residence (Exh. RR-EFSB-10). The Company indicated that it has maintained a constructive relationship with WHF neighbors and the greater Holyoke community for many years (Exh. HGE-1, at 1-4, 1-5). The Company stated that the Project would not modify the existing use or intensity of use at WHF because the Project site already hosts an LNG facility (Exhs. HGE-1, at 6-11). The Project site is zoned RA – Rural Agricultural (i.e., agriculture and single-family residence); however, its status as a municipal facility renders it an allowed use (Exh. HGE-1, at 6-19).

The Company completed an assessment of historic architectural properties and archeological sites, and reported that the Project site does not contain such resources. The Massachusetts Historical Commission stated that it did not require further review of the Project (Exh. HGE-1, at 6-19; Tr. 1, at 79).

b. Analysis and Findings

The record demonstrates that the Project would have minimal land use impacts. The Project site is already developed, in use as an LNG facility, and ready to accommodate the additional tank. The Siting Board finds that the Project would be consistent with existing conditions and would not alter or affect surrounding land uses. Therefore, the Siting Board finds that the Project minimizes impacts to land use.

4. Visual Impacts

a. Company Description

The Company stated that the new tank – the Project's visually dominant feature – would have a larger footprint than the adjacent tanks, but that its white color would match that of the others and that its height would either be equal to or less than that of the others (Exh. HGE-1, at 6-23, Fig. 2-1, 6-2). The Company also stated that it would align the new tank with existing tanks immediately to their north, making it the farthest of the tanks from Mueller Road and the WHF entrance (Exh. HGE-1, at 6-23, Fig. 2-1). To enhance visual buffering, the Company stated that it would increase the slat height at the perimeter fence from six to eight feet along the west fence line at the rear of the tanks and also along the northeast fence line (Exh. HGE-1, at 6-23, Fig. 2-1). The Company noted existing visual buffering at the site, which includes forested area screening residences to the east; vegetative screening between the Project site and more closely situated residences to the south; solar fields and vegetative screening between the Project site and residences to the west, and vantage points along County Road to the north (Exh. HGE-1, Figs. 1-2, 6-2, 6-5). While the Company noted that the Project might be visible from some nearby residences during leaf-off months, existing evergreens would reduce such visibility (Exhs. HGE-1, at 6-24; EFSB-V-1). The Company argues that the Project would be visually consistent with the existing landscape and have minimal visual impacts (Exh. HGE-1, at 6-23).

b. Analysis and Findings

The record shows that the Project would result in a slight visual addition to WHF, largely consistent with the current aesthetic. Though the new tank would be somewhat larger, its proposed placement, color, and height would maintain the visual properties of the current layout. The record shows that existing visual buffering is generally substantial enough to screen the WHF from most surrounding vantage points. The Company's proposed additional buffering would further screen the facility. The Siting Board finds that the Project minimizes visual impacts.

5. Noise Impacts

a. Company Description

The Company stated that the Project would not add any new noise-generating equipment, and, therefore, would comply with all applicable noise regulations and performance standards and would not require noise mitigation (Exh. EFSB-CM-4). Regarding construction noise, the Company maintained that it would observe the local noise ordinance, which limits construction to the hours of 7:00 a.m. to 6:00 p.m. on weekdays, except for public safety emergencies; work outside of normal hours would be allowed with permission from the Holyoke Board of Public Works (Exh. HGE-1, at 6-15, 6-16). The Company reported that construction equipment would typically generate sound ranging from 80 to 85 A-weighted decibels ("dBA") at a distance of 50 feet from the source, but that the Project site would be situated 350 and 410 feet from the nearest two sensitive receptors (i.e., residential parcels) (Exh. HGE-1, at 6-16; RR-EFSB-7(1); Tr. 1, at 144). The Company also noted that it would not utilize impact devices that would contribute to a significant increase in construction noise (Tr. 1, at 143).

To mitigate construction noise, the Company indicated that it would use appropriate mufflers on equipment, conduct ongoing maintenance of intake and exhaust mufflers, and muffle enclosures on continuously running equipment (e.g., air compressors and welding generators) (Exh. HGE-1, at 6-16). The Company indicated that, where feasible, it would replace construction operations and techniques with those that are less noisy and that it would select the quietest equipment alternatives (Exh. HGE-1, at 6-16). The Company also committed to other sound control measures: scheduling construction activities for daylight hours; turning off idling equipment; and protecting sensitive locations from noisy equipment through shielding or distance (Exh. HGE-1, at 6-16).

b. Analysis and Findings

The record shows that the Project would produce no additional operational noise and that construction noise would be significantly mitigated through equipment-based measures (e.g., muffling), quieter operations, optimal timing, and distance buffers. Project construction would typically generate noise ranging between 80 and 85 dBA at 50 feet from the source, but the two closest sensitive receptors would be 350 and 410 feet away. The Company has agreed to abide by

Holyoke's noise ordinance, which limits work to daytime hours and also prohibits weekend work (with the exception of a public safety emergency).

The Siting Board directs the Company to limit normal construction work to weekdays between 7:00 a.m. and 6:00 p.m. Normal construction work hours shall not include Saturdays or Sundays, or state holidays. With the exception of emergency circumstances on a given day necessitating extended hours, the Company shall seek written permission from the Holyoke Board of Public Works and/or any other applicable local authority and shall provide the Siting Board with a copy of such permission before extending construction work beyond the above-noted hours and days. If the Company and the local authority are not able to agree on whether such extended construction hours should occur, the Company may request prior authorization from the Siting Board and shall provide the local authority with a copy of any such request and any related decision by the Siting Board.

With the above facts and conditions, the Siting Board finds that the Project minimizes noise impacts.

6. Traffic Impacts

a. Company Description

The Company stated that the one-time delivery of the new tank and other oversized equipment deliveries might cause short-term, temporary delays to local traffic (Exh. EFSB-T-7). The Company noted, however, that it would manage and mitigate delivery impacts through coordination with police and highway departments and would notify customers along routes with planned oversized vehicle activity (Exh. EFSB-T-7; Tr. 1, at 128). The Company noted that the tank vendor would plan the delivery route after Project approval (Exh. EFSB-T-4).

The Company further stated that it would determine locations for construction personnel parking, contractor staging, and laydown areas with the selected contractor. The Company would communicate with local stakeholders to identify optimal off-site locations to minimize temporary neighborhood impacts (Exh. EFSB-T-5). The Company would provide weekly traffic impact updates on its website and anticipated that most construction vehicle trips would occur at the beginning and end of the workday (Tr. 1, at 128, 140). In terms of facility operation, the Company

anticipated a negligible increase in tanker truck deliveries from the Project (Exh. HGE-1, at 6-18). While the number of deliveries has fluctuated from year to year based on system demand, the Project would result, on average, in approximately seven additional summer deliveries, but five fewer winter deliveries (Exhs. EFSB-T-6; HGE-1, at 6-18). The Company noted that the purpose of summer deliveries is to maintain tank levels and limit boil-off gas (Exh. HGE-1, at 6-18). Table 8, below, summarizes the average LNG delivery frequency per month and week based on the 2018-19 to 2022-23 five-year average of 78 deliveries annually.

Table 7. Average Number of LNG Tanker Truck Deliveries

Month	Delivery Number	
	Monthly	Weekly
January	29	6
February	17	4
March	4	1
April	0	0
May	4	1
June	0	0
July	4	1
August	2	1
September	2	1
October	4	1
November	4	1
December	7	2

Source: Exh. EFSB-T-6.

