

Item E: 2022 Carbon Dioxide Standard Updates

Attachment 2: Draft Proposed Rules

April 15, 2022

This document provides the Department’s recommended rule revisions for the 2022 Carbon Standard Rulemaking Project. The draft proposed rules and associated issues analysis are for information only and are not notice of rulemaking action by the Energy Facility Siting Council. The recommendations within are subject to change based on input from the Energy Facility Siting Council, staff, and stakeholders.

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345-001-0010 -- Definitions

[EDITOR'S NOTE: All definitions related to existing carbon dioxide emissions standards are proposed to be moved to a new rule. See OAR 345-024-0503 below. Additional housekeeping changes to adopt statutory definitions by reference, and rephrase definitions in gender neutral terms, are proposed.]

In this chapter, ~~the following definitions apply~~ unless the context requires otherwise or a term is specifically defined within a division or a rule, terms have the meaning provided in ORS 469.300 and the following definitions:

~~(1) "Adjusted to ISO conditions" as defined in ORS 469.503(2)(e).~~

~~(2)~~ "Analysis area" means the area or areas specifically described in the project order issued under OAR 345-015-0160(1), containing resources that the proposed facility may significantly affect. The analysis area is the area for which the applicant must describe the proposed facility's impacts in the application for a site certificate. A proposed facility might have different analysis areas for different types of resources. For the purpose of submitting an application for a site certificate in an expedited review granted under 345-015-0300 or 345-015-0310, the analysis areas are the study areas defined in this rule, subject to modification in the project order.

~~(3)~~ "Applicant" as defined in ORS 469.300 or, if an application has not been submitted, a person who has submitted, or intends to submit, a notice of intent or a request for expedited review.

~~(4) "Associated transmission lines" as defined in ORS 469.300.~~

~~(5) "Average electric generating capacity" as defined in ORS 469.300.~~

~~(6)~~ "Background radiation" means the direct radiation (gamma) and concentrations of potential radionuclide contaminants in construction materials and the environment in the vicinity of the plant not associated with the nuclear operation and retirement of the facility. Background must be determined as follows:

(a) For direct radiation, the results of any background measurements taken prior to operation of the facility must be provided and 6 to 10 measurements must be taken in areas in the vicinity of the site with materials and/or geological formations representative of the site that have not been affected by the operation and retirement of the facility. Background must be calculated at the average and at the 95% confidence level.

(b) Environmental samples must be taken for soil, sediment, water, and other materials present at the facility site that could have been affected by facility operations and retirement. Measurements for these samples must be calculated at the average and 95% confidence levels, based on 6 to 10 measurements. Background environmental samples must be taken at locations on site or in the immediate vicinity of the site which are unaffected by plant operations. Background must be calculated at the average and 95% confidence levels, based on 6 to 10 measurements at each location.

(c) For construction material such as concrete, asphalt, block, brick and other materials used to construct the buildings and systems at the site, representative samples of materials unaffected by

site operations must be selected and surveyed. Six to ten samples of each material must be taken to determine the level of naturally occurring and artificially induced concentrations of naturally occurring radioactivity present. Measurements must include direct radiation (beta-gamma and alpha), wipes and qualitative and quantitative laboratory analyses. Concentrations of fission and activation products from historical fallout must be characterized as well.

(d) All measurements must be made using appropriate instruments, properly calibrated, and in sufficient number to determine compliance with requirements.

~~(7) "Base load gas plant" as defined in ORS 469.503(2)(e).~~

~~(8) "Carbon dioxide equivalent" as defined in ORS 469.503(2)(e).~~

(94) "Certificate holder" means the person to whom a site certificate has been granted by the Council pursuant to this chapter.

~~(105) "Chair" means the chairman or chairwoman of the Energy Facility Siting Council.~~

(116) "Committed firm energy and capacity resources" means generating facilities or power purchase contracts that are assured to be available to the energy supplier over a defined time period. Committed firm energy and capacity resources include existing generating facilities, existing power purchase contracts and planned generating facilities that sponsors have made firm commitments to develop.

~~(12) "Construction" as defined in ORS 469.300.~~

~~(137) "Corridor" means a continuous area of land not more than one-half mile in width and running the entire length of a proposed transmission line or pipeline. "Micrositing corridor" is defined below in this rule.~~

~~(148) "Council" means the Energy Facility Siting Council established under ORS 469.450.~~

~~(159) "Council Secretary" means the person designated by the Director of the Oregon Department of Energy to serve as secretary to the Council.~~

~~(1610) "Department" means the Oregon Department of Energy created under ORS 469.030.~~

~~(1711) "Direct cost" means the discounted sum of all monetary costs to the ultimate consumer over the lifetime of the facility or resource plan or resource strategy.~~

~~(1812) "Energy facility" includes:~~

- (a) An energy facility as defined in ORS 469.300;
- (b) A small generating plant for which an applicant must have a site certificate according to OAR 345-001-0210; and
- (c) A facility for which a developer or governing body has elected to defer regulatory authority to the Council under ORS 469.320(8).

~~(1913) "Energy supplier" means:~~

- (a) A retail electric utility, a federal power marketing agency, or a local gas distribution company, or

(b) A person or public agency generating electric energy for its own consumption, lawfully purchasing electric energy directly from a generator for its own consumption, or transmitting or distributing natural or synthetic gas from an energy facility for its own consumption.

~~(2014)~~ “Existing corridor,” as used in ORS 469.300 and 469.442, means the right-of-way of an existing transmission line, not to exceed 100 feet on either side of the physical center line of the transmission line or 100 feet from the physical center line of the outside lines if the corridor contains more than one transmission line.

~~(2115)~~ “Facility” as defined in ORS 469.300 or a small generating plant for which an applicant must have a site certificate according to OAR 345-001-0210 together with any related or supporting facilities.

~~(2216)~~ “Facility substantially similar to the proposed facility” means:

(a) A facility that uses the same fuel and substantially similar technology, that has substantially the same in-service date, and that has a direct cost not substantially greater than that of the proposed facility; or

(b) A facility that is demonstrated to provide as good a mix of reliability, compatibility with the power system, strategic flexibility, environmental impact and direct cost as the proposed facility taking into account reasonable trade-offs among such factors.

~~(2317)~~ “Fossil fuel” means natural gas, petroleum, coal and any form of solid, liquid or gaseous fuel derived from such materials that is used to produce useful energy.

~~(24) “Fossil-fueled power plant” as defined in ORS 469.503(2)(e).~~

~~(2518)~~ “Fuel chargeable to power heat rate” means the net heat rate of electric power production during the first twelve months of commercial operation. A fuel chargeable to power heat rate is calculated with all factors adjusted to the average temperature, barometric pressure and relative humidity at the site during the times of the year when the facility is intended to operate using the formula, $FCP = (FI - FD) / P$, where:

(a) FCP = Fuel chargeable to power heat rate.

(b) FI = Annual fuel input to the facility applicable to the cogeneration process in British thermal units (higher heating value).

(c) FD = Annual fuel displaced in any industrial or commercial process, heating, or cooling application by supplying useful thermal energy from a cogeneration facility instead of from an alternate source, in British thermal units (higher heating value). (d) P = Annual net electric output of the cogeneration facility in kilowatt-hours.

~~(26) “Generating facility” as defined in ORS 469.503(2)(e).~~

~~(27) “Greenhouse gas” as defined in ORS 469.503(2)(e).~~

~~(28) “Gross carbon dioxide emissions” as defined in ORS 469.503(2)(e). The Council must measure the gross carbon dioxide emissions of a fossil-fueled power plant on a new and clean basis. For~~

~~nongenerating energy facilities that emit carbon dioxide, the Council must measure the gross carbon dioxide emissions as described in OAR 345-024-0620(1).~~

~~(2919)~~ “High efficiency cogeneration facility” means an energy facility, except coal and nuclear power plants, that sequentially produces electrical and useful thermal energy from the same fuel source and under average annual operating conditions:

- (a) Has a nominal electric generating capacity of less than 50 megawatts and the fuel chargeable to power heat rate value is not greater than 5550 Btu per kilowatt-hour (higher heating value); or
- (b) Has a nominal electric generating capacity of 50 megawatts or more and the fuel chargeable to power heat rate value is not greater than 6000 Btu per kilowatt-hour (higher heating value).

~~(3020)~~ “Land use approval” means a final quasi-judicial decision or determination made by a local government that:

- (a) Applies existing comprehensive plan provisions or land use regulations to a proposed facility;
- (b) Amends a comprehensive plan map or zoning map to accommodate a proposed facility;
- (c) Amends comprehensive plan text or land use regulations to accommodate a proposed facility;
- (d) Applies the statewide planning goals to a proposed facility; or
- (e) Takes an exception to the statewide planning goals adopted by the Land Conservation and Development Commission for a proposed facility.

