



Oregon

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To: Energy Facility Siting Council

From: Sarah Esterson, Senior Policy Advisor

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Subject: Agenda Item G (Information Item): Need Standard Overview for the June 13, 2025 EFSC Meeting

Attachments: Attachment 1: Report of the Energy Facility Siting Task Force (October 21, 1996, Pages 15 and 34)

PURPOSE OF AGENDA ITEM

To issue a site certificate for certain nongenerating facilities, the Council must find that the applicant has demonstrated the need for the facility. The Oregon Department of Justice (DOJ) and Oregon Department of Energy (Department) staff will present to the Energy Facility Siting Council (Council) an overview of the Need standard, including the ways, under Council rule, that an applicant can demonstrate compliance with the standard.

COUNCIL STANDARDS

The standards Council applies when reviewing applications for site certificates or amendments to site certificates are set forth in Oregon Administrative Rule (OAR) Chapter 345 Divisions 22, 23 and 24. Council standards include requirements of the standard and the information necessary to evaluate compliance with the standard.¹

HISTORY OF THE NEED STANDARD

ORS 469.501 requires Council to adopt standards for the siting, construction, operation and retirement of facilities. It lists some of the subjects that Council may address in its standards. Currently, ORS 469.501(L) states Council may adopt a standard addressing “the need for proposed *nongenerating* facilities as defined in ORS 469.503” (*e.g.*, transmission lines, certain pipelines, etc.) while expressly stating the Council “shall not adopt a standard requiring a showing of need or cost-effectiveness for *generating facilities* as defined in ORS 469.503.” ORS 469.501(L) (emphasis added).

¹ OAR 345-021-0010(1) allows the Department to determine whether information requirements identified in the standard must be provided by an applicant/certificate holder. In other words, while the information requirements are included with the language of the standard, the information requirements may be modified or waived by the Department if determined unnecessary or irrelevant to the analysis to be conducted for evaluation of compliance with the standard

Earlier versions of this statute required that ODOE standards take into account among other things, the need for the facility, without distinguishing between generating and nongenerating facilities. When the standard was first adopted, power generating facilities were built by investor-owned electric utilities, which mostly built large central station facilities. What a utility could charge for a kilowatt-hour of electricity was a function of what that utility had prudently invested in its plant and equipment (the “rate base”). The EFSC need standard served as a check on a utility’s tendency to add plant and equipment, thereby enlarging the rate base upon which its allowed returns were measured. Thus, initially, one of the purposes of the need standard was to ensure a generating energy facility would not be built unless the utility could show that the output from the proposed facility was truly required, *i.e.*, energy demand was threatening to exceed local energy supply.

The legislature amended the statute over time, with one version stating that Council could adopt exemptions from any need standard except for coal or nuclear plants.² This served to encourage conservation and development of renewable resources.

In the late 1990’s the legislature further revised the statutory authority for Need standard to state, as it does now, that EFSC is expressly prohibited from requiring a demonstration of need or cost-effectiveness for generating facilities. One of the factors leading to this change was that generating facilities had changed in nature. They weren’t just large central facilities built by utilities; smaller units developed by third parties were also being built. It was determined that competition among energy suppliers, especially by third party “merchant” plants, was being impeded by the requirement to show a need for the facility. Therefore, as stated in ORS 469.310, the legislature dropped the Need standard for generating facilities, determining that *“the need for new generating facilities . . . is sufficiently addressed by reliance on competition in the market rather than by consideration of cost-effectiveness and shall not be a matter requiring determination by the Energy Facility Siting Council in the siting of a generating facility.”*³

The legislature, however, left in place the ability of Council to adopt a Need standard for nongenerating facilities, as defined in ORS 469.300 (11)(a)(C) and (E) to (I) (full definitions below):

- high voltage transmission lines,
- certain pipelines,
- synthetic fuel plants which convert natural resources including coal or oil to a gas, liquid or solid product intended to be used as a fuel,
- a plant which converts biomass to a gas, liquid or solid product, or combination of such products, intended to be used as a fuel,
- liquified natural gas (LNG) storage facilities, and
- a surface facility related to an underground gas storage reservoir

² SB 1016 (1993).

³ A 1996 Task Force conducted a comprehensive analysis of energy facility siting in Oregon, including a detailed analysis of the Need standard. That analysis further explains factors leading to the legislature’s decision to drop the Need standard for generating facilities. See Attachment 1, Report of the Energy Facility Siting Task Force (October 21, 1996). Discussion of the Need standard begins on p. 34.