The Company stated that offloading an LNG delivery requires about 60-75 minutes (Exh. HGE-1, at 6-18). Even though deliveries have been strategically scheduled to minimize onsite traffic, the Company noted that more than one truck may be onsite at a given time, albeit infrequently, as unanticipated traffic conditions or inclement weather may affect delivery schedules (Exh. HGE-1, at 6-18; Tr. 1, at 85). The Company stated that it adjusts schedules as needed by maintaining constant communication with its LNG suppliers and their transport teams (Tr. 1, at 85).

b. Analysis and Findings

The record shows that construction-based traffic would be generally minimal, and that the Company would closely coordinate with local officials and other stakeholders, as needed, to minimize impacts. Regarding facility operation, the record shows that the number of LNG deliveries currently fluctuates based on system demand and supplemental LNG needs. The record also shows that the Project would result in approximately seven additional summer and five fewer winter deliveries. Thus, the record points to a negligible uptick in deliveries due to the Project, and, overall, isolated deliveries during most months and infrequent deliveries during even the busiest months.

The record shows that, infrequently, delivery schedules can be complicated by unanticipated traffic conditions or inclement weather, resulting in more than one truck being onsite at a given time. In such scenarios, the Siting Board directs the Company to ensure that LNG trucks do not queue beyond the WHF boundary and along Mueller Road, or along any other surrounding residential street.

Given the above facts and conditions, the Siting Board finds that the Project minimizes traffic impacts.

7. Rare and Endangered Species

a. Company Description

The Company stated that the Project site is completely developed and does not contain any suitable habitat for two threatened species identified as potentially present in the surrounding area (i.e., the northern long-eared bat and monarch butterfly), based on the U.S. Fish and Wildlife Service's Information for Planning and Consultation tool (Exh. HGE-1, at 6-10). The Company added that the Project would not require tree clearing, and, consequently, that the U.S. Fish and Wildlife Service did not require a consultation (Exh. HGE-1, at 6-10). Regarding Massachusetts Natural Heritage and Endangered Species Program ("NHESP"), the Company reported that a Priority Habitat (PH 1178) and an Estimated Habitat (EH 856) extend across the eastern portion of one of the four parcels that comprise the WHF site (i.e., Parcel 182-00-007). However, the Company noted that Project work would not occur in this parcel and, therefore, the Company does not anticipate any Project impacts on state-listed rare species (and NHESP did not require

additional consultation) (Exh. HGE-1, at 6-10, Fig. 6-1). The Company also noted that the WHF site did not contain certified or potential vernal pools (Exh. HGE-1, at 6-11).

b. Analysis and Findings

The record shows that the Project would be situated near regulated habitats at both federal and state levels but that the Project site does not contain any suitable habitat related to the species identified by the wildlife planning and screening tools used by the Company. Further, the Project would not require tree clearing. Thus, additional federal or state wildlife consultation is not required. The record also shows that the Project site does not contain certified or potential vernal pools. Given the above, the Siting Board finds that the Project minimizes rare and endangered species impacts.

8. Solid and Hazardous Waste

a. Company Description

The Company stated that the Project site does not have known recognized environmental conditions, and that the Project construction or operation would not discharge hazardous materials into the environment (Exh. HGE-1, at 6-5, 6-9). The Company stated that the Project would use hazardous materials only for fueling and maintaining onsite equipment (Tr. 1, at 149). The WHF currently contains four LNG tanks each with a 55,000-gallon capacity. The tanks are currently situated within an LNG spill containment system. The Project involves the addition of a fifth LNG storage tank with a 70,000-gallon capacity. The Company indicated that the new LNG storage tank will be installed within a new, independent spill impoundment "dike" system to contain any spills from the tank or associated piping in accordance with Siting Board and federal LNG specific regulations (Exh. HE-1, at 6-5). HG&E will prepare a Spill Prevention Control and Countermeasure (SPCC) plan (or update its existing plan) in conformance with applicable regulations in connection with its final design for the new proposed tank (Exh. HE-1, at 6-5). In addition, the Company would implement preventative safety procedures for use and storage of oils and fuel during construction including secondary containment, protective barriers, site lighting, and regular inspections (Exh. HGE-1, at 6-5, 6-6).

The Company stated that it would transport offsite any waste generated during demolition, site preparation, construction, or operation of the Project in accordance with local, state, and federal guidelines and regulations, but that it did not expect the Project to regularly generate solid or hazardous waste streams (Exh. HGE-1, at 6-10). The Company noted that it would minimize waste generation and encourage debris recycling (Exh. HGE-1, at 6-10).

b. Analysis and Findings

The record indicates that the Project site does not have known hazardous conditions and that the Project's only source of hazardous materials would be fueling systems for onsite equipment. Further, the Siting Board finds that the Company would employ a comprehensive set of both preventative and remedial safety measures regarding hazardous materials releases and that waste generation and disposal would be minimal and properly managed. Therefore, the Siting Board finds that the Project minimizes solid and hazardous waste impacts.

D. Cost

The Company estimated the cost of the Project at $4.4 million, with an accuracy of -20/+30 percent (in 2022 dollars, based on an Association for the Advancement of Cost Engineers Class III estimate) (Exh. HGE-1, at 2-5). The Company intends to complete the complementary improvements regardless of whether the Siting Board approves the Project (Exh. HGE-1, at 1-4). HG&E estimated the cost of the complementary site improvements to be $3.4 million (Exh. HGE-1, at 2-5). The Company also reported that the Project would not generate additional operating expenses at WHF (Exh. HGE-1, at Figure 5-3). The Company explained that estimated Project costs were relatively low due to the Company's current ownership of the Project site, lack of site preparation requirements, limited civil and environmental mitigation requirements, existing operating infrastructure onsite, and favorable permitting and design processes (Exh. HGE-1, at 4-8, 5-5). Given these factors, the Siting Board finds the Project minimizes costs of meeting the identified need.

E. Reliability

The Company emphasized that WHF already included necessary operating equipment, facilities, utilities, and safety systems; an operating staff highly experienced with operation of the existing facility; and direct access to the existing TGP meter station (Exh. HGE-1, at 5-6). The Company also indicated that the Project would increase the total WHF storage capacity by 5,000 Dth to a total of 21,000 Dth (Exh. HGE-1, at 1-1). Thus, the Siting Board finds that the Project site has inherent reliability benefits and that the Project would increase reliability.

F. Conclusion

The record shows that the Project would have a minimal impact across almost the entire scope of environmental impacts, e.g., no new air emissions, noise, or regular generation of solid or hazardous waste streams; small footprint within a previously developed area; visual aesthetic that complements existing conditions; no regulated water resources on site; no additional consultation required for rare or endangered species; and minimal traffic impacts associated with either construction or operations. Finally, the Project would not generate new operating expenses (except in proportion to the increased gas service), would keep capital costs low through a design that leverages existing facilities, and would increase WHF reliability.

The Siting Board finds that the Company provided sufficient information regarding environmental impacts and potential mitigation measures to allow the Siting Board to determine whether the Project has achieved a proper balance among cost, reliability, and environmental impacts. Based on the information provided, the Siting Board finds that, with the implementation of the mitigation and conditions specified, and given compliance with all local, state, and federal requirements, the temporary and permanent environmental impacts of the Project would be minimized. The Siting Board finds that, because the Project takes advantage of existing facilities at the WHF, Project costs would be reasonable and reliability would increase.

VII. SAFETY COMPLIANCE

A. Standard of Review

The Siting Board requires an applicant to demonstrate that its proposed facility will comply with the Board's regulations governing the siting of LNG facilities, as set forth at 980 CMR 10.00,

pursuant to G.L. c. 164, §§ 69H, I, and J. See Northeast Energy Center at 185; Whately LNG at 63-64.

B. Applicable State and Federal Regulations

The Siting Board has regulatory standards for the siting of intrastate LNG storage facilities within Massachusetts at 980 CMR 10.00, but they do not specify the design, construction, operation, or maintenance of an LNG facility. Rather, they recognize the legal authority and responsibility of the Department to enforce the federal and state LNG safety regulations. The Department enforces its own regulations, as well as federal pipeline safety regulations for LNG facilities, and both sets of regulations include requirements for the siting, design, construction, operation, and maintenance of LNG facilities. 220 CMR 112.00; 49 CFR Part 193.