~~(31) “Local government” as defined in ORS 469.300.~~

~~(3221)~~ “Micrositing corridor” means a continuous area of land within which construction of facility components may occur, subject to site certificate conditions.

~~(3322)~~ “Mitigation” means taking one or more of the following actions listed in order of priority:

- (a) Avoiding the impact altogether by not taking a certain action or parts of an action;
- (b) Minimizing impacts by limiting the degree or magnitude of the action and its implementation;
- (c) Partially or completely rectifying the impact by repairing, rehabilitating or restoring the affected environment;
- (d) Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action by monitoring and taking appropriate corrective measures;
- (e) Partially or completely compensating for the impact by replacing or providing comparable substitute resources or environments; or
- (f) Implementing other measures approved by the Council.

~~(3423)~~ “Natural gas” means gas as defined in ORS 520.005.

~~(35) “Natural gas-fired facility” means an energy facility that is intended to be fueled by natural gas except for infrequent periods when the natural gas supply is interrupted, during which an alternate fuel~~

may be used. Such alternate fuel use may not exceed 10 percent of expected fuel use in British thermal units, higher heating value on an annual basis.

~~(36) "Net carbon dioxide emissions" as defined in ORS 469.503(2)(e).~~

~~(3724) "Net electric power output" means the electric power produced or capacity made available for use. Calculation of net electric power output subtracts losses from on-site transformers and power used for any on-site electrical loads from gross capacity as measured or estimated at the generator terminals for each generating unit.~~

~~(38) "New and clean basis" means the average carbon dioxide emissions rate per hour and net electric power output of the energy facility, without degradation. The site certificate holder must determine the new and clean basis:~~

~~(a) By a 100-hour test at full power that the site certificate holder completes during the first 12 months of commercial operation of the energy facility, unless the Council specifies a different testing period for a non-base load power plant (or power augmentation) or a nongenerating energy facility. A 100-hour test performed for purposes of the certificate holder's commercial acceptance of the facility may suffice in lieu of testing after beginning commercial operation;~~

~~(b) With the results adjusted for the average annual site condition for temperature, barometric pressure and relative humidity and use of alternative fuels unless the Council specifies that the results for a non-base load power plant (or power augmentation) or a nongenerating energy facility be adjusted for the average temperature, barometric pressure and relative humidity at the site during the times of the year when the facility is intended to operate;~~

~~(c) Using a rate of 117 pounds of carbon dioxide per million Btu of natural gas fuel (higher heating value); and,~~

~~(d) Using a rate of 161 pounds of carbon dioxide per million Btu of distillate fuel (higher heating value), if such fuel use is proposed by the applicant.~~

~~(e) Notwithstanding subsection (a) and including subsections (b) through (d), for a facility that employs major power generating equipment that has previously been used, the new and clean basis means the average carbon dioxide emissions rate and net electric power output for the first use of the equipment at the site, as determined by historical data from the previous usage or by testing on site.~~

~~(39) "Nominal electric generating capacity" as defined in ORS 469.300.~~

~~(40) "Non-base load power plant" means a fossil-fueled generating facility that is limited by the site certificate to an average number of hours of operation per year of not more than 6,600 hours. For a non-base load power plant designed to operate at variable loads, the facility's annual hours of operation are determined by dividing the actual annual electric output of the facility in megawatt-hours by the facility's nominal electric generating capacity in megawatts. The Council will assume a 30-year life for the plants for purposes of determining gross carbon dioxide emissions, unless the applicant requests and the Council approves a shorter operational life in the site certificate. If the Council approves a shorter operational life, the certificate holder must operate the facility for no longer than the approved~~

operational life or, before the expiration of the approved operational life, must request an amendment of the site certificate to extend the operational life.

~~(41) "Nongenerating facility" as defined in ORS 469.503(2)(e).~~

~~(42) "Offset" as defined in ORS 469.503(2)(e).~~

~~(43) "Offset funds" means the amount of funds determined by the Council to satisfy the applicable carbon dioxide emissions standard pursuant to OAR 345-024-0560(3), 345-024-0600(3) or 345-024-0630(2) and (4).~~

~~(44)~~25 "Owner" means owner or lessee under a capital lease.

~~(45)~~26 "Permit" means any permit, license, certificate or other approval required by federal law, state statute, state administrative rule or local government ordinance.

~~(46) "Person" as defined in ORS 469.300.~~

~~(47) "Power augmentation" means technologies that increase the capacity and the heat rate of the plant above the capacity and heat rate of the base load gas plant. These include, but are not limited to, duct burning and some forms of steam augmentation.~~

~~(48) "Project order" as defined in ORS 469.300.~~

~~(49) "Qualified organization" means an organization that:~~

~~(a) Is exempt from federal taxation under section 501(c)(3) of the Internal Revenue Code as amended and in effect on September 18, 2015;~~

~~(b) Either is incorporated in the State of Oregon or is a foreign corporation authorized to do business in the State of Oregon;~~

~~(c) Has in effect articles of incorporation that:~~

~~(A) Require that offset funds received under OAR 345-024-0710(3) are used for offsets;~~

~~(B) Require that decisions on the use of the offset funds are made by a decision-making body composed of seven voting members of which three are appointed by the Council, three are Oregon residents appointed by the Bullitt Foundation or an alternative environmental nonprofit organization named by the body, and one is appointed by the applicants for site certificates that are subject to OAR 345-024-0550, 345-024-590, and 345-024-0620 and the holders of such site certificates; and~~

~~(C) Require nonvoting membership on the decision-making body for holders of site certificates that have provided funds not yet disbursed under OAR 345-024-0710(3);~~

~~(d) Has made available on an annual basis, beginning after the first year of operation, a signed opinion of an independent certified public accountant stating that the qualified organization's use of funds pursuant to ORS 469.503 conforms with generally accepted accounting procedures except that the qualified organization will have one year to conform with generally accepted accounting principles in the event of a nonconforming audit;~~

~~(e) Has to the extent applicable, except for good cause, entered into contracts obligating at least 60 percent of the offset funds to implement offsets within two years after the commencement of construction of the facility; and~~

~~(f) Has to the extent applicable, except for good cause, complied with OAR 345-024-0710(3).~~

(5027) “Related or supporting facilities” as defined in ORS 469.300. The Council interprets the terms “proposed to be constructed in connection with” to mean that a structure is a related or supporting facility if it would not be built but for construction or operation of the energy facility. “Related or supporting facilities” does not include any structure existing prior to construction of the energy facility, unless such structure must be substantially modified solely to serve the energy facility.

(5128) “Reviewing agency” means any of the following officers, agencies or tribes:

- (a) The Department of Environmental Quality;
- (b) The Water Resources Commission and the Water Resources Director through the Water Resources Department;
- (c) The Fish and Wildlife Commission through the Oregon Department of Fish and Wildlife;
- (d) The State Geologist;
- (e) The Department of Forestry;
- (f) The Public Utility Commission of Oregon;
- (g) The Oregon Department of Agriculture;
- (h) The Department of Land Conservation and Development;
- (i) The Oregon Department of Aviation;
- (j) The Pacific Northwest Electric Power and Conservation Planning Council;
- (k) The Office of State Fire Marshal;
- (l) The Department of State Lands;
- (m) The State Historic Preservation Office;
- (n) Any other agency identified by the Department;
- (o) Any tribe identified by the Legislative Commission on Indian Services as affected by the proposed facility;
- (p) The governing body of any incorporated city or county in Oregon within the study area as defined in OAR 345-001-0010 for impacts to public services;
- (q) Any special advisory group designated by the Council under ORS 469.480; and
- (r) The federal land management agency with jurisdiction if any part of the proposed site is on federal land.

(5229) “Significant” means having an important consequence, either alone or in combination with other factors, based upon the magnitude and likelihood of the impact on the affected human population or natural resources, or on the importance of the natural resource affected, considering the context of the action or impact, its intensity and the degree to which possible impacts are caused by the proposed action. Nothing in this definition is intended to require a statistical analysis of the magnitude or likelihood of a particular impact.

(5330) “Site” as defined in ORS 469.300. “Energy facility site” means all land upon which an energy facility is located or proposed to be located. “Related or supporting facilities site” means all land upon which related or supporting facilities for an energy facility are located or proposed to be located.

(5431) “Site boundary” means the perimeter of the site of a proposed energy facility, its related or supporting facilities, all temporary laydown and staging areas and all corridors and micrositing corridors proposed by the applicant.

~~(55) “Site certificate” as defined in ORS 469.300.~~

(5632) “Solar photovoltaic power generation facility” includes, but is not limited to, an assembly of equipment that converts sunlight into electricity and then stores or transfers that electricity. This includes photovoltaic modules, mounting and tracking equipment, posts, electrical cabling, inverters, transformers, collection systems, fencing, and other components.