Council currently has need standards for high voltage transmission lines, certain pipelines and LNG storage facilities.

RELEVANT STATUTES

ORS 469.501 Energy facility siting, construction, operation and retirement standards; exemptions; rules. (1) The Energy Facility Siting Council shall adopt standards for the siting, construction, operation and retirement of facilities. The standards may address but need not be limited to the following subjects:

(L) The need for proposed nongenerating facilities as defined in ORS 469.503, consistent with the state energy policy set forth in ORS 469.010 and 469.310. The council may consider least-cost plans when adopting a need standard or in determining whether an applicable need standard has been met. The council shall not adopt a standard requiring a showing of need or cost-effectiveness for generating facilities as defined in ORS 469.503.

ORS 469.503 Requirements for approval of energy facility site certificate; ***

(e) As used in this subsection: ***

(K) "Nongenerating facility" means those energy facilities that are defined in ORS 469.300 (11)(a)(C) and (E) to (I).

ORS 469.300 Definitions

(11)(a) "Energy facility" means any of the following:

(C) A high voltage transmission line of more than 10 miles in length with a capacity of 230,000 volts or more to be constructed in more than one city or county in this state, but excluding:

(i) Lines proposed for construction entirely within 500 feet of an existing corridor occupied by high voltage transmission lines with a capacity of 230,000 volts or more;

(ii) Lines of 57,000 volts or more that are rebuilt and upgraded to 230,000 volts along the same right of way; and

(iii) Associated transmission lines.

(E) A pipeline that is:

(i) At least six inches in diameter, and five or more miles in length, used for the transportation of crude petroleum or a derivative thereof, liquefied natural gas, a geothermal

energy form in a liquid state or other fossil energy resource, excluding a pipeline conveying natural or synthetic gas;

(ii) At least 16 inches in diameter, and five or more miles in length, used for the transportation of natural or synthetic gas, but excluding:

(I) A pipeline proposed for construction of which less than five miles of the pipeline is more than 50 feet from a public road, as defined in ORS 368.001; or

(II) A parallel or upgraded pipeline up to 24 inches in diameter that is constructed within the same right of way as an existing 16-inch or larger pipeline that has a site certificate, if all studies and necessary mitigation conducted for the existing site certificate meet or are updated to meet current site certificate standards; or

(iii) At least 16 inches in diameter and five or more miles in length used to carry a geothermal energy form in a gaseous state but excluding a pipeline used to distribute heat within a geothermal heating district established under ORS chapter 523.

(F) A synthetic fuel plant which converts a natural resource including, but not limited to, coal or oil to a gas, liquid or solid product intended to be used as a fuel and capable of being burned to produce the equivalent of two billion Btu of heat a day.

(G) A plant which converts biomass to a gas, liquid or solid product, or combination of such products, intended to be used as a fuel and if any one of such products is capable of being burned to produce the equivalent of six billion Btu of heat a day.

(H) A storage facility for liquefied natural gas constructed after September 29, 1991, that is designed to hold at least 70,000 gallons.

(I) A surface facility related to an underground gas storage reservoir that, at design injection or withdrawal rates, will receive or deliver more than 50 million cubic feet of natural or synthetic gas per day, or require more than 4,000 horsepower of natural gas compression to operate, but excluding:

(i) The underground storage reservoir;

(ii) The injection, withdrawal or monitoring wells and individual wellhead equipment; and

(iii) An underground gas storage reservoir into which gas is injected solely for testing or reservoir maintenance purposes or to facilitate the secondary recovery of oil or other hydrocarbons.

(J) An electric power generating plant with an average electric generating capacity of 50 megawatts or more if the power is produced from geothermal or wind energy at a single energy facility or within a single energy generation area.

469.310 Policy. In the interests of the public health and the welfare of the people of this state, it is the declared public policy of this state that the siting, construction and operation of energy facilities shall be accomplished in a manner consistent with protection of the public health and safety and in compliance with the energy policy and air, water, solid waste, land use and other environmental protection policies of this state. It is, therefore, the purpose of ORS 469.300 to 469.563, 469.590 to 469.619, 469.930 and 469.992 to exercise the jurisdiction of the State of Oregon to the maximum extent permitted by the United States Constitution and to establish in cooperation with the federal government a comprehensive system for the siting, monitoring and regulating of the location, construction and operation of all energy facilities in this state. It is furthermore the policy of this state, notwithstanding ORS 469.010 (2)(f) and the definition of cost-effective in ORS 469.020, that the need for new generating facilities, as defined in ORS 469.503, is sufficiently addressed by reliance on competition in the market rather than by consideration of cost-effectiveness and shall not be a matter requiring determination by the Energy Facility Siting Council in the siting of a generating facility, as defined in ORS 469.503.