The Department's regulations incorporate portions of federal safety standards for LNG facilities, 49 CFR Part 193 [Liquefied Natural Gas Facilities: Federal Safety Standards], which incorporate by reference sections from NFPA 59A [Standard for Production, Storage, and Handling of Liquefied Natural Gas]. 220 CMR 112.10. HG&E has referenced 220 CMR 112.00; 49 CFR Part 193; and NFPA 59A as being applicable to the Project (Exh. HE-1, App. C, at 5).

C. Thermal Safety Requirements

The Siting Board's regulations at 980 CMR 10.00 address the design safety of LNG facilities and include two separate provisions relating to thermal flux from a fire. First, 980 CMR 10.02(2)(a)(4) requires that an applicant provide map(s) that show three modeled zones for different heat fluxes: 2,000 British thermal units per square foot per hour ("BTU/ft^2-hr"); 1,000 BTU/ft^2-hr; and 460 BTU/ft^2-hr, as part of a set of "mapping requirements." Second, 980 CMR 10.03(1)(a) requires that land area owned or controlled by an LNG facility operator be of sufficient size to include a thermal radiation protection zone – which is determined geometrically

from a modeled fire at the top of the required secondary containment dike (Exhs. HGE-1, at 5-8; HGE-1 App. I, Att. 1, at 7).[32]

Regulations at 980 CMR 10.02(2)(a)(4) require applicants to identify specific land uses and features[33] within the three heat-flux zones; the outermost flux zone is additionally used for identifying the distance at which facility alarms must be able to be heard. Although not required by regulation, all three calculated heat flux zones were within the site property (Exh. HGE-1, App. I, Att. 1, at 14). HG&E provided maps depicting the three heat flux zones pursuant to the mapping requirements of 980 CMR 10.02(2)(a) and determined that no relevant off-site receptors are located within the specified thermal radiation zones, and confirmed that WHF's existing alarm systems can be heard throughout the property (Exh. HGE-1, App. I, Att. 1, at 14).

HG&E provided diagrams showing how it developed the thermal radiation protection distance for the Project at WHF (Exh. HGE-1, App. I, Att. 1, at 7-8). Following 980 CMR 10.03(1)(d), the Company calculated the minimum thermal radiation protection distance to be 137 feet, based on the regulation's formula for non-industrially zoned off-site areas and the impoundment dike's surface area (1,444 square feet) (Exh. HGE-1, App. I, Att. 1, at 7-8). Then, in accordance with 980 CMR 10.03(1)(c), the Company calculated a target-specific protection distance 'd' (the target-specific protection distance 'd' accounts for the distance between the impoundment dike and the nearest residential property line); HG&E stated the target-specific protection distance 'd' is 262 feet[34] (Exh. HGE-1, App. I, Att. 1, at 7-8). HG&E stated that the

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32 The Siting Board's regulations require that each LNG storage tank at an LNG facility be contained within a separate containment dike that has a capacity of at least 150 percent of the volume of the tank. 980 CMR 10.04(1).

33 The 'off-site' land uses and features include natural preserves, historic or scenic districts, hospitals, schools, nursing homes, churches, places of outdoor assembly, population densities, and surface water and groundwater resources (Exh. HGE-1, App. I at 2). HG&E interpreted the purpose of the mapping regulation as helping to "identify and consider special or sensitive 'off-site' receptors that could theoretically be affected by the construction or operation of an LNG facility" (Exh. HGE-1, App. I at 2).

34 HG&E stated that the new LNG storage tank would have its own spill impoundment dike that would be independent of the existing LNG storage tank spill impoundment system and

Project's target-specific protection distance 'd' (i.e., 262 feet) is greater than the minimum required thermal radiation protection distance (i.e., 137 feet); the protection distance would therefore be within the Project's thermal radiation protection zone (i.e., the WHF site boundary, which HG&E owns and controls) (Exh. HGE-1, App. I, Att. 1, at 7-8). The Company stated that, therefore, the Project will comply with 980 CMR 10.03(1) (Exh. HGE-1, App. I, Att. 1, at 7-8).

D. Vapor Dispersion Safety Requirements

The Siting Board's regulations require a site to be large enough, in the event of an LNG spill, to prevent dispersion of an LNG vapor cloud with methane concentrations in air above two percent by volume beyond the property line. 980 CMR 10.03(2)(b). The Siting Board's regulation requires consideration of two "design accident" scenarios: an LNG vapor cloud generated from a damaged LNG storage tank or from failed transfer piping. 980 CMR 10.03(2)(b). Using the design accident type with the more extreme impact on the facility, an applicant must then determine the dispersion distance for that accident type (i.e., the extent of methane concentration of two percent by volume in air) pursuant to 980 CMR 10.03(2)(d). The Company noted the flammable range of methane in air is approximately 5 to 15 percent by volume (Exh. EFSB-CM-5(1) at 219).

The Company stated the more extreme design accident for WHF requires evaluation of LNG-vapor generation from a sudden spill of the entire contents of the LNG storage tank at capacity; contact of LNG with surfaces of the impoundment system; and flash vaporization from the contents of the tank (Exh. HGE-1, App. I, Att. 1, at 9). To calculate the concentration of methane at the nearest property line, HG&E employed calculation methods from the publication "Evaluation of LNG Vapor Control Methods" (American Gas Association, Arlington, Virginia., 1974), in accordance with 980 CMR 10.03(2)(d) (Exh. HGE-1, App. I, Att. 1, at 9).

The Company calculated the vapor generation rate associated with the design accident as a function of time and explained that, once the vapor overflows the impoundment and the surrounding curbed area, the vapor accumulates within the fenced area of WHF (Exh. HGE-1,

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that would conform with 980 CMR 10.04(1) (i.e., the impoundment dike must be sized for at least 150 percent of the storage tank volume) (Exh. HGE-1, App. I, at 2).

App. I, Att. 1, at 11). WHF is surrounded by an eight-foot-tall chain-link fence fitted with six-foot-tall slats (Exh. HGE-1, App. I, Att. 1, at 5). HG&E stated that the slatted fence has a porosity of ten percent and that the slats slow the movement of gas through the fence (Exh. HGE-1, App. I, Att. 1, at 9-11). Based on HG&E's modeling, the vapor accumulation would not overflow the vapor fence; therefore, the Company calculated the concentration of gas at the nearest property line based on the leak-rate of gas through the slatted vapor fence (Exh. HGE-1, App. I, Att. 1, at 11). HG&E determined the maximum property line concentration of methane during the design accident to be 0.74 percent (Exh. HGE-1, App. I, Att. 1, at 13). Because the maximum concentration of methane by volume in air remains below the allowable two percent at the nearest property line, HG&E stated the Project would comply with the site size performance standards for a vapor dispersion exclusion zone listed in 980 CMR 10.03(2) (Exh. HGE-1, App. I, Att. 1, at 13).

The Company maintains vapor fencing is a well-established mitigation measure and that incorporating the effect of a vapor fence into dispersion modeling is an approach previously approved by the Siting Board (HG&E Brief at 58, citing Northeast Energy Center at 184; Whately LNG at 73).

E. Ancillary Requirements

The Siting Board's regulations require that each LNG storage tank at an LNG facility be contained within a separate containment dike that has a capacity of at least 150 percent of the volume of the tank. 980 CMR 10.04(1). HG&E stated that the new LNG storage tank would have its own independent spill impoundment dike (Exh. HGE-1, at 2-4). The Company stated the new tank's impoundment system would consist of berm walls around the storage tank and a remote sub-impoundment north of the new tank and directly east of the existing sub-impoundment (Exh. HGE-1, at 2-4). The Company stated that the height of berms would ensure that a spill from the new tank spill is conveyed to the new remote sub-impoundment (Exh. EFSB-CM-5(1) at 255). The Company stated the new sub-impoundment would have dimensions of 38 feet wide, 38 feet long, and 11 feet deep, thus providing a capacity of at least 105,000 gallons (150 percent of the storage tank volume) in accordance with 980 CMR 10.04(1) (Exh. EFSB-CM-5(1) at 255).