(a) For the purposes of applying the acreage standards of ORS 469.300(11)(a)(D), the land used by a solar photovoltaic power generation facility includes the land occupied by its related or supporting facilities. Related or supporting facilities are not otherwise considered to be components of the solar photovoltaic power generation facility;

(b) A proposed solar photovoltaic power generation project may be determined to be an expansion of any existing or proposed solar photovoltaic power generation facility that is:

(A) Within one mile of the proposed project; and

(B) Determined to be under common ownership with the proposed project. Projects connected to the same parent company or individuals will be considered to be in common ownership, regardless of the operating business structure;

(c) As used in this rule and OAR 345-001-0250, a “proposed solar photovoltaic power generation project” means:

(A) The proposed development of a separate and independent solar photovoltaic power generation facility; or

(B) The proposed expansion or modification of a proposed or existing solar photovoltaic power generation facility.

(5733) “Special nuclear material” means plutonium, uranium-233 or uranium enriched in the isotope 233 or in the isotope 235.

(5834) “Strategic flexibility” means the value of a resource as part of a strategy to manage variance in costs or risks caused by future uncertainty.

(5935) "Study area" means an area defined in this rule. Except as specified in subsections (f) and (g), the study area is an area that includes all the area within the site boundary and the area within the following distances from the site boundary:

- (a) For impacts to threatened and endangered plant and animal species, 5 miles.
- (b) For impacts to scenic resources and to public services, 10 miles.
- (c) For land use impacts and impacts to fish and wildlife habitat, one-half mile.
- (d) For impacts to recreational opportunities, 5 miles.
- (e) For impacts to protected areas described in OAR 345-022-0040, 20 miles.
- (f) The distance stated in subsection (a) above does not apply to surface facilities related to an underground gas storage reservoir.
- (g) The distances stated in subsections (a) and (d) above do not apply to pipelines or transmission lines.

(6036) "Substantial loss of steam host" means the thermal energy user associated with a high efficiency cogeneration facility has made such long-term changes in its manner and magnitude of operation as to result in the loss of one or more work shifts for at least a year, accompanied by at least a 30 percent resultant reduction in the use of thermal energy.

(6137) "Substantial loss of fuel use efficiency" means an increase in the fuel chargeable to power heat rate at a high efficiency cogeneration facility to greater than 7000 Btu per kilowatt-hour (higher heating value), or reduction of the fraction of energy output going to the thermal energy user associated with the facility to less than 20 percent, as a result of a substantial loss of steam host. Substantial loss of fuel use efficiency does not include efficiency losses due to equipment wear or condition.

(6238) "Surface facilities related to an underground gas storage reservoir" means structures or equipment adjacent to and associated with an underground gas storage reservoir that are proposed to be built in connection with an underground gas storage reservoir and include, but are not limited to:

- (a) Facilities such as stripping plants, main line dehydration stations, offices, warehouses, equipment shops, odorant storage and injection equipment and compressors;
- (b) Pipelines, such as gathering lines and liquid collection lines; and
- (c) Roads and road maintenance equipment housing at the reservoir site.

~~(63) "Thermal power plant" as defined in ORS 469.300.~~

(6439) "Total energy output" means the sum of useful thermal energy output and useful electrical energy output.

~~(65) "Underground gas storage reservoir" as defined in ORS 469.300.~~

(6640) "Useful thermal energy" means the verifiable thermal energy used in any industrial or commercial process, heating or cooling application;

~~(67) "Utility" as defined in ORS 469.300.~~

~~(6841)~~ “Vice-chair” means the vice-chairman or vice-chairwoman of the Energy Facility Siting Council.

~~(69) “Waste disposal facility” as defined in ORS 469.300.~~

Statutory/Other Authority: ORS 469.470 & 469.503

Statutes/Other Implemented: ORS 469.300-570, 469.590-619 & 469.992

345-020-0011 - Contents of a Notice of Intent

(1) The applicant must, to the extent reasonably practicable, include in the notice of intent (NOI) the information described in the following subsections. If the applicant proposes alternative sites, the applicant must describe each alternative separately. The applicant must designate the information with the appropriate exhibit label identified in the following subsections:

* * * * *

(b) **Exhibit B.** Information about the proposed facility, including:

(A) A description of the proposed energy facility, including as applicable:

(i) ~~For electric power generating plants, The the~~ nominal electric generating capacity and the average electrical generating capacity, as defined in ORS 469.300;

(ii) Major components, structures and systems, including a description of the size, type and configuration of equipment used to generate, store, or transmit, or transport electricity, ~~and~~ useful thermal energy, or fuels;

(iii) Methods for waste management and waste disposal, including, to the extent known, the amount of wastewater the applicant anticipates, the applicant’s plans for disposal of wastewater and storm water, and the location of disposal;

(iv) For thermal power plants, combustion turbine power plants, or other facilities designed to generate electricity from any gas, liquid, or solid fuels:

(I) A discussion of the source, quantity and availability of all fuels proposed to be used in the facility to generate electricity or useful thermal energy;

(II) If the facility will generate electric power from natural gas, petroleum, coal or any form of solid, liquid or gaseous fuel derived from such material, a discussion of methods the facility will use to ensure that the facility does not emit greenhouse gasses into the atmosphere, and a description of any equipment the facility will used to capture, sequester, or store greenhouse gases;

(II) A discussion of the ~~M~~methods for the disposal of waste heat generated by the facility;

(v) For transmission lines, approximate transmission line voltage, load carrying capacity and type of current;

(vi) For pipelines, approximate operating pressure and delivery capacity in thousand cubic feet per day;

(vii) For surface facilities related to underground gas storage, estimated daily injection and withdrawal rates, horsepower compression required to operate at design injection or withdrawal rates, operating pressure range and fuel type of compressors;

(viii) For facilities to store liquefied natural gas, the approximate volume, maximum pressure, liquefaction and gasification capacity in thousand cubic feet per hour;

(B) A description of major components, structures and systems of each related or supporting facility; and

(C) The approximate dimensions of major facility structures and visible features.

* * * * *

(m) **Exhibit M.** If the proposed facility would emit carbon dioxide, an estimate of the gross ~~rate of~~ carbon dioxide emissions that are reasonably likely to result from the operation of the facility, a table listing all the factors that form the basis for calculating the estimate, and a statement of the means by which the applicant intends to comply with the applicable carbon dioxide emissions standard under OAR 345-024-~~560500, 345-024-600, or 345-024-630.~~

* * * * *

Statutory/Other Authority: ORS 469.470
Statutes/Other Implemented: ORS 469.330

345-020-0016 - Amendment of Notice of Intent

(1) The applicant may amend the notice of intent (NOI). The applicant must submit, to the Department, two printed copies of the amended NOI, and an electronic version of the amended NOI in a non-copy-protected format acceptable to the Department. The applicant must prepare and submit additional copies of the amended NOI as required by OAR 345-020-0040.

(2) The Department must inform the public, in the manner described in OAR 345-015-0110, of any amendment that:

(a) Significantly changes the proposed site boundary or location of the proposed energy facility or related or supporting facility;

(b) Significantly Changes increases:

(A) ~~the~~ estimated quantity of fuel that will be used or produced by the proposed facility, or changes the proposed fuel type or source;

(B) significantly increases ~~the~~ generating capacity of the proposed energy facility;

(C) increases ~~the~~ voltage of a proposed transmission line; ~~or~~

(D) significantly increases ~~the~~ capacity or operating pressure of a proposed pipeline; or

(E) The estimated gross carbon dioxide emissions that are reasonably likely to result from the operation of the facility, or the proposed means compliance with any applicable carbon dioxide emissions standard.

(c) Increases water consumption or disposal by more than 5 percent; or

(d) Changes the source of water; or

~~(e) Significantly changes the means of compliance with the carbon dioxide standard, if applicable.~~

(3) Submission of an amended NOI does not extend the expiration date of the NOI. The applicant, however, may petition the Council to extend the duration of the NOI as provided in OAR 345-020-0060.

Statutory/Other Authority: ORS 469.470

Statutes/Other Implemented: ORS 469.330

345-021-0010 - Contents of an Application

(1) The project order described in OAR 345-015-0160(1) identifies the provisions of this rule applicable to the application for the proposed facility, including any appropriate modifications to applicable provisions of this rule. The applicant must include in its application for a site certificate information that addresses each provision of this rule identified in the project order. The applicant must designate the information with the appropriate exhibit label identified in the following subsections. If the same information is required in each of several exhibits the applicant may provide the required information in one exhibit and include appropriate references in the others. For the purpose of submitting an application for a site certificate in an expedited review granted under OAR 345-015-0300 or 345-015-0310, the applicant must include information that addresses all provisions of this rule. In such expedited reviews, analysis areas addressed in this rule are the study areas defined in OAR 345-001-0010, subject to later modification in the project order.