COUNCIL'S NEED STANDARD

Division 23

NEED STANDARD FOR NONGENERATING FACILITIES

OAR 345-023-0005

Need for a Facility

This division applies to nongenerating facilities as defined in ORS 469.503(2)(e), except nongenerating facilities that are related or supporting facilities. To issue a site certificate for a facility described in sections (1) through (3), the Council must find that the applicant has demonstrated the need for the facility. The Council may adopt need standards for other nongenerating facilities. This division describes the methods the applicant shall use to demonstrate need. In accordance with ORS 469.501(1)(L), the Council has no standard requiring a showing of need or cost-effectiveness for generating facilities. The applicant shall demonstrate need:

- (1) For electric transmission lines under the least-cost plan rule, OAR 345-023-0020(1), or the system reliability rule for transmission lines, OAR 345-023-0030, or by demonstrating that the transmission line is proposed to be located within a "National Interest Electric Transmission Corridor" designated by the U.S. Department of Energy under Section 216 of the Federal Power Act;
- (2) For natural gas pipelines under the least-cost plan rule, OAR 345-023-0020(1), or the economically reasonable rule for natural gas pipelines, OAR 345-023-0040;
- (3) For storage facilities for liquefied natural gas with storage capacity of three million gallons or greater under the least-cost plan rule, OAR 345-023-0020(1), or the economically reasonable rule for liquefied natural gas storage facilities, OAR 345-023-0040.
- (4) If the proposed facility is a non-generating facility for which the applicant must demonstrate need under OAR 345-023-0005, the applicant must submit information about the need for the

facility, providing evidence to support a finding by the Council as required by (1) through (3), including identification of the rule in Division 23 of this chapter under which the applicant chooses to demonstrate need.

OAR 345-023-0020

Least-Cost Plan Rule

(1) The Council shall find that the applicant has demonstrated need for the facility if the capacity of the proposed facility or a facility substantially similar to the proposed facility, as defined by OAR 345-001-0010, is identified for acquisition in the short-term plan of action of an energy resource plan or combination of plans adopted, approved or acknowledged by a municipal utility, people's utility district, electrical cooperative, other governmental body that makes or implements energy policy, or electric transmission system operator that has a governance that is independent of owners and users of the system and if the energy resource plan or combination of plans:

(a) Includes a range of forecasts of firm energy and capacity demands and committed firm energy and capacity resources, as defined in OAR 345-001-0010, over the planning period using a reasonable method of forecasting;

(b) Considers and evaluates a reasonable range of practicable demand and supply resource alternatives over the planning period on a consistent and comparable basis. Practicable alternatives are those that are demonstrated to be technically and economically achievable within the time frame considered to meet potential energy or capacity needs;

(c) Uses financial assumptions, including discount rates and treatment of resource lifetimes and end effects that are consistent and comparable between resources;

(d) For electric transmission line facilities, considers alternatives that include but are not limited to:

(A) Implementation of cost-effective conservation, peak load management and voluntary customer interruption as a substitute for the proposed facility;

(B) Construction and operation of electric generating facilities as a substitute for the proposed facility;

(C) Direct use of natural gas, solar or geothermal resources at retail loads as a substitute for use of electricity transmitted by the proposed facility; and

(D) Adding standard sized smaller or larger transmission line capacity;

(e) For natural gas pipeline facilities, considers alternatives that include but are not limited to:

(A) Implementation of cost-effective conservation, peak load management and voluntary customer interruption as a substitute for the proposed facility;

(B) Installation of propane storage systems, facilities to store liquefied natural gas and underground gas storage reservoirs as a substitute for the proposed facility;

(C) Direct use of electricity, solar or geothermal resources at retail loads as a substitute for use of natural gas supplied by the proposed facility; and

(D) Adding standard sized smaller or larger pipeline capacity;

(f) For storage facilities for liquefied natural gas, considers alternatives that include, but are not limited, to:

(A) Implementation of cost-effective conservation, peak load management and voluntary customer interruption as a substitute for the proposed facility;

- (B) Installation of propane storage systems, natural gas pipelines and underground gas storage facilities as a substitute for the proposed facility;
 - (C) Direct use of electricity, solar or geothermal resources at retail loads as a substitute for use of natural gas supplied by the proposed facility; and
 - (D) Adding smaller or larger liquefied natural gas storage capacity;
 - (g) Includes the development and evaluation of alternative resource plans to meet forecast energy or capacity needs over the planning time period;
 - (h) Analyzes the uncertainties associated with alternative resource plans or strategies. The range of uncertainties about the future must be sufficient to test the performance of each alternative resource strategy. The criteria used to evaluate performance of alternative resource strategies must be broad enough to judge the merits of a strategy from a societal perspective;
 - (i) Aims to minimize long-run total resource costs while taking into account reliability, compatibility with the energy system, strategic flexibility, as defined in OAR 345-001-0010, and external environmental costs and benefits. The value provided by reliability, compatibility with the energy system, strategic flexibility and external environmental costs and benefits may justify actions that increase the total resource cost of the plan. The Council finds that the goals of a least-cost plan are to minimize expected total resource costs for society and the variance in those costs due to uncertainty about future conditions;
 - (j) Includes a short-term plan of action;
 - (k) Is consistent with the energy policy of the state as set forth in ORS 469.010. An energy resource plan is consistent with the energy policy of the state if its short-term plan of action describes actions that must be taken within a two to three year time frame to provide a reasonable assurance that future energy or capacity demands can be met while aiming to minimize total resource cost; and
 - (L) Was adopted, approved or acknowledged after a full, fair and open public participation and comment process. Such a process is one in which the public has reasonable and timely access to the decision-maker and to information and records legally available to the public.
- (2) The Council shall find that a least-cost plan meets the criteria of an energy resource plan described in section (1) if the Public Utility Commission of Oregon has acknowledged the least cost plan.
- (3) If the applicant chooses to demonstrate need for the proposed facility under OAR 345-023-0020(1), the least-cost plan rule, they must submit the following additional information in their application:
- (a) Identification of the energy resource plan or combination of plans on which the applicant relies to demonstrate need;
 - (b) The name, address and telephone number of the person responsible for preparing each energy resource plan identified in subsection (a);
 - (c) For each plan reviewed by a regulatory agency, the agency's findings and final decision, including:
 - (A) For a plan reviewed by the Oregon Public Utility Commission, the acknowledgment order; or
 - (B) For a plan reviewed by any other regulatory agency, a summary of the public process including evidence to support a finding by the Council that the agency's decision process included a full, fair and open public participation and comment process as required by OAR 345-023-0020(1)(L), and the location of and means by which the Department can obtain a complete copy of the public record;

- (d) Identification of the sections of the short-term action plan that call for the acquisition of the proposed facility or, as defined in OAR 345-001-0010, a facility substantially similar to the proposed facility;
- (e) The attributes of the proposed facility that qualify it as one called for in the short-term action plan of the energy resource plan or combination of plans identified in subparagraph (i) or a demonstration that, as defined in OAR 345-001-0010, a facility substantially similar to the proposed facility is called for in the plan.
- (4) If the applicant chooses to demonstrate need for the proposed facility under OAR 345-023-0020(1), the least-cost plan rule, and relies on an energy resource plan not acknowledged by the Public Utility Commission of Oregon, they must submit the following additional information:
- (a) The names, addresses and telephone numbers of members of any public advisory groups that participated in the preparation and review of each plan identified in (3)(c);
- (b) A discussion of how the plan or combination of plans conforms to the standards in OAR 345-023-0020(1)(a) through (L) including citations to relevant portions of the plan documents or other supporting evidence;
- (c) The expected annual emissions in tons of nitrogen oxides, PM-10 particulate, sulfur dioxide, carbon dioxide and mercury and a discussion of other environmental impacts, as compared to resources in the applicable energy resource plan;
- (d) In addition to the information described in (b) and (c), if the applicant chooses to demonstrate need for a proposed natural gas pipeline or storage facility for liquefied natural gas under OAR 345-023-0020(1), the least-cost plan rule, and relies on an energy resource plan not acknowledged by the Public Utility Commission of Oregon, the applicant must include the information described in OAR 345-023-0040(3) if the energy resource plan or combination of plans does not contain that information. If the energy resource plan or combination of plans contains the information described in OAR 345-023-0040(3), the applicant must provide a list of citations to the sections of the energy resource plan that contain the information;
- (e) In addition to the information described in (b) and (c), if the applicant chooses to demonstrate need for a proposed electric transmission line under OAR 345-023-0020(1), the least-cost plan rule and relies on an energy resource plan not acknowledged by the Public Utility Commission of Oregon, the applicant must include the information described in OAR 345-023-0030(4) if the energy resource plan or combination of plans does not contain that information. If the energy resource plan or combination of plans contains the information described in OAR 345-023-0030(4), the applicant must provide a list of citations to the sections of the energy resource plan that contain the information.