The Siting Board's regulations also require that the storage tank area be designed for predictable movement of personnel, maintenance equipment, and emergency equipment within and around the facility. 980 CMR 10.04(2). The Company stated the layout of the new LNG storage tank and associated equipment would comply with setbacks and locations governed by NFPA 59A, 220 CMR 112.00, and 980 CMR 10.04(2) to enable the predictable movement of personnel, maintenance equipment, and emergency equipment within and around WHF (Exh. HGE-1, App. I at 6). The Company maintained that the Project would not change the existing ease of access and egress for personnel, equipment, or materials to control the leakage, spill, or release of LNG, firefighting, or evacuation or rescue personnel at the site (Exh. HGE-1, App. I at 6).

The Siting Board's regulations require annual inspection and certification of storage tank insulation and sealant. 980 CMR 10.04(3). HG&E explained that insulating material for the Project would not be used for either of the purposes described in the regulation's definition of "insulating material" [35,36] (Exh. HGE-1, App. I at 7). Therefore, the Company maintains that the requirements of 980 CMR 10.04(3) do not apply to the Project (HG&E Brief at 58, citing Exh. HGE-1, App. I at 7). HG&E stated it would conduct annual monitoring and inspections of the new LNG storage tank in accordance with its operation and maintenance manual (Exh. HGE-1, App. I at 7).

The Siting Board's regulations require a plan for removal of rain, ice, and snow from the diked area surrounding a storage tank. 980 CMR 10.04(4). HG&E presented a preliminary precipitation removal plan for the LNG impoundment dike area; the plan describes the timing and manner of how rain, ice, and snow would be removed from the Project's impoundment system

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35 Instead, HG&E stated the new LNG storage tank would be designed like a "thermos bottle" where there will be an inner tank constructed of stainless steel or another suitable alloy steel that would hold the LNG and an outer tank that will primarily ensure the performance of the insulating system of the tank. The annular space between the inner and outer tanks would contain a perlite insulation blanket and will be a vacuum to increase the effectiveness of the system (Exh. HGE-1, App. I at 7).

36 980 CMR 10.00 defines insulating material as a substance that may be applied to the external wall of a storage tank or dike surface and whose properties will decrease the rate of vaporization in the event of a spill.

(Exh. HGE-1, App. I, Att. 4). HG&E stated that WHF's operations and maintenance manual would include the final precipitation plan (Exh. HGE-1, App. I at 7).

The Siting Board's regulations require the Company to submit a safety plan that describes actions to be taken by Company personnel and public safety officials in the event of any accident. 980 CMR 10.04(5). The Company stated that WHF's existing "LNG Plant O&M Manual" describes actions the Company and public safety officials would take in the event of an accident and, therefore, meets the requirement of 980 CMR 10.04(5) (Exhs. HGE-1, App. I at 7; HGE-1, App. F; Tr. 1, at 150-152). The Company stated it would update WHF's emergency procedures, subject to final design, to incorporate the Project; the Company also stated it would provide the Siting Board with a copy of the final safety plan prior to commencement of Project operation (Exhs. HGE-1, at 2-5; EFSB-S-13; Tr. 1, at 125-126).[37] The Company stated it would coordinate reviews of its updated safety plan with the Holyoke Fire Department and adjacent property owners (Exhs. HGE-1, at 2-5; EFSB-S-13; Tr. 1, at 125-126).

980 CMR 10.04(5) also requires a program of yearly safety consultations with each property owner "within the affected portion of the industrial zone" with the intent to ensure the maintenance of necessary levels of information and preparedness for those persons. The Company stated it understood "industrial zone" to mean the extent of the thermal radiation protection zone and the vapor dispersion exclusion zone (Exh. HGE-1, App. I at 7). The Company stated that, because neither the thermal radiation protection zone nor vapor dispersion exclusion zone extended beyond WHF's property line, there were no other property owners within an affected area of the industrial zone (Exh. HGE-1, App. I at 7). Therefore, the Company asserted that annual safety consultations with property owners are not required for the Project (Exh. HGE-1, App. I at 7).

The Siting Board's regulations require an alarm system that sounds simultaneously with the alerting of the fire department of an accident. 980 CMR 10.04(6). The Company did not state whether WHF's alarm system, as updated for the Project, would simultaneously alert the Holyoke

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37 The Company provided the foreword of WHF's "LNG Plant O&M Manual" with its application; the foreword indicated that section five of the LNG Plant O&M Manual covered "emergency procedures" (see Exh. HGE-1, App. F).

Fire Department in the event of an alarm condition. HG&E stated that WHF has an existing alarm system that provides audible and visible alarms designed to gain the attention of HG&E personnel as well as indicate the location and type of hazard detected (Exh. HGE-1, App. I at 7-8).[38] The Company stated that WHF alarms are transmitted to a continuously attended operations center when WHF is not attended (Exh. HGE-1, App. I at 7-8). HG&E stated that it would integrate new hazard detection devices associated with the Project into the existing alarm system (Exh. HGE-1, App. I at 7-8). The Company stated that the existing alarm system can communicate a warning of hazardous conditions to the control room and all locations of the facility frequented by personnel (Exh. HGE-1, App. I at 7-8).

F. Construction Safety

HG&E provided a construction safety plan in its application (Exh. HGE-1, App. E). HG&E stated that construction would be conducted in accordance with 29 CFR Part 1926 [Safety and Health Regulations for Construction] by the Occupational Safety and Health Administration ("OSHA") (Exh. HGE-1, App. E at 1). HG&E explained that the construction safety plan included in its application outlined the framework and broad requirements for construction safety (Exhs. HGE-2, at 2-5; HGE-1, App. E at 1). HG&E stated it will require its selected contractor to develop and implement a comprehensive "Site Specific Safety Plan" that is consistent with the framework described in the application's construction safety plan (Exhs. HGE-1, at 2-5; HGE-1, App. E at 1).

G. Fire Safety

HG&E stated that WHF included multiple safety systems designed to detect hazardous conditions and mitigate their potential consequences (Exh. HGE-1, at 2-3). The Company stated that changes to WHF's existing safety systems associated with the Project were primarily to integrate the new LNG storage tank (Exh. HGE-1, at 2-3). HG&E commissioned a "fire study and prevention plan" for the Project that analyzed WHF's systems and the Project's compliance with

[38] HG&E stated that WHF's existing alarm system also meets the requirements of the Department at 220 CMR 112.00 (Exh. HGE-1, App. I at 7-8).

applicable federal and state regulations related to LNG fire safety (Exhs. HGE-1, at 2-3; HGE-1, App. C at 7-8). The Company included the fire study and prevention plan with its application to the Siting Board (see Exh. HGE-1, App. C).

Regarding hazard detection systems, the Company stated that WHF had multiple combustible gas detectors, optical flame detectors, and thermal heat detectors throughout WHF (Exh. HGE-1, App. C at 12-13). HG&E stated these instruments are integrated into the WHF control and SCADA systems and initiate audible and visual alarms at WHF upon activation; the hazard detection and alarm systems can initiate a plant shutdown and LNG isolation (Exh. HGE-1, App. C at 12-13).