* * * * *

(b) **Exhibit B.** Information about the proposed facility, construction schedule and temporary disturbances of the site, including:

(A) A description of the proposed energy facility, including as applicable:

(i) For electric power generating plants, the nominal electric generating capacity and the average electrical generating capacity, as defined in ORS 469.300;

(ii) Major components, structures and systems, including a description of the size, type and configuration of equipment used to generate, store, transmit, or transport electricity, and useful thermal energy, or fuels;

(iii) A site plan and general arrangement of buildings, equipment and structures;

(iv) Fuel and chemical storage facilities, including structures and systems for spill containment;

(v) Equipment and systems for fire prevention and control;

(vi) For thermal power plants, combustion turbine power plants, or other facilities designed to generate electricity from gas, liquid, or solid fuels::

(I) A discussion of the source, quantity and availability of all fuels proposed to be used in the facility to generate electricity or useful thermal energy;

(II) If the facility will generate electric power from natural gas, petroleum, coal or any form of solid, liquid or gaseous fuel derived from such material, a discussion of methods the facility will use to ensure that the facility does not emit greenhouse gasses into the atmosphere, and a description of any equipment the facility will used to capture, sequester, or store greenhouse gases;

(III) A description of ~~Process flow~~energy flows within the facility, including power cycle and steam cycle diagrams, ~~as appropriate to describe the energy flows within the system;~~

(~~III~~IV) A description of ~~E~~equipment and systems for disposal of waste heat;

(~~IV~~) The fuel chargeable to power heat rate ~~of the energy facility;~~

(vii) For surface facilities related to underground gas storage, estimated daily injection and withdrawal rates, horsepower compression required to operate at design injection or withdrawal rates, operating pressure range and fuel type of compressors;

(viii) For facilities to store liquefied natural gas, the volume, maximum pressure, liquefaction and gasification capacity in thousand cubic feet per hour;

(B) A description of major components, structures and systems of each related or supporting facility;

(C) The approximate dimensions of major facility structures and visible features;

(D) If the proposed energy facility is a pipeline or a transmission line or has, as a related or supporting facility, a transmission line or pipeline that, by itself, is an energy facility under the definition in ORS 469.300, a corridor selection assessment explaining how the applicant selected the corridors for analysis in the application. In the assessment, the applicant must evaluate the corridor adjustments the Department has described in the project order, if any. The applicant may select any corridor for analysis in the application and may select more than one corridor. However, if the applicant selects a new corridor, then the applicant must explain why the applicant did not present the new corridor for comment at an informational meeting under OAR 345-015-0130. In the assessment, the applicant must discuss the reasons for selecting the corridors, based upon evaluation of the following factors:

(i) Least disturbance to streams, rivers and wetlands during construction;

(ii) Least percentage of the total length of the pipeline or transmission line that would be located within areas of Habitat Category 1, as described by the Oregon Department of Fish and Wildlife;

(iii) Greatest percentage of the total length of the pipeline or transmission line that would be located within or adjacent to public roads and existing pipeline or transmission line rights-of-way;

(iv) Least percentage of the total length of the pipeline or transmission line that would be located within lands that require zone changes, variances or exceptions;

(v) Least percentage of the total length of the pipeline or transmission line that would be located in a protected area as described in OAR 345-022-0040;

(vi) Least disturbance to areas where historical, cultural or archaeological resources are likely to exist;

(vii) Greatest percentage of the total length of the pipeline or transmission line that would be located to avoid seismic, geological and soils hazards;

(viii) Least percentage of the total length of the pipeline or transmission line that would be located within lands zoned for exclusive farm use;

(E) If the proposed energy facility is a pipeline or transmission line or has, as a related or supporting facility, a transmission line or pipeline of any size:

(i) The length of the pipeline or transmission line;

(ii) The proposed right-of-way width of the pipeline or transmission line, including to what extent new right-of-way will be required or existing right-of-way will be widened;

(iii) If the proposed transmission line or pipeline corridor follows or includes public right-of-way, a description of where the transmission line or pipeline would be located within the public right-of-way, to the extent known. If the applicant proposes to locate all or part of a transmission line or pipeline adjacent to but not within the public right-of-way, describe the reasons for locating the transmission line or pipeline outside the public right-of-way. The applicant must include a set of clear and objective criteria and a description of the type of evidence that would support locating the transmission line or pipeline outside the public right-of-way, based on those criteria;

(iv) For pipelines, the operating pressure and delivery capacity in thousand cubic feet per day and the diameter and location, above or below ground, of each pipeline;

(v) For transmission lines, the rated voltage, load carrying capacity, and type of current and a description of transmission line structures and their dimensions; and

(F) A construction schedule including the date by which the applicant proposes to begin construction and the date by which the applicant proposes to complete construction. Construction is defined in OAR 345-001-0010. The applicant must describe in this exhibit all work on the site that the applicant intends to begin before the Council issues a site certificate. The applicant must include an estimate of the cost of that work. For the purpose of this exhibit, "work on the site" means any work within a site or corridor, other than surveying, exploration or other activities to define or characterize the site or corridor, that the applicant anticipates or has performed as of the time of submitting the application.

* * * * *

[EDITOR'S NOTE: This section is proposed to be moved to a new rule. see OAR 345-021-0021, below.

(y) ~~Exhibit Y.~~ If the facility is a base load gas plant, a non-base load power plant, or a nongenerating energy facility that emits carbon dioxide, a statement of the means by which the applicant elects to comply with the applicable carbon dioxide emissions standard under OAR 345-024-0560, 345-024-0600, or 345-024-0630 and information, showing detailed calculations, about the carbon dioxide emissions of the energy facility. The applicant may present the calculations in tabular form. The applicant must include the following information and calculations:

(A) Fuel cycle and usage including the maximum hourly fuel use at net electrical power output at average annual conditions for a base load gas plant and the maximum hourly fuel use at nominal electric generating capacity for a non-base load power plant or a base load gas plant with power augmentation technologies, as applicable;

(B) The gross capacity as estimated at the generator output terminals for each generating unit. For a base load gas plant, gross capacity is based on the average annual ambient conditions for temperature, barometric pressure and relative humidity. For a non-base load plant, gross capacity is based on the average temperature, barometric pressure and relative humidity at the site during the times of year when the facility is intended to operate. For a baseload gas plant with power augmentation, gross capacity in that mode is based on the average temperature, barometric pressure and relative humidity at the site during the times of year when the facility is intended to operate with power augmentation;

(C) A table showing a reasonable estimate of all on-site electrical loads and losses greater than 50 kilowatts, including losses from on-site transformers, plus a factor for incidental loads, that are required for the normal operation of the plant when the plant is at its designed full power operation;

(D) The maximum number of hours per year and energy content (Btu per year, higher heating value) of alternate fuel use;

(E) The total gross carbon dioxide emissions for 30 years, unless an applicant for a non-base load power plant or nongenerating energy facility proposes to limit operation to a shorter time;

(F) The gross carbon dioxide emissions rate expressed as:

(i) Pounds of carbon dioxide per kilowatt-hour of net electric power output for a base load gas plant, including operation with or without power augmentation, as appropriate, or for a non-base load power plant;

(ii) Pounds of carbon dioxide per horsepower hour for nongenerating facilities for which the output is ordinarily measured in horsepower; or

(iii) A rate comparable to pounds of carbon dioxide per kilowatt-hour of net electric power output for nongenerating facilities other than those measured in horsepower;

(G) The total excess carbon dioxide emissions for 30 years, unless an applicant for a non-base load power plant or a nongenerating energy facility proposes to limit operation to a shorter time;

(H) The excess carbon dioxide emissions rate, using the same measure as required for paragraph (F);

(I) The average annual site conditions, including temperature, barometric pressure and relative humidity, together with a citation of the source and location of the data collection devices;

(J) For a non-base load power plant (or when using power augmentation), the average temperature, barometric pressure and relative humidity at the site during the times of the year when the facility is intended to operate, together with a citation of the source and location of the data collection devices;

(K) The annual fuel input in British thermal units, higher heating value, to the facility for each type of fuel the facility will use, assuming:

(i) For a base load gas plant, a 100 percent capacity factor on a new and clean basis and the maximum number of hours annually that the applicant proposes to use alternative fuels;

(ii) For a non-base load power plant, the applicant's proposed annual hours of operation on a new and clean basis, the maximum number of hours annually that the applicant proposes to use alternative fuels and, if the calculation is based on an operational life of fewer than 30 years, the proposed operational life of the facility;