OAR 345-023-0030

System Reliability Rule for Electric Transmission Lines

The Council shall find that the applicant has demonstrated need for an electric transmission line that is an energy facility under the definition in ORS 469.300 if the Council finds that:

- (1) The facility is needed to enable the transmission system of which it is to be a part to meet firm capacity demands for electricity or firm annual electricity sales that are reasonably expected to occur within five years of the facility's proposed in-service date based on weather conditions that have at least a 5 percent chance of occurrence in any year in the area to be served by the facility;

- (2) The facility is consistent with the minimum operating reliability criteria contained in the Western System Coordinating Council Bulk Power Supply Program 1997-2007, dated April 1, 1998, as it applies either internally or externally to a utility system; and
- (3) Construction and operation of the facility is an economically reasonable method of meeting the requirements of sections (1) and (2) compared to the alternatives evaluated in the application for a site certificate.
- (4) If the applicant chooses to demonstrate need for a proposed electric transmission line under OAR 345-023-0030, they must submit the following additional information:
- (a) Load-resource balance tables for the area to be served by the proposed facility. In the tables, the applicant must include firm capacity demands and existing and committed firm resources for each of the years from the date of submission of the application to at least five years after the expected in-service date of the facility;
 - (b) Within the tables described in (a), a forecast of firm capacity demands for electricity and firm annual electricity sales for the area to be served by the proposed facility. The applicant must separate firm capacity demands and firm annual electricity sales into loads of retail customers, system losses, reserve margins and each wholesale contract for firm sale. In the forecast, the applicant must include a discussion of how the forecast incorporates reductions in firm capacity demand and firm annual electricity sales resulting from:
 - (A) Existing federal, state or local building codes, and equipment standards and conservation programs required by law for the area to be served by the proposed facility;
 - (B) Conservation programs provided by the energy supplier, as defined in OAR 345-001-0010;
 - (C) Conservation that results from responses to price; and
 - (D) Retail customer fuel choice;
 - (c) Within the tables described in (a), a forecast of existing and committed firm resources used to meet the demands described in (b). The applicant must include, as existing and committed firm resources, existing generation and transmission facilities, firm contract resources and committed new resources minus expected resource retirements or displacement. In the forecast, the applicant must list each resource separately;
 - (d) A discussion of the reasons each resource is being retired or displaced if the forecast described in (c) includes expected retirements or displacements;
 - (e) A discussion of the annual capacity factors assumed for any generating facilities listed in the forecast described in (c);
 - (f) A discussion of the reliability criteria the applicant uses to demonstrate the proposed facility is needed, considering the load carrying capability of existing transmission system facilities supporting the area to be served by the proposed facility;
 - (g) A discussion of reasons why the proposed facility is economically reasonable compared to the alternatives described below. In the discussion, the applicant must include a table showing the amounts of firm capacity and firm annual electricity available from the proposed facility and each alternative and the estimated direct cost, as defined in OAR 345-001-0010, of the proposed facility and each alternative. The applicant must include documentation of assumptions and calculations supporting the table. The applicant must evaluate alternatives to construction and operation of the proposed facility that include, but are not limited to:
 - (A) Implementation of cost-effective conservation, peak load management and voluntary customer interruption as a substitute for the proposed facility;

- (B) Construction and operation of electric generating facilities as a substitute for the proposed facility;
- (C) Direct use of natural gas, solar or geothermal resources at retail loads as a substitute for use of electricity transmitted by the proposed facility;
- (D) Adding standard sized smaller or larger transmission line capacity;
- (h) The earliest and latest expected in-service dates of the facility and a discussion of the circumstances of the energy supplier, as defined in OAR 345-001-0010, that determine these dates.