Regarding water supply in the event of a fire, the Company reported that the nearest fire hydrant is approximately 450 feet outside the WHF entrance (Exh. HGE-1, App. C at 13). The Company stated that the hydrant was tested in 2020 and provided a flow rate greater than the applicable NFPA standard (Exh. HGE-1, App. C at 14). In addition, the Company stated that WHF has underground storage tanks capable of holding approximately 140,000 gallons of water to supplement the firewater supply provided by the city hydrant (Exh. HGE-1, App. C at 14). The Company stated the Project would not modify WHF's existing firewater systems (Exh. HGE-1, App. C at 14). The Company stated that WHF's hazard mitigation systems also include a portable high-expansion foam generator dry chemical fire extinguishing system (Exh. HGE-1, App. C at 14). The Company stated that the high-expansion foam generator would, in the event of a fire or other emergency, be operated by the Holyoke Fire Department in coordination with HG&E personnel (Exh. HGE-1, App. C at 14). The Company stated that the Project would not modify the high-expansion foam equipment or procedures (Exh. HGE-1, App. C at 14).

HG&E stated that dry chemical fire extinguishing systems and handheld extinguishers are strategically located throughout WHF (Exh. HGE-1, App. C at 14). The Company stated it would equip WHF with additional handheld extinguishers and re-locate existing handheld extinguishers to address changes to the facility's design related to the Project (Exh. HGE-1, App. C at 14). HG&E stated that the City of Holyoke Fire Department, in coordination with HG&E personnel, would operate handheld hoses and equipment to cool equipment and supply water to a portable high-expansion foam system (Exh. HGE-1, App. C at 11).

H. Site Security

As previously stated, the Project would be located wholly within WHF's existing security fence; the Company stated the Project would not require any modifications to the existing security system (Exh. HGE-1, at 2-6). The Company noted that its existing WHF "LNG Plant O&M Manual" includes a section detailing WHF's security procedures (Exhs. HGE-1, at 2-6; HGE-1, App. F, at 1). The Company stated that WHF's security fence consists of an eight-foot-tall chain-link fence topped with three strands of barbed wire (Exh. HGE-1, App. C at 15). The Company stated it monitors and records WHF for unauthorized access in real time using security cameras, infrared sensors, and motion sensors (Exhs. HGE-1, at 2-6; HGE-1, App. C at 15). HG&E stated that security system alarms and video would continue to be monitored at HG&E's dispatch center, which has 24/7/365 coverage (Exh. HGE-1, at 2-6). Furthermore, the Company stated that WHF operators would continue to communicate with the local law enforcement agencies as well as enable direct communication between all on-duty personnel having security responsibilities (Exh. HGE-1, at 2-6).

I. Analysis and Findings on Safety Compliance

The Siting Board evaluated the Project's compliance with Siting Board regulations regarding LNG facilities, 980 CMR 10.00. The record shows that the Project would meet the requirements of 980 CMR 10.00. Notably, 980 CMR 10.03 requirements for determining the suitable site size to meet specific emergency scenarios have been met, i.e., the thermal radiation protection zone and vapor dispersion zone do not extend beyond the existing fence line of WHF.

Regarding the thermal radiation protection zone, 980 CMR 10.03(1)(a)-(b) require that "the area of the property must be sufficiently large to provide a thermal protection zone" and that, within the thermal protection zone, the LNG impoundment dike may not be closer to any offsite target than the minimum protection distance. 980 CMR 10.03(c) specifies the method for geometrically calculating a target-specific protection distance 'd,' which for the Project is the nearest residential property line. 980 CMR 10.03(1)(d) provides two formulas for calculating the minimum protection distance. The formulas differ based on whether surrounding properties are zoned for industrial or non-industrial use. Properties surrounding WHF are not zoned for industrial use and HG&E appropriately used the formula for a non-industrial minimum protection

distance.[39] The Siting Board confirmed that HG&E correctly followed procedures established in 980 CMR 10.03(1)(c)-(d) for calculating a minimum protection distance and a target-specific protection distance 'd' for the Project's nearest off-site target (i.e., the nearest residential property line). The Project's target-specific protection distance 'd' is 262 feet; the minimum protection distance for the Project is 137 feet. The Siting Board finds that, because the target-specific protection distance 'd' is greater than the minimum protection distance, the Project would comply with the Siting Board's site size performance standard for a thermal radiation protection zone.[40]

Regarding the three heat flux zones from the mapping requirements in 980 CMR 10.02, the record shows that all three heat flux zones were within the WHF property line. Regarding the requirement for a vapor dispersion exclusion zone (980 CMR 10.03(2)), the record shows that the Project, as designed with the existing slatted-vapor fence around WHF, complied with the Board's vapor dispersion requirement.

The Siting Board's regulations also have ancillary requirements for LNG facilities at 980 CMR 10.04.

- 980 CMR 10.04(1) Dike Requirements. The Project would include a separate spill impoundment system for the Project's LNG storage tank. The dimensions of the spill impoundment would allow it to contain at least 150 percent of the maximum liquid contents of the new storage tank. Therefore, the proposed spill impoundment meets the Siting Board's requirement for a "dike" as defined in 980 CMR 10.04(1).

- 980 CMR 10.04(2) Separation of Components. The Project would comply with setbacks and equipment locations governed by other LNG safety regulations (e.g., NFPA 59A, 220 CMR 112.00) and the Project would not change the existing ease of access and egress. Therefore, the Project complies with the requirement to enable the

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39 The "non-industrial" thermal protection distance formula results in a greater (longer) protection distance compared to the formula provided for where surrounding properties are zoned for industrial use.

40 980 CMR 10.03(1)(e) requires applicants that rely on the industrial-zoning protection distance formula to conduct safety consultation sessions with the local planning board and affected property owners. For the Project, surrounding properties are *not* zoned for industrial use, and HG&E used the non-industrial-zoning formula for calculating a protection distance; therefore, HG&E is not required to conduct safety consultations with the local planning board and affected property owners regarding the Project.

predictable movement of personnel, maintenance equipment, and emergency equipment within and around the facility.

- 980 CMR 10.04(3) Inspection of Insulating Material. The Project would not use insulating material for either of the purposes described in the regulation's definition of "insulating material"; therefore, annual inspection of insulting material is not applicable to the Project. The Company will, however, conduct annual monitoring and inspections of the new LNG storage tank in accordance with its operation and maintenance manual.

- 980 CMR 10.04(4) Plan for Removal of Precipitation. HG&E presented a preliminary precipitation removal plan for the LNG impoundment dike which described the manner and timing of how it would remove rain, ice, and snow from the Project's impoundment system. The Company will finalize the precipitation removal plan and incorporate the final plan into WHF's operations and maintenance manual; however, HG&E did not specify when it would do so. The Siting Board directs HG&E to submit its finalized precipitation removal plan to the Siting Board and the Department's Pipeline Safety Division at least 30 days prior to commencement of Project operation.

- 980 CMR 10.04(5) Safety Plan. The record indicated that HG&E's existing "LNG Plant O&M Manual" contained emergency procedures for WHF. The Company's LNG Plant O&M Manual meets the Department's requirement for an emergency plan (220 CMR 112.41) and the Siting Board's requirement for a safety plan. The Company will update WHF's safety plan (i.e., the emergency procedures contained WHF's LNG Plant O&M Manual) to incorporate the Project. HG&E committed to completing reviews of WHF's updated safety plan with the Holyoke Fire Department and adjacent property owners. HG&E also committed to providing the Siting Board with a copy of the updated safety plan prior to commencement of the Project operation. The Siting Board directs the Company to submit WHF's updated safety plan to the Siting Board and the Department's Pipeline Safety Division at least 30 days prior to commencement of Project operation.