(iii) For a nongenerating energy facility, the reasonably likely operation of the facility based on one year, 5-year, 15-year, and 30-year averages, unless an applicant proposes to limit operation to a shorter time;

(L) For each type of fuel a base load gas plant or a non-base load power plant will use, the estimated heat rate and capacity of the facility measured on a new and clean basis with no thermal energy to cogeneration, consistent with the data supplied in Exhibit B;

(M) For each type of fuel a nongenerating energy facility will use, the estimated efficiency and capacity of the facility with no thermal energy to cogeneration;

(N) If the facility provides thermal energy for cogeneration to lower its net carbon dioxide emissions rate:

(i) The estimated annual useful thermal energy available from the facility for non-electric processes, annual useful thermal energy used by non-electric processes, and annual thermal energy rejected as waste heat;

(ii) For a base load gas plant or non-base load power plant, the estimated annual net electric power output and annual fuel input in British thermal units higher heating value for the facility for each type of fuel the facility will use and the basis of such estimates;

(iii) A description of the non-electric thermal processes, the names and addresses of the persons intending to use the non-electric thermal energy, and a description and an estimate of the fuel displaced by cogeneration, including supporting assumptions;

(iv) A description of the products produced and thermal energy needed for production of the primary products made by the persons intending to use the non-electric thermal energy

produced by the proposed facility, supported by fuel use and steam production records or estimates, if the production facility is new;

(v) The efficiency of each boiler that the thermal energy will displace;

(vi) For each boiler, the annual fossil fuel displaced in million Btu, higher heating value, by type of fuel that will be displaced by the thermal energy;

(vii) The annual carbon dioxide offset by the cogeneration host, using a rate of 117 pounds of carbon dioxide per million Btu of natural gas fuel (higher heating value) and a rate of 161 pounds of carbon dioxide per million Btu of distillate fuel (higher heating value);

(viii) The cumulative carbon dioxide offset by the steam host through the thirtieth year of facility operation, or for a shorter period if an applicant for a nongenerating facility proposes a shorter operational period;

(ix) A copy of the contractual agreement between the applicant and the cogeneration host for the use of the thermal energy;

(x) A description of the guarantees of offsets that the applicant must provide for cogeneration projects, pursuant to OAR 345-024-0560(1) and 345-024-0600(1);

(xi) A proposed monitoring and evaluation plan and an independent verification plan, pursuant to subparagraphs (O)(xix) and (O)(xx);

(xii) A copy of the instrument by which the certificate holder will transfer the offsets to the Council for it to hold in trust;

(O) If the applicant proposes to offset carbon dioxide emissions as described in OAR 345-024-0550(3), 345-024-0560(2), 345-024-0590(3), 345-024-0600(2), 345-024-0620(3) or 345-024-0630(1):

(i) A description of each offset project;

(ii) A description of who will implement the offset project, including qualifications and experience;

(iii) Detailed estimates of the of carbon dioxide offset, measured in short tons, that the offset projects will achieve over the life of the project;

(iv) For each offset project, an explanation of how the applicant quantified its carbon dioxide estimates to a degree of certainty acceptable to the Council through a transparent and replicable calculation methodology;

(v) For each offset project, evidence that the offset project would not likely have been implemented if not for the applicant's activities or funding;

(vi) For each offset project, a description of a "Baseline" projection that does not include the proposed project and a "Project Case" projection that does. The historic Baseline must use reliable emissions data or pre-project data available for the most recent three years unless the applicant can demonstrate that a different period more closely represents historical

operations or unless it can demonstrate that another method provides a more reasonable estimate. The applicant must show how the Baseline projection changes over time if changes from business-as-usual could be reasonably anticipated during the project life;

(vii) For each offset project, a description, in a transparent and realistic manner, of the assumptions and methodologies used to quantify the Baseline and the Project Case projections, including a description of key parameters and data sources. This must include a description of the formulae used to estimate carbon dioxide emissions or sequestration within the project boundary and a net change of carbon dioxide emissions or sequestration that occurs outside of the project boundary that is measurable and attributable to the project activity;

(viii) For projects that avoid conventional electricity generation, a description of a Baseline that calculates the carbon dioxide emissions per kilowatt hour in two steps:

(I) For the first five years of operation, a description of the rate based on dispatch data or models or, absent that, a weighted average of all resources in a power pool except zero-fuel-cost or must-run facilities; and

(II) A description of the rate for any subsequent years based on a group of similar facilities built within the prior five years or under construction in the electrical distribution region of the project or the three most recent plants built in the region, whichever rate is lower;

(ix) For projects that avoid conventional electricity generation, a description of avoided transmission and distribution losses, using average grid area or national losses;

(x) A description of any guarantee for offsets from projects that the applicant proposes pursuant to OAR 345-024-0560(2), 345-024-0600(2), and 345-024-630(1), if the applicant chooses to offer a guarantee;

(xi) A description of the offset project boundary. The boundary must encompass all carbon dioxide emissions under the control of the project that are significant and reasonably attributable to the project activity. If the project is being conducted by one part of a corporation, the boundary must include the emissions and reductions of the whole corporate entity and the carbon dioxide emissions resulting from processes and facilities that are related to the project, with identification of subsidiaries that are affected by the project;

(xii) A description of significant risks and risk mitigation strategies, including an estimate of the range of uncertainty around the expected carbon dioxide offsets;

(xiii) For biological sequestration projects, an assessment of the risk of climate change to natural systems that are sequestering the carbon dioxide, including, if appropriate, the risks from forest fires, pest and other unplanned releases of carbon from sequestration;

- ~~(xiv) A description of whether the offset project will permanently avoid or displace emissions of carbon dioxide. If a project only temporarily sequesters carbon, an indication of the duration of sequestration or storage;~~
- ~~(xv) A description of the amount of funding the applicant will provide for each offset project it proposes;~~
- ~~(xvi) If the applicant anticipates that a project will have funding sources in addition to itself, identification of the sources of those funds, the amount of other funding that is required to implement a project, the amount of funds other parties have committed, and the risks of other funds not being available;~~
- ~~(xvii) If the applicant proposes that a project will have funding sources in addition to itself, a description of how ownership of the offsets will be allocated among the several funding sources;~~
- ~~(xviii) A copy of the instrument by which the certificate holder will transfer all the offsets to the Council for it to hold in trust;~~
- ~~(xix) A description of a transparent and replicable methodology for the applicant's monitoring and evaluation plan and for an independent verification plan, including:~~
- ~~(I) Procedures the applicant and the independent entity will employ;~~
 - ~~(II) How the applicant will assure funds for ongoing monitoring, evaluation and verification;~~
 - ~~(III) The time frame and frequency over which the applicant will conduct monitoring and evaluation and over which the independent entity will conduct verification, including the frequency of site visits, if applicable;~~
 - ~~(IV) The reporting procedures and guidelines for the plans; and~~
 - ~~(V) Whether the applicant has identified the independent entity that will perform the verification;~~
- ~~(xx) The monitoring and evaluation plan and the verification plan must identify the data needs and data quality with regard to accuracy, comparability, completeness and validity. It must include methodologies to be used for data collection, monitoring, storage, reporting and management, including quality assurance and quality control provisions. It must provide complete calculations used to calculate and estimate carbon dioxide emissions from activity within the project boundary. It must show any formulae and assumptions the applicant used to calculate offset project leakage;~~
- ~~(xxi) A description of reasonably likely, significant undesirable long-term environmental impacts from the implementation of an offset project; and~~
- ~~(P) If the applicant elects to comply with the applicable carbon dioxide emissions standard by using the monetary path under OAR 345-024-0560(3), 345-024-0600(3) or 345-024-0630(2), the applicant must include:~~

- ~~(i) A statement of the applicant's election to use the monetary path;~~
- ~~(ii) The amount of carbon dioxide reduction, in tons, for which the applicant is taking credit by using the monetary path;~~
- ~~(iii) The qualified organization to whom the applicant will provide offset funds and funds for the cost of selecting and contracting for offsets. The applicant must include evidence that the organization meets the definition of a qualified organization under OAR 345-001-0010. The applicant may identify an organization that has applied for, but has not received, an exemption from federal income taxation, but the Council will not find that the organization is a qualified organization unless the organization is exempt from federal taxation under section 501(c)(3) of the Internal Revenue Code as amended and in effect on September 18, 2015; and~~
- ~~(iv) A statement of whether the applicant intends to provide a bond or letter of credit to secure the funds it must provide to the qualified organization or whether it requests the option of providing either a bond or a letter of credit.~~

* * * * *

~~(d)cc~~ **Exhibit DDCC.** If the proposed facility is a facility for which the Council has adopted specific standards, information about the facility providing evidence to support findings by the Council as required by the following rules:

- (A) For wind energy facilities, OAR 345-024-0010 and 345-024-0015;
- (B) For surface facilities related to underground gas storage reservoirs, OAR 345-024-0030, including information required by OAR 345-021-0020; and
- (C) For any transmission line under Council jurisdiction, OAR 345-024-0090.
- (D) For a fossil-fueled power plant or other facility that emits carbon dioxide, OAR 345-024-0500 to 345-024-0720, including the information required by OAR 345-021-00.