OAR 345-023-0040

Economically Reasonable Rule for Natural Gas Pipelines or Liquefied Natural Gas Storage Facilities

The Council shall find the applicant has demonstrated need for a natural gas pipeline that is an energy facility under the definition in ORS 469.300 or a facility that stores liquefied natural gas, if the Council finds that:

- (1) The facility is needed to enable the natural gas supply system of which it is to be a part to meet firm capacity demands for natural gas that are reasonably expected to occur within five years following the facility's proposed in-service date based on weather conditions that have at least a 5 percent chance of occurrence in any year in the area to be served by the proposed facility; and
- (2) Construction and operation of the facility is an economically reasonable method of meeting the demands described in section (1) compared to the alternatives evaluated in the application for a site certificate.
- (3) If the applicant chooses to demonstrate need for a proposed natural gas pipeline or a proposed facility for storing liquefied natural gas they must submit the following additional information:
 - (a) Load-resource balance tables for the area to be served by the proposed facility. In the tables, the applicant must include firm demands and resource availability for each of the years from the date of submission of the application to at least five years after the expected in-service date of the proposed facility. In the tables, the applicant must list flowing supply and storage supply separately;
 - (b) Within the tables described in (a), a forecast of firm capacity demands for the area to be served by the proposed facility. The applicant must separate firm capacity demands into firm demands of retail customers, system losses and each wholesale contract for firm sale. The applicant must accompany the tables with load duration curves of firm capacity and interruptible demands for the most recent historical year, the year the facility is expected to be placed in service and the fifth year after the expected in-service date. In the forecast of firm capacity demands, the applicant must include a discussion of how the forecast incorporates reductions in firm capacity demand resulting from:
 - (A) Existing federal, state or local building codes and equipment standards and conservation programs required by law for the area to be served by the proposed facility;
 - (B) Conservation programs provided by the energy supplier, as defined in OAR 345-001-0010;
 - (C) Conservation that results from responses to price; and
 - (D) Retail customer fuel choice.

- (c) Within the tables described in (a), a forecast of existing and committed firm resources used to meet the demands described in (b). The applicant must include, as existing and committed firm capacity resources, existing pipelines, storage facilities, and scheduled and budgeted new facilities minus expected resource retirements or displacement. In the forecast, the applicant must list each committed resource separately;
- (d) A discussion of the reasons each resource is being retired or displaced if the forecast described in (c) includes expected retirements or displacements;
- (e) A discussion of the capacity factors assumed for any storage facilities listed in the forecast described in (c);
- (f) A discussion of the reliability criteria the applicant uses to demonstrate the proposed facility is needed, considering the capacity of existing gas system facilities supporting the area to be served by the proposed facility;
- (g) A discussion of reasons why the proposed facility is economically reasonable compared to the alternatives described in (h) or (j). In the discussion, the applicant must include a table showing the amounts of firm capacity available from the proposed facility and each alternative and the estimated direct cost, as defined in OAR 345-001-0010, of the proposed facility and each alternative. The applicant must include documentation of assumptions and calculations supporting the table;
- (h) In an application for a proposed natural gas pipeline, an evaluation of alternatives to construction and operation of the proposed facility including, but not limited to:
 - (A) Implementation of cost-effective conservation, peak load management and voluntary customer interruption as a substitute for the proposed facility;
 - (B) Installation of propane storage systems, facilities to store liquefied natural gas and underground gas storage reservoirs as a substitute for the proposed facility;
 - (C) Direct use of electricity, solar or geothermal resources at retail loads as a substitute for use of natural gas supplied by the proposed facility;
 - (D) Adding standard sized smaller or larger pipeline capacity;
- (i) In an application for a proposed liquefied natural gas storage facility, an evaluation of alternatives to construction and operation of the proposed facility including, but not limited to:
 - (A) Implementation of cost-effective conservation, peak load management and voluntary customer interruption as a substitute for the proposed facility;
 - (B) Installation of propane storage systems, natural gas pipelines and underground gas storage facilities as a substitute for the proposed facility;
 - (C) Direct use of electricity, solar or geothermal resources at retail loads as a substitute for use of natural gas supplied by the proposed facility;
 - (D) Adding smaller or larger liquefied natural gas storage capacity; and
- (j) The earliest and latest expected in-service date of the facility and a discussion of the circumstances of the energy supplier, as defined in OAR 345-001-0010, that determine these dates.