- 980 CMR 10.04(6) Alarm System. WHF has an existing alarm system that provides audible and visible alarms. HG&E would integrate new hazard detection devices associated with the Project into the existing alarm system. However, HG&E did not state whether WHF's alarm system, as updated for the Project, would simultaneously alert the Holyoke Fire Department in the event of an alarm condition as required by 980 CMR 10.04(6). The Siting Board directs the Company to ensure that its alarm system, as updated for the Project, will simultaneously and automatically alert the Holyoke Fire Department if appropriate alarm conditions are triggered at WHF. The Siting Board further directs the Company to provide evidence that: (1) its alarm system will simultaneously and automatically alert the Holyoke Fire Department in the event of appropriate alarm conditions; and (2) the Company has tested and confirmed its alarm

system's capability to automatically alert the Holyoke Fire Department in the event of an alarm condition.

The Siting Board finds that upon compliance with the conditions stated above the Project will meet the ancillary requirements of 980 CMR 10.04.

Although not specifically required by 980 CMR 10.00, the Company provided evidence on construction safety, fire safety, and site security. The Company's construction safety plan references relevant OSHA regulations and states the Company's expectations for contractors to develop task-specific safety plans. Regarding fire safety, WHF already has hazard detection and mitigation systems; HG&E would update those systems as necessary to incorporate the Project. The record indicated that HG&E maintains a portable high-expansion foam system at WHF. The Siting Board notes that certain fire-prevention and fire-fighting agents have, in the past, contained hazardous chemicals referred to as per- and poly-fluoroalkyl substances ("PFAS").[41] To avoid future harm to the environment, the Siting Board directs HG&E to employ non-PFAS high-expansion foams at WHF, to the extent such products are commercially available, efficacious, and compliant with the relevant requirements of 310 CMR 112. Regarding physical site security, the record shows that that WHF already has systems to prevent and monitor for unauthorized site access; the record shows that the Project would not require HG&E to modify any of WHF's existing security measures.

VIII. CONSISTENCY WITH POLICIES OF THE COMMONWEALTH

A. Standard of Review

G.L. c. 164, § 69J requires the Siting Board to determine whether the plans for the construction of the applicant's new facilities are consistent with current health, environmental protection, and resource use and development policies as adopted by the Commonwealth. Northeast Energy Center at 186; Lowell-Tewksbury at 72; Colonial Gas (2016) at 48.[42]

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41 See: https://www.mass.gov/info-details/pfas-and-firefighting-foam.

42 G.L. c. 164, § 69J requires consistency with environmental protection policies of the Commonwealth but does not explicitly recognize energy policies. However, the Siting Board accomplishes its statutory mandate to ensure reliable energy supply with minimum

B. Health Policies

1. Company Description

HG&E asserts that the Project is consistent with the health policies of the Commonwealth (HG&E Brief at 60). HG&E asserts that G.L. c. 164, § 69J's requirement for the Siting Board to review projects to "provide a necessary energy supply for the Commonwealth with a minimum impact on the environment at lowest possible cost" expresses the Legislature's view that adequate, economical, and reliable gas and electricity distribution service are essential to the health, safety and welfare of residents of the Commonwealth (Exh. HGE-1, at 7-1). HG&E asserts that the Project would be consistent with this legislatively articulated policy by ensuring reliable and safe distribution service to HG&E's existing gas customers (Exh. HGE-1, at 7-1). HG&E asserts that the Commonwealth has "established a nexus between reliable energy service and the health of the residents" (HG&E Brief at 60-61, citing Lowell-Tewksbury at 73). HG&E notes that the Siting Board has previously found that a project that would provide natural gas customers with increased reliability was consistent with the health policies of the Commonwealth as embodied in the Restructuring Act, St. 1997, c.164 (HG&E Brief at 61, citing Lowell-Tewksbury at 73).

HG&E has committed to conduct all design, construction, and operational activities in accordance with applicable governmental and industry health standards (HG&E Brief at 61; Exh. HGE-1, at 7-1). These include regulations of the Siting Board (980 CMR 10.00), the Department (220 CMR 100.00 and 112.00), PHMSA, and OSHA (HG&E Brief at 61; Exh. HGE-1, at 7-1). They also include codes and standards promulgated by NFPA (HG&E Brief at 61; Exh. HGE-1, at 7-1). HG&E has also committed itself to comply with all federal, state, and local regulations pertaining to the handling of hazardous materials (Exh. HGE-1, at 7-5).

2. Analysis and Findings

Reliable energy distribution, including gas distribution where needed, is essential to the health, safety, and welfare of residents of the Commonwealth. See Northeast Energy Center at 192

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impact on the environment at the lowest possible cost within the context of current energy policies of the Commonwealth. G.L. c. 164, § 69H.

(expanding the Restructuring Act's declaration that "reliable electric service is of utmost importance to the safety, health, and welfare of the Commonwealth's citizens" to encompass gas distribution as well); see also Lowell-Tewksbury at 73 (finding that a gas distribution project was consistent with the health policies of the Commonwealth because it was needed to promote reliable gas distribution). Sections III.C and IV.D above find that the added LNG storage capacity envisioned by the Project is necessary to serve HG&E's customers in an economic and reliable manner. Thus, the Project intrinsically promotes a critical component of the health policies of the Commonwealth.

The Project is almost certain to lead to increased consumption of natural gas in Holyoke (see Table 3 above, projecting an average increase of 0.45 percent per year if the moratorium is relaxed).[43] At the same time, however, the Project is likely to decrease the amount of oil and propane that is used for home heating (see section III.C above, concluding that many Holyoke residents, after being denied new natural gas service, now opt to install a new oil or propane heating system rather than an electrified system). Because of the significantly lower overall operating costs, customers are very likely, if natural gas becomes available to them, to choose it over both propane and oil. The Siting Board notes that the record shows that ASHPs for HG&E's customers have comparable overall costs to high-efficiency natural gas systems over the lifespan of the respective systems, and customers may be equally likely to adopt ASHPs if incentives meaningfully offset the higher installation costs. Natural gas pollutes significantly less than oil or propane, but more than ASHPs – especially in view of the predominantly renewable energy sources that comprise HG&E's electric supply sources. Its direct impact on human health and the environment is, thus, significantly less than oil or propane, but higher than ASHP's and other efficient electrification end uses that supplant the use of natural gas. Greenhouse gas emissions arising from the increased use of natural gas are addressed in Section VIII.C.2.a below. Because

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[43] The Company stresses, "[T]he Project does not increase the Company's use of natural gas for existing customers, but only provides added security from service interruption due to delivery risk for needed LNG" (HG&E Brief at 62) (emphasis in original). The statement is accurate only with respect to existing customers. The expected influx of new customers if the moratorium is lifted is expected to increase natural gas use, as shown in Table 3.

the Project is likely to lead to a reduction of both oil and propane consumption in favor of natural gas, and electrification has been deemed infeasible in meeting the immediate identified need, the Project is consistent with the health policies of the Commonwealth.

HG&E intends to comply with all applicable governmental and industry health standards. Such compliance further ensures consistency with the health policies of the Commonwealth. For all the above reasons, the Siting Board finds that the Project is consistent with the health policies of the Commonwealth.

C. Environmental Protection Policies

1. Company Description

HG&E asserts that the Project is consistent with the environmental protection policies of the Commonwealth, including G.L. c. 164, the Global Warming Solutions Act, as amended and codified at G.L. c. 21N, and other state and local environmental policies (HG&E Brief at 60, 62; Exh. HGE-1, at 7-1).[44]

a. Global Warming Solutions Act, as Amended by 2021 Roadmap Act

The 2008 Global Warming Solutions Act, as Amended by the 2021 Roadmap Act, requires by 2050 for statewide greenhouse gas emissions to be net zero and no higher than a level 85 percent below the state's 1990 levels. See G.L. c. 21N, § 3(b); see also Determination [by the Secretary of Energy and Environmental Affairs ("Secretary")] of Statewide Emissions Limit and Sector-Specific Sublimits for 2050, dated December 21, 2022, ("Secretary's Determination") at 1 (defining "net zero" as "A level of statewide greenhouse gas emissions that is equal in quantity to the amount of carbon dioxide or its equivalent that is removed from the atmosphere and stored

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[44] The 2024 Climate Act, St. 2024, c. 239, and Executive Order 654 (March 16, 2026) are additional energy policies of the Commonwealth of Massachusetts that went into effect after this proceeding completed briefs; therefore, these polices were not considered by the parties and not analyzed by the Siting Board in this proceeding.

annually by, or attributable to, the Commonwealth; provided, however, that in no event shall the level of emissions be greater than a level that is 85 percent below the 1990 level").