* * * * *

Statutory/Other Authority: ORS 469.373 & 469.470
Statutes/Other Implemented: ORS 469.350, 469.370, 469.501, 469.503 & 469.504

345-021-0021 – Specific Applications Requirements for Facilities that Emit Carbon Dioxide

[EDITOR'S NOTE: This proposed new rule replaces the existing provisions of OAR 345-021-0010(1)(y). Markup is shown from that section for reference, and will not appear in the Notice of Proposed Rulemaking.]

~~**Exhibit Y.**~~ In addition to the requirements of OAR 345-021-0010, in an application for a site certificate for a fossil-fueled power plant, or other facility that will emit carbon dioxide into the atmosphere, the application must include the following:

~~If the facility is a base load gas plant, a non-base load power plant, or a nongenerating energy facility that emits carbon dioxide, (1) A description a statement~~ of the means by which the applicant ~~elects to~~

will comply with the applicable carbon dioxide emissions standard under ~~OAR 345-024-0500~~OAR 345-024-0560, 345-024-0600, or 345-024-0630 and

~~(2) information, showing detailed calculations, Information~~ about the carbon dioxide emissions that are reasonable likely to result from the operation of the energy facility, ~~including . The applicant may present the calculations in tabular form. The applicant must include the following information and calculations:~~

~~(Aa) Fuel cycle and usage including t~~ Ihe maximum hourly fuel use at:

~~(A) Net electrical power output at average annual conditions for a base load gas plant; or and the maximum hourly fuel use at~~ (B) nominal-Nominal electric generating capacity for a non-base load power plant or a base load gas plant with power augmentation technologies, ~~as applicable;~~

~~(bB)~~ The gross capacity as estimated at the generator output terminals for each generating unit.

~~(A)~~ For a base load gas plant, gross capacity ~~is~~ must be estimated based on the average annual ambient conditions for temperature, barometric pressure and relative humidity at the site. For a baseload gas plant with power augmentation, gross capacity for power augmentation mode must be estimated separately based on the average temperature, barometric pressure and relative humidity at the site during the times of year when the facility is intended to operate with power augmentation; or

~~(B)~~ For a non-base load plant, gross capacity ~~is~~ must be estimated based on the average temperature, barometric pressure and relative humidity at the site during the times of year when the facility is intended to operate. ~~For a baseload gas plant with power augmentation, gross capacity in that mode is based on the average temperature, barometric pressure and relative humidity at the site during the times of year when the facility is intended to operate with power augmentation;~~

~~(Cc)~~ A table showing a reasonable estimate of all on-site electrical loads and losses greater than 50 kilowatts, including losses from on-site transformers, plus a factor for incidental loads, that are required for the normal operation of the plant when the plant is at its designed full power operation;

~~(Dd)~~ The maximum number of hours per year and energy content (Btu per year, higher heating value) of alternate fuel use;

~~(Ee)~~ The total estimated gross carbon dioxide emissions for 30 years, unless an applicant for a non-base load power plant or nongenerating energy facility proposes to limit operation to a shorter time;

~~(Ff)~~ The gross carbon dioxide emissions rate expressed as:

~~(iA)~~ Pounds of carbon dioxide per kilowatt-hour of net electric power output for a base load gas plant, ~~including operation with~~ power augmentations, the rate for plant operations with or and

without power augmentation ~~must be reported separately, as appropriate, or for a non-base load power plant;~~

(#B) Pounds of carbon dioxide per horsepower hour for nongenerating facilities for which the output is ordinarily measured in horsepower; or

(##C) A rate comparable to pounds of carbon dioxide per kilowatt-hour of net electric power output for nongenerating facilities other than those measured in horsepower;

(Gg) The total excess carbon dioxide emissions for 30 years, unless an applicant for a non-base load power plant or a nongenerating energy facility proposes to limit operation to a shorter time;

(Hh) The excess carbon dioxide emissions rate, using the same measure as required for ~~paragraph subsection (Ff)~~;

(Ii) The average annual site conditions, including temperature, barometric pressure and relative humidity, together with a citation of the source and location of the data collection devices;

(Jj) For a non-base load power plant (or ~~when a base load power plant~~ using power augmentation), the average temperature, barometric pressure and relative humidity at the site during the times of the year when the facility is intended to operate, together with a citation of the source and location of the data collection devices;

(Kk) The annual fuel input in British thermal units, higher heating value, to the facility for each type of fuel the facility will use, assuming:

(iA) For a base load gas plant, a 100-percent capacity factor on a new and clean basis and the maximum number of hours annually that the applicant proposes to use alternative fuels;

(#B) For a non-base load power plant, the applicant's proposed annual hours of operation on a new and clean basis, the maximum number of hours annually that the applicant proposes to use alternative fuels and, if the calculation is based on an operational life of fewer than 30 years, the proposed operational life of the facility;

(##C) For a nongenerating energy facility, the reasonably likely operation of the facility based on one year, 5-year, 15-year, and 30-year averages, unless an applicant proposes to limit operation to a shorter time;

(L) For each type of fuel a base load gas plant or a non-base load power plant will use, the estimated heat rate and capacity of the facility measured on a new and clean basis with no thermal energy to cogeneration, consistent with the data supplied in Exhibit B;

(Mm) For each type of fuel a nongenerating energy facility will use, the estimated efficiency and capacity of the facility with no thermal energy to cogeneration;

(Nn) If the facility provides thermal energy for cogeneration to lower its net carbon dioxide emissions rate:

(iA) The estimated annual useful thermal energy available from the facility for non-electric processes, annual useful thermal energy used by non-electric processes, and annual thermal energy rejected as waste heat;

(iiB) For a base load gas plant or non-base load power plant, the estimated annual net electric power output and annual fuel input in British thermal units higher heating value for the facility for each type of fuel the facility will use and the basis of such estimates;

(iiiC) A description of the non-electric thermal processes, the names and addresses of the persons intending to use the non-electric thermal energy, and a description and an estimate of the fuel displaced by cogeneration, including supporting assumptions;

(ivD) A description of the products produced and thermal energy needed for production of the primary products made by the persons intending to use the non-electric thermal energy produced by the proposed facility, supported by fuel use and steam production records or estimates, if the production facility is new;

(vE) The efficiency of each boiler that the thermal energy will displace;

(viF) For each boiler, the annual fossil fuel displaced in million Btu, higher heating value, by type of fuel that will be displaced by the thermal energy;

(viiG) The annual carbon dioxide offset by the cogeneration host, using a rate of 117 pounds of carbon dioxide per million Btu of natural gas fuel (higher heating value) and a rate of 161 pounds of carbon dioxide per million Btu of distillate fuel (higher heating value);

(viiiH) The cumulative carbon dioxide offset by the steam host through the thirtieth year of facility operation, or for a shorter period if an applicant for a nongenerating facility proposes a shorter operational period;

(ixI) A copy of the contractual agreement between the applicant and the cogeneration host for the use of the thermal energy;

(xJ) A description of the guarantees of offsets that the applicant must provide for cogeneration projects, pursuant to OAR 345-024-0560(1) and 345-024-0600(1);

(xiK) A proposed monitoring and evaluation plan and an independent verification plan, pursuant to subparagraphs (E0)(xiS) and (E)(xiI);

(xiiL) A copy of the instrument by which the certificate holder will transfer the offsets to the Council for it to hold in trust;

(E0) If the applicant proposes to offset carbon dioxide emissions as described in OAR 345-024-0550(3), 345-024-0560(2), 345-024-0590(3), 345-024-0600(2), 345-024-0620(3) or 345-024-0630(1):

(iA) A description of each offset project;

(iiB) A description of who will implement the offset project, including qualifications and experience;

(~~iii~~C) Detailed estimates of the of carbon dioxide offset, measured in short tons, that the offset projects will achieve over the life of the project;

(~~iv~~D) For each offset project, an explanation of how the applicant quantified its carbon dioxide estimates to a degree of certainty acceptable to the Council through a transparent and replicable calculation methodology;

(~~v~~E) For each offset project, evidence that the offset project would not likely have been implemented if not for the applicant’s activities or funding;

(~~vi~~F) For each offset project, a description of a “Baseline” projection that does not include the proposed project and a “Project Case” projection that does. The historic Baseline must use reliable emissions data or pre-project data available for the most recent three years unless the applicant can demonstrate that a different period more closely represents historical operations or unless it can demonstrate that another method provides a more reasonable estimate. The applicant must show how the Baseline projection changes over time if changes from business-as-usual could be reasonably anticipated during the project life;

(~~vii~~G) For each offset project, a description, in a transparent and realistic manner, of the assumptions and methodologies used to quantify the Baseline and the Project Case projections, including a description of key parameters and data sources. This must include a description of the formulae used to estimate carbon dioxide emissions or sequestration within the project boundary and a net change of carbon dioxide emissions or sequestration that occurs outside of the project boundary that is measurable and attributable to the project activity;

(~~viii~~H) For projects that avoid conventional electricity generation, a description of a Baseline that calculates the carbon dioxide emissions per kilowatt hour in two steps:

(~~i~~) For the first five years of operation, a description of the rate based on dispatch data or models or, absent that, a weighted average of all resources in a power pool except zero-fuel-cost or must-run facilities; and

(~~ii~~) A description of the rate for any subsequent years based on a group of similar facilities built within the prior five years or under construction in the electrical distribution region of the project or the three most recent plants built in the region, whichever rate is lower;

(~~ix~~I) For projects that avoid conventional electricity generation, a description of avoided transmission and distribution losses, using average grid area or national losses;

(~~x~~J) A description of any guarantee for offsets from projects that the applicant proposes pursuant to OAR 345-024-0560(2), 345-024-0600(2), and 345-024-630(1), if the applicant chooses to offer a guarantee;

(~~xi~~K) A description of the offset project boundary. The boundary must encompass all carbon dioxide emissions under the control of the project that are significant and reasonably attributable to the project activity. If the project is being conducted by one part of a corporation, the boundary must include the emissions and reductions of the whole corporate

entity and the carbon dioxide emissions resulting from processes and facilities that are related to the project, with identification of subsidiaries that are affected by the project;

(~~xiii~~L) A description of significant risks and risk mitigation strategies, including an estimate of the range of uncertainty around the expected carbon dioxide offsets;

(~~xiii~~M) For biological sequestration projects, an assessment of the risk of climate change to natural systems that are sequestering the carbon dioxide, including, if appropriate, the risks from forest fires, pest and other unplanned releases of carbon from sequestration;

(~~xiv~~N) A description of whether the offset project will permanently avoid or displace emissions of carbon dioxide. If a project only temporarily sequesters carbon, an indication of the duration of sequestration or storage;

(~~xv~~O) A description of the amount of funding the applicant will provide for each offset project it proposes;

(~~xvi~~P) If the applicant anticipates that a project will have funding sources in addition to itself, identification of the sources of those funds, the amount of other funding that is required to implement a project, the amount of funds other parties have committed, and the risks of other funds not being available;

(~~xvii~~Q) If the applicant proposes that a project will have funding sources in addition to itself, a description of how ownership of the offsets will be allocated among the several funding sources;

(~~xviii~~R) A copy of the instrument by which the certificate holder will transfer all the offsets to the Council for it to hold in trust;

(~~xix~~S) A description of a transparent and replicable methodology for the applicant's monitoring and evaluation plan and for an independent verification plan, including:

(i) Procedures the applicant and the independent entity will employ;

(ii) How the applicant will assure funds for ongoing monitoring, evaluation and verification;

(iii) The time frame and frequency over which the applicant will conduct monitoring and evaluation and over which the independent entity will conduct verification, including the frequency of site visits, if applicable;

(iv) The reporting procedures and guidelines for the plans; and

(v) Whether the applicant has identified the independent entity that will perform the verification;

(~~xx~~T) The monitoring and evaluation plan and the verification plan must identify the data needs and data quality with regard to accuracy, comparability, completeness and validity. It must include methodologies to be used for data collection, monitoring, storage, reporting and management, including quality assurance and quality control provisions. It must provide complete calculations used to calculate and estimate carbon dioxide emissions from activity

within the project boundary. It must show any formulae and assumptions the applicant used to calculate offset project leakage;

~~(viiU)~~ A description of reasonably likely, significant undesirable long-term environmental impacts from the implementation of an offset project; and

~~(Pp)~~ If the applicant elects to comply with the applicable carbon dioxide emissions standard by using the monetary path under OAR 345-024-0560(3), 345-024-0600(3) or 345-024-0630(2), the applicant must include:

~~(iA)~~ A statement of the applicant's election to use the monetary path;

~~(iiB)~~ The amount of carbon dioxide reduction, in tons, for which the applicant is taking credit by using the monetary path;

~~(iiiC)~~ The qualified organization to whom the applicant will provide offset funds and funds for the cost of selecting and contracting for offsets. The applicant must include evidence that the organization meets the definition of a qualified organization under OAR 345-001-0010. The applicant may identify an organization that has applied for, but has not received, an exemption from federal income taxation, but the Council will not find that the organization is a qualified organization unless the organization is exempt from federal taxation under section 501(c)(3) of the Internal Revenue Code as amended and in effect on September 18, 2015; and

~~(ivD)~~ A statement of whether the applicant intends to provide a bond or letter of credit to secure the funds it must provide to the qualified organization or whether it requests the option of providing either a bond or a letter of credit.

Stat. Authority: [ORS 469.470](#)

Stat. Implemented: [ORS 469.413](#), [469.501](#), [ORS 469.503](#)

345-024-0500 - General Standards for Fossil-Fueled Power Plants and Energy Facilities that Emit Carbon Dioxide

~~(1) Notwithstanding rules in OAR 345-024-0503 through 345-024-0720, To issue a site certificate for a fossil-fueled power plant on or after September 25, 2021, the Council must find that the facility will only generate electricity in a manner that does not emit greenhouse gasses into the atmosphere.~~

~~(2) To issue a site certificate for a nongenerating facility that will emit carbon dioxide into the atmosphere, the Council must find that the energy facility complies with any the applicable carbon dioxide emissions standard under OAR 345-024-0620 adopted by the Council or enacted by statute. The Council shall adopt standards for fossil-fueled power plants and may adopt carbon dioxide emission standards for other energy facilities that emit carbon dioxide.~~

Stat. Authority: [ORS 469.470](#)

Stat. Implemented: [ORS 469.413\(1\)](#); [469.501](#), [ORS 469.503](#)

345-024-0503 – Definitions for OAR 345-024-0500 to 345-024-0720

[EDITOR'S NOTE: All definitions in this proposed new rule are relocated from OAR 345-001-0010.]

In OAR 345-024-0500 to 345-024-0720, unless the context requires otherwise terms have the meaning provided in ORS 469.300, 469.503(2)(e) and the following definitions:

(1) “Gross carbon dioxide emissions” as defined in ORS 469.503(2)(e). The Council must measure the gross carbon dioxide emissions of a fossil-fueled power plant on a new and clean basis. For nongenerating energy facilities that emit carbon dioxide, the Council must measure the gross carbon dioxide emissions as described in OAR 345-024-0620(1).

(2) “Natural gas-fired facility” means an energy facility that is intended to be fueled by natural gas except for infrequent periods when the natural gas supply is interrupted, during which an alternate fuel may be used. Such alternate fuel use may not exceed 10 percent of expected fuel use in British thermal units, higher heating value on an annual basis.

(3) “New and clean basis” means the average carbon dioxide emissions rate per hour and net electric power output of the energy facility, without degradation. The site certificate holder must determine the new and clean basis:

(a) By a 100-hour test at full power that the site certificate holder completes during the first 12 months of commercial operation of the energy facility, unless the Council specifies a different testing period for a non-base load power plant (or power augmentation) or a nongenerating energy facility. A 100-hour test performed for purposes of the certificate holder’s commercial acceptance of the facility may suffice in lieu of testing after beginning commercial operation;

(b) With the results adjusted for the average annual site condition for temperature, barometric pressure and relative humidity and use of alternative fuels unless the Council specifies that the results for a non-base load power plant (or power augmentation) or a nongenerating energy facility be adjusted for the average temperature, barometric pressure and relative humidity at the site during the times of the year when the facility is intended to operate;

(c) Using a rate of 117 pounds of carbon dioxide per million Btu of natural gas fuel (higher heating value); and,

(d) Using a rate of 161 pounds of carbon dioxide per million Btu of distillate fuel (higher heating value), if such fuel use is proposed by the applicant.

(e) Notwithstanding subsection (a) and including subsections (b) through (d), for a facility that employs major power generating equipment that has previously been used, the new and clean basis means the average carbon dioxide emissions rate and net electric power output for the first use of the equipment at the site, as determined by historical data from the previous usage or by testing on site.