HG&E asserts that the Massachusetts Legislature envisions achieving net zero carbon primarily through decarbonization of residential heating that now relies on natural gas (HG&E Brief at 63; Exh. HGE-1, at 7-2). HG&E notes that the Massachusetts 2050 Decarbonization Roadmap from December of 2020 ("2050 Roadmap") envisions the "drawdown of fossil fuel use and infrastructure" (Exh. HGE-1, at 7-2, citing 2050 Roadmap at 53). The 2050 Roadmap, prepared by the Executive Office of Energy and Environmental Affairs ("EEA"), provided a path for implementing the greenhouse gas emissions reductions required by the Global Warming Solutions Act.

HG&E notes that, in recognizing the need to decrease fossil fuel use, the 2050 Roadmap recognizes the need "to carefully manage ongoing and future investments in the gas distribution system" and to manage the drawdown "to ensure equitable outcomes" (Exh. HGE-1, at 7-2, citing 2050 Roadmap at 53). The 2050 Roadmap specifically notes, "Higher costs cannot be borne by the consumers least able to pay and steps must be taken to provide for an orderly and equitable transition" (Exh. HGE-1, at 7-2, citing 2050 Roadmap at 53). HG&E asserts that the continued conversion of oil heating customers to natural gas will help to achieve carbon reduction benefits (Exh. HGE-1, at 7-3). HG&E asserts that the Project "will ensure reliable service and also facilitate strategic customer additions to achieve carbon reductions" (Exh. HGE-1, at 7-3). HG&E asserts that the Project is consistent with the climate change and emissions reduction policies of the Commonwealth and specifically with achieving net zero greenhouse gas emissions by 2050 (Exh. HGE-1, at 7-3).

b. Environmental Justice Policy

The Project would be confined to WHF, and WHF does not lie within a mile of any Environmental Justice population (Exh. HGE-1, at 6-21). HG&E asserts that under these circumstances, G.L. c. 30, § 62J does not impose Environmental Justice requirements on the Project (Exh. HGE-1, at 7-4).

2. Analysis and Findings

a. Global Warming Solutions Act, as Amended by 2021 Roadmap Act

The greatest concern with the Project in the context of the Commonwealth's environmental policies is that it would lead to an increase in greenhouse gas emissions since it would lead to increased natural gas use within HG&E's system. This increase seemingly conflicts with the Commonwealth's legally binding 2050 targets of net zero greenhouse gas emissions and actual greenhouse gas emissions of no more than 85 percent below 1990 levels. G.L. c. 21N, § 3(b); see also Secretary's Determination at 1. The lifting of the moratorium would enable people to adopt gas systems instead of propane or oil systems. The economics for them doing so are favorable (Table 3). Such adoption would prove a benefit over oil or propane but would still result in ongoing carbon emissions, and their choosing gas reduces the opportunity for them to choose electrification instead. Having first invested in gas equipment, they are unlikely to choose to convert to electricity for many years to come.

The Siting Board directs the Company to advise applicants for new or additional gas service of cost-comparable electrification solutions over the life of the customer's proposed gas end use(s), and to encourage such electrification solutions. The Company shall develop and provide a plan to the Siting Board describing its intended approach to comply with this condition within 90 days of this decision. The Siting Board also directs the Company to continue to refine and enhance its electrification customer incentives, including by periodic comparative analyses of programs offered by Massachusetts investor-owned utilities. In consultation with DOER and MassDEP, the Company shall prepare and submit to the Siting Board a report of its initial analysis and any proposed incentive enhancements within 240 days of this decision.

Based on HG&E's expected compliance with environmental laws, its planned minimization of environmental impacts (Section VI), its planned compliance with safety requirements (Section VII), its past record of having contributed to the State's greenhouse gas emission reductions goals by creating an electrical portfolio of 95% renewable energy, its past provision of utility services to its customers in a cost-effective manner, the relatively low incomes of its customers compared to the State as a whole, and the Board's direction above to HG&E to continue to explore cost-efficient ways of reducing greenhouse gas emissions, the Siting Board

finds that the Project is consistent with the Commonwealth's environmental protection policies even in the event that HG&E may choose to expand its gas service in the future.

b. Environmental Justice Policy

Because WHF does not lie within one mile of any Environmental Justice population and all work of the Project would be within WFH, HG&E correctly asserts that G.L. c. 30, § 62J does not impose Environmental Justice requirements on the Project. This is also true of the 2021 EEA Environmental Justice Policy and the provisions specific to projects reviewed by the Siting Board. The Project is, therefore, consistent with the 2021 Environmental Justice Policy of the Commonwealth.

D. Resource Use and Development Policies

1. Company Description

HG&E asserts that the Project is consistent with the resource use and development policies of the Commonwealth (HG&E Brief at 60). HG&E cites to the following sustainable development principles embedded within the Commonwealth's Smart Growth/Smart Energy policy: (1) supporting the revitalization of city centers and neighborhoods by promoting development that is compact, conserves land, protects historic resources and integrates uses; (2) encouraging reuse of existing sites, structures and infrastructure; (3) protecting environmentally sensitive lands, natural resources, critical habitats, wetlands and water resources and cultural and historic landscapes; and (4) increasing the quantity, quality and accessibility of open spaces and recreational opportunities (Exh. HGE-1, at 7-4, citing Northeast Energy Center at 199). HG&E asserts that land use impacts would be minimized by siting the Project within the existing WHF since it would avoid impacting other resources and areas (Exh. HGE-1, at 7-5). HG&E emphasizes that the increased storage capacity would better utilize HG&E's existing natural gas supply system (Exh. HGE-1, at 7-5).

2. Analysis and Findings

The primary aspects of the Project that implicate the Commonwealth's resource and development policies are the siting of the Project and the cost implications of the Project. In Section VI above, the Siting Board analyzed potential impacts associated with construction and operation of the Project, including land use impacts. In large part because WHF already has a prepared site for the new tank and, therefore, does not require the removal of any trees, the Siting Board found that the Project would minimize land use impacts. The siting of the Project at WHF is consistent with the Commonwealth's Sustainable Development Principles in that it conserves land, encourages reuse of existing sites and infrastructure, and protects natural resources, most notably forests. Northeast Energy Center at 199.

As discussed above, the Project is expected to provide additional customers with access to natural gas as a heating option, and they may select that option given potential cost considerations. Because of both the sensible location of the Project site and the positive potential economic benefits of having a more reliable and plentiful supply of natural gas during peak conditions, the Siting Board finds that construction and operation of the Project would be consistent with the resource use and development policies of the Commonwealth.

IX. SECTION 61 FINDINGS

The Massachusetts Environmental Policy Act provides, "Any determination made by an agency of the Commonwealth shall include a finding describing the environmental impact, if any, of the project and a finding that all feasible measures have been taken to avoid or minimize said impact." G.L. c. 30, § 61. G.L. c. 164, § 69I, however, specifically exempts the Siting Board from complying with MEPA in the Section 69J context. Accordingly, Section 61 findings are not necessary in this case.

X. DECISION

The Siting Board's enabling statute directs the Siting Board to implement the energy policies contained in G.L. c. 164, §§ 69H to 69Q, to provide a reliable energy supply for the Commonwealth with a minimum impact on the environment at the lowest possible cost. G.L.

c. 164, § 69H. Thus, an applicant must obtain Siting Board approval under G.L. c. 164, § 69J, prior to construction of a proposed energy Facility.