(4) “Non-base load power plant” means a fossil-fueled generating facility that is limited by the site certificate to an average number of hours of operation per year of not more than 6,600 hours. For a non-base load power plant designed to operate at variable loads, the facility’s annual hours of operation are determined by dividing the actual annual electric output of the facility in megawatt-hours by the facility’s nominal electric generating capacity in megawatts. The Council will assume a 30-year life for the plants for purposes of determining gross carbon dioxide emissions, unless the applicant requests

and the Council approves a shorter operational life in the site certificate. If the Council approves a shorter operational life, the certificate holder must operate the facility for no longer than the approved operational life or, before the expiration of the approved operational life, must request an amendment of the site certificate to extend the operational life.

(5) "Offset funds" means the amount of funds determined by the Council to satisfy the applicable carbon dioxide emissions standard pursuant to OAR 345-024-0560(3), 345-024-0600(3) or 345-024-0630(2) and (4).

(6) "Power augmentation" means technologies that increase the capacity and the heat rate of the plant above the capacity and heat rate of the base load gas plant. These include, but are not limited to, duct burning and some forms of steam augmentation.

~~345-024-0510—Principles for the Adoption of New Standards for Fossil-Fueled Power Plants~~

[EDITORS NOTE: This rule is proposed for deletion because unnecessarily restates the requirements of ORS 469.503(2)(b).

~~The council shall adopt carbon dioxide emissions standards for fossil-fueled power plants by rule. In adopting or amending such carbon dioxide emissions standards, the Council shall consider and balance at least the following principles. In the rule-making record, the Council shall include findings on these principles:~~

~~(1) Promote facility fuel efficiency;~~

~~(2) Promote efficiency in the resource mix;~~

~~(3) Reduce net carbon dioxide emissions;~~

~~(4) Promote cogeneration that reduces net carbon dioxide emissions;~~

~~(5) Promote innovative technologies and creative approaches to mitigating, reducing or avoiding carbon dioxide emissions;~~

~~(6) Minimize transaction costs;~~

~~(7) Include an alternative process that separates decisions on the form and implementation of offsets from the final decision on granting a site certificate;~~

~~(8) Allow either the applicant or third parties to implement offsets;~~

~~(9) Be attainable and economically achievable for various types of power plants;~~

~~(10) Promote public participation in the selection and review of offsets;~~

~~(11) Promote prompt implementation of offset projects;~~

~~(12) Provide for monitoring and evaluation of the performance of offsets;~~

~~(13) Promote reliability of the regional electric system.~~

~~Stat. Authority: ORS 469.470, ORS 469.503~~

~~Stat. Implemented: ORS 469.503~~

345-024-0550 - Standard for Base Load Gas Plants

To issue a site certificate for a base load gas plant, the Council must find that the net carbon dioxide emissions rate of the proposed facility does not exceed 0.~~614~~574 pounds of carbon dioxide per kilowatt-hour of net electric power output, with carbon dioxide emissions and net electric power output measured on a new and clean basis. For a base load gas plant designed with power augmentation technology as defined in OAR 345-~~001024-00100503~~, the Council shall apply the standard for a non-base load power plant, as described in OAR 345-024-0590, to the incremental carbon dioxide emissions from the designed operation of the power augmentation technology. The Council shall determine whether the base load carbon dioxide emissions standard is met as follows:

Stat. Authority: ORS 469.470, ORS 469.501, ORS 469.503
Stat. Implemented: ORS 469.501, ORS 469.503

345-024-0570 - Modification of the Standard for Base Load Gas Plants

The Council may by rule modify the carbon dioxide emissions standard for base load gas plants in OAR 345-024-0550 if the Council finds that the most efficient stand-alone combined cycle, combustion turbine, natural gas-fired energy facility that is commercially demonstrated and operating in the United States has a net heat rate of less than ~~6,324,5,907~~ Btu per kilowatt hour higher heating value adjusted to ISO conditions. In modifying the carbon dioxide emission standard, the Council shall determine the rate of carbon dioxide emissions per kilowatt hour of net electric output of such energy facility, adjusted to ISO conditions and reset the carbon dioxide emissions standard at 17 percent below this rate.

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Stat. Authority: ORS 469.470, ORS 469.501, ORS 469.503
Stat. Implemented: ORS 469.501, ORS 469.503

345-024-0580 - Monetary Offset Rate

The monetary offset rate is \$~~2,854.72~~ per ton of carbon dioxide emissions.

Stat. Authority: ORS 469.470, ORS 469.503
Stat. Implemented: ORS 469.503

345-024-0590 - Standard for Non-Base Load Power Plants

To issue a site certificate for a non-base load power plant, the Council must find that the net carbon dioxide emissions rate of the proposed facility does not exceed 0.~~614~~574 pounds of carbon dioxide per kilowatt-hour of net electric power output, with carbon dioxide emissions and net electric power output measured on a new and clean basis. For a base load gas plant designed with power augmentation technology as defined in OAR 345-001-0010, the Council shall apply this standard to the incremental carbon dioxide emissions from the designed operation of the power augmentation technology. The Council shall determine whether the carbon dioxide emissions standard is met as follows:

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Stat. Authority: ORS 469.470, ORS 469.501, ORS 469.503
Stat. Implemented: ORS 469.501, ORS 469.503

345-024-0620 - Standard for Nongenerating Energy Facilities

To issue a site certificate for a nongenerating energy facility that emits carbon dioxide, the Council must find that the net carbon dioxide emissions rate of the proposed facility does not exceed 0.~~458-428~~ pounds of carbon dioxide per horsepower hour. The Council shall determine whether the carbon dioxide emissions standard is met as follows:

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Stat. Authority: ORS 469.470, ORS 469.501

Stat. Implemented: ORS 469.501

345-025-0010 - Site-Specific Conditions

The Council may include the following conditions, as appropriate, in the site certificate:

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(7) If the facility is subject to a carbon dioxide emissions standard adopted by the Council or enacted by statute, the Council must include in the site certificate appropriate conditions as described in OAR 345-024-05~~5000~~, ~~345-024-0560~~, ~~345-024-0590~~, ~~345-024-0600~~, ~~345-024-0620~~, ~~345-024-0630~~ and to 345-024-07~~120~~.

[Publications: Publications referenced are available from the agency.]

STATUTORY/OTHER AUTHORITY: ORS 469.470

STATUTES/OTHER IMPLEMENTED: ORS 469.401, 469.501, 469.503

345-027-0375 - Scope of Council's Review

(1) In making a decision to grant or deny issuance of an amended site certificate, the Council must apply the applicable laws and Council standards required under section (2) of this rule and in effect on the dates described in section (3) of this rule.

(2) To issue an amended site certificate, the Council must determine that the preponderance of evidence on the record supports the following conclusions:

(a) For a request for amendment proposing to add new area to the site boundary, the portion of the facility within the area added to the site by the amendment complies with all laws and Council standards applicable to an original site certificate application;

(b) For a request for amendment to extend the deadlines for beginning or completing construction, after considering any changes in facts or law since the date the current site certificate was executed, the facility complies with all laws and Council standards applicable to an original site certificate application. However, for requests to extend completion deadlines, the Council need not find compliance with an applicable law or Council standard if the Council finds that:

(A) The certificate holder has spent more than 50 percent of the budgeted costs on construction of the facility;

(B) The inability of the certificate holder to complete the construction of the facility by the deadline in effect before the amendment is the result of unforeseen circumstances that are outside the control of the certificate holder;

(C) The standard, if applied, would result in an unreasonable financial burden on the certificate holder; and

(D) The Council does not need to apply the standard to avoid a significant threat to the public health, safety or the environment;

(c) For ~~any other~~ requests for amendment not described above, the facility, with the proposed change, complies with the applicable laws or Council standards that protect a resource or interest that could be affected by the proposed change; and

(d) For a request for amendment to a site certificate for a fossil-fueled power plant, the proposed change will not result in a significant increase in the gross carbon dioxide emissions that are reasonably likely to result from the operation of the facility. For the purposes of this subsection, an incremental increase in capacity or heat rate resulting from changes that otherwise falls within the limits of OAR 345-027-0353(1) does not significantly increase the gross carbon dioxide emissions that are reasonably likely to result from the operation of the energy facility.

(e) For all requests for amendment, the amount of the bond or letter of credit required under OAR 345-022-0050 is adequate.

(3) In making findings under section (1) of this rule, the Council must apply the applicable laws and Council standards in effect on the following dates:

(a) For the applicable substantive criteria under the Council's land use standard, as described in OAR 345-022-0030, the date the request for amendment was submitted; and

(b) For all other applicable laws and Council standards, the date the Council issues its final order on the request for amendment.

Statutory/Other Authority: ORS 469.470

Statutes/Other Implemented: ORS 469.401, 469.405, 469.413(2), & 469.504