In Section III, above, the Siting Board finds that additional natural gas facilities, such as the Project, are needed for the Company to maintain a reliable supply of gas in its service territory.

In Section IV, above, the Siting Board finds that accelerated electrification is not a feasible alternative to the Project for solving the salient and short-term need of reducing the Company's reliance on LNG tanker truck deliveries during cold snaps. Additionally, the Siting Board finds that, on balance, the Project is superior to the other alternatives identified with respect to meeting the identified need and providing a reliable energy supply for the Commonwealth with minimum impact on the environment at the lowest possible cost.

In Section V, above, the Siting Board finds that the Company has: (1) developed and applied a reasonable set of criteria for identifying and evaluating alternative sites in a manner that ensures that it has not overlooked or eliminated any site that is clearly superior to the Project; and (2) identified a range of practical sites with some measure of geographic diversity. Therefore, the Siting Board finds that the Company has demonstrated that it examined a reasonable range of practical siting alternatives while seeking to minimize cost and environmental impacts and ensure a reliable energy supply.

In Section VI, above, the Siting Board finds that the Company provided sufficient information regarding environmental impacts and potential mitigation measures to allow the Siting Board to determine whether the Project has achieved a proper balance among cost, reliability, and environmental impacts. Based on the information provided, the Siting Board finds that, with the implementation of the mitigation and conditions specified, and given compliance with all local, state, and federal requirements, the temporary and permanent environmental impacts of the Project would be minimized. The Siting Board finds that, because the Project takes advantage of existing facilities at the WHF, Project costs would be reasonable and reliability would increase.

In Section VII, above, the Siting Board finds that the Company has demonstrated that its plan to site the Project at the WHF site, with compliance with the conditions herein, is consistent with 980 CMR 10.00.

In Section VIII, above, the Siting Board finds that, subject to the specific mitigation and the conditions set forth in this Decision, the Company's plans for construction of the Project are consistent with the current health, environmental protection, and resource use and development policies of the Commonwealth.

Accordingly, pursuant to G.L. c. 164, § 69J, the Siting Board approves the Company's Petition for Approval of a Gas Storage Facility using the Company's preferred site, as described herein, subject to the following Conditions A through L.

A. The Siting Board directs the Company to limit normal construction work to weekdays between 7:00 a.m. and 6:00 p.m. Normal construction work hours shall not include Saturdays or Sundays, or state holidays. With the exception of emergency circumstances on a given day necessitating extended hours, the Company shall seek written permission from the Holyoke Board of Public Works and/or any other applicable local authority and shall provide the Siting Board with a copy of such permission before extending construction work beyond the above-noted hours and days. If the Company and the local authority are not able to agree on whether such extended construction hours should occur, the Company may request prior authorization from the Siting Board and shall provide the local authority with a copy of any such request and any related decision by the Siting Board. The Siting Board directs the Company to ensure that LNG trucks do not queue beyond the WHF boundary and along Mueller Road, or any other surrounding residential street.

B. The Siting Board directs HG&E to submit its finalized precipitation removal plan to the Siting Board and the Department of Public Utilities Pipeline Safety Division at least 30 days prior to commencement of Project operation.

C. The Siting Board directs the Company to submit WHF's updated safety plan to the Siting Board and the Department of Public Utilities Pipeline Safety Division at least 30 days prior to commencement of Project operation.

D. The Siting Board directs the Company to ensure that its alarm system, as updated for the Project, will simultaneously and automatically alert the Holyoke Fire Department if appropriate alarm conditions are triggered at the WHF. The Siting Board further directs the Company to provide evidence that: (1) its alarm system will simultaneously and automatically alert the Holyoke Fire Department in the event of appropriate alarm conditions; and (2) the Company has tested and confirmed its alarm system's capability to automatically alert the Holyoke Fire Department in the event of an alarm condition.

E. The Siting Board directs the Company to employ non-PFAS high-expansion foams at the WHF, to the extent such products are commercially available, efficacious, and compliant with the relevant requirements of 310 CMR 112.

F. The Siting Board directs the Company and its contractors and subcontractors to comply with all applicable federal, state, and local laws, regulations, and ordinances from which the Company has not received an exemption.

G. The Siting Board directs the Company, within 90 days of Project completion, to submit a report to the Siting Board documenting compliance with all conditions contained in this Decision, noting any outstanding conditions yet to be satisfied and the expected date and status of such resolution.

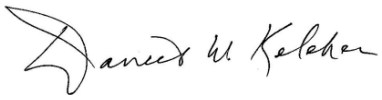
H. Because issues addressed in this Decision relative to this facility are subject to change over time, construction of the proposed facility must be commenced within three years of the date of the decision.

I. 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 as presented to the Siting Board. Therefore, the Siting Board requires the Company, or its successors in interest, to notify the Siting Board of any changes other than minor variations to the proposal so that the Siting Board may decide whether to inquire further into a particular issue. The Company (and any successor in interest) is obligated to provide the Siting Board with sufficient information on changes to the proposed Project to enable the Siting Board to make these determinations.

J. The Secretary of the Department shall transmit a copy of this Decision herein to the Executive Office of Energy and Environmental Affairs, and the Company shall serve a copy of this Decision on the City of Holyoke Mayor and City Council. The Company shall certify to the Secretary of the Department within ten business days of issuance that such service has been made.

K. The Siting Board directs the Company to advise applicants for new or additional gas service of cost-comparable electrification solutions over the life of the customer's proposed gas end use(s), and to encourage such electrification solutions. The Company shall develop and provide a plan to the Siting Board describing its intended approach to comply with this condition within 90 days of this decision.

L. The Siting Board directs the Company to continue to refine and enhance its electrification customer incentives, including by periodic comparative analyses of programs offered by Massachusetts investor-owned utilities. In consultation with DOER and MassDEP, the Company shall prepare and submit to the Siting Board a report of its initial analysis and any proposed incentive enhancements within 240 days of this decision.



Daniel Keleher
Presiding Officer

Dated April 24, 2026

APPROVED by vote of the Energy Facilities Siting Board at its meeting on April 21, 2026, by the members present and voting. Voting for the Final Decision as amended: Rebecca L. Tepper, Secretary of Energy and Environmental Affairs and Chair of the Energy Facilities Siting Board; Jeremy McDiarmid, Chair, Department of Public Utilities; Laurel Mackay, Principal Deputy General Counsel of the Department of Environmental Protection and designee for Bonnie Heiple, Commissioner, Department of Environmental Protection; Douglas Gutro, Director of the Permit Regulatory Office and designee for Eric Paley, Secretary, Executive Office of Economic Development; Thomas O'Shea, Commissioner of the Department of Fish and Game; and Dr. Robert Goldstein, Commissioner of the Department of Public Health. Abstaining from voting: Elizabeth Mahony, Commissioner, Department of Energy Resources.

Rebecca L. Tepper, Chair
Energy Facilities Siting Board

On this 24th day of April 2026

Appeal as to matters of law from any final decision, order, or ruling of the Siting Board may be taken to the Supreme Judicial Court by an aggrieved party in interest by the filing of a written petition praying that the order of the Siting Board be modified or set aside in whole or in part. Such petition for appeal shall be filed with the Siting Board within twenty days after the date of service of the decision, order or ruling of the Siting Board, or within such further time as the Siting Board may allow upon request filed prior to the expiration of the twenty days after the date of service of said decision, order, or ruling. Within ten days after such petition has been filed, the appealing party shall enter the appeal in the Supreme Judicial Court sitting in Suffolk County by filing a copy thereof with the clerk of said court. Massachusetts General Laws, Chapter 25, Sec. 5; Chapter 164, Sec. 69P.