

1 **345-024-0550**

2 **Standard for Base Load Gas Plants**

3 To issue a site certificate for a base load gas plant, the Council must find that the net carbon
4 dioxide emissions rate of the proposed facility does not exceed 0.614 pounds of carbon dioxide
5 per kilowatt-hour of net electric power output, with carbon dioxide emissions and net electric
6 power output measured on a new and clean basis. For a base load gas plant designed with
7 power augmentation technology as defined in OAR 345-001-0010, the Council shall apply the
8 standard for a non-base load power plant, as described in 345-024-0590, to the incremental
9 carbon dioxide emissions from the designed operation of the power augmentation technology.
10 The Council shall determine whether the base load carbon dioxide emissions standard is met as
11 follows:

12 (1) The Council shall determine the gross carbon dioxide emissions that are reasonably
13 likely to result from the operation of the proposed energy facility. The Council shall base such
14 determination on the proposed design of the energy facility. The Council shall adopt site
15 certificate conditions to ensure that the predicted carbon dioxide emissions are not exceeded
16 on a new and clean basis.

17 (2) For any remaining emissions reduction necessary to meet the applicable standard, the
18 applicant may elect to use any of the means described in OAR 345-024-0560, or any
19 combination thereof. The Council shall determine the amount of carbon dioxide or other
20 greenhouse gas emissions reduction that is reasonably likely to result from the applicant's
21 offsets and whether the resulting net carbon dioxide emissions meet the applicable carbon
22 dioxide emissions standard. The amount of greenhouse gas emissions means the pounds of
23 carbon dioxide and the carbon dioxide equivalent of other greenhouse gases. For methane, one
24 pound of methane is equivalent to 25 pounds of carbon dioxide. For nitrous oxide, one pound
25 of nitrous oxide is equivalent to 298 pounds of carbon dioxide.

26 (3) If the applicant elects to comply with the standard using the means described in OAR
27 345-024-0560(2), the Council shall determine the amount of greenhouse gas emissions
28 reduction that is reasonably likely to result from each of the proposed offsets. In making this
29 determination, the Council shall not allow credit for offsets that have already been allocated or
30 awarded credit for greenhouse gas emissions reduction in another regulatory setting. The fact
31 that an applicant or other parties involved with an offset may derive benefits from the offset
32 other than the reduction of greenhouse gas emissions is not, by itself, a basis for withholding
33 credit for an offset. The Council shall base its determination of the amount of greenhouse gas
34 emission reduction on the following criteria and as provided in 345-024-0680:

35 (a) The degree of certainty that the predicted quantity of greenhouse gas emissions
36 reduction will be achieved by the offset.

37 (b) The ability of the Council to determine the actual quantity of greenhouse gas
38 emissions reduction resulting from the offset, taking into consideration any proposed
39 measurement, monitoring and evaluation of mitigation measure performance.

40 (c) The extent to which the reduction of greenhouse gas emissions would occur in the
41 absence of the offsets.

42 (4) Before beginning construction, the certificate holder shall notify the Department of
43 Energy in writing of its final selection of a gas turbine vendor and shall submit a written design
44 information report to the Department sufficient to verify the facility's designed new and clean
45 heat rate and its nominal electric generating capacity at average annual site conditions for each

1 fuel type. In the report, the certificate holder shall include the proposed limits on the annual
2 average number of hours of facility operation on distillate fuel oil, if applicable. In the site
3 certificate, the Council may specify other information to be included in the report. The
4 Department shall use the information the certificate holder provides in the report as the basis
5 for calculating, according to the site certificate, the amount of greenhouse gas emissions
6 reductions the certificate holder must provide under OAR 345-024-0560.
7

8 **345-024-0570**

9 **Modification of the Standard for Base Load Gas Plants**

10 The Council may by rule modify the carbon dioxide emissions standard for base load gas plants
11 in OAR 345-024-0550 if the Council finds that the most efficient stand-alone combined cycle,
12 combustion turbine, natural gas-fired energy facility that is commercially demonstrated and
13 operating in the United States has a net heat rate of less than 6,321 Btu per kilowatt hour
14 higher heating value adjusted to ISO conditions. In modifying the carbon dioxide emission
15 standard, the Council shall determine the rate of carbon dioxide emissions per kilowatt hour of
16 net electric output of such energy facility, adjusted to ISO conditions and reset the carbon
17 dioxide emissions standard at 17 percent below this rate.
18

19 **345-024-0590**

20 **Standard for Non-Base Load Power Plants**

21 To issue a site certificate for a non-base load power plant, the Council must find that the net
22 carbon dioxide emissions rate of the proposed facility does not exceed 0.614 pounds of carbon
23 dioxide per kilowatt-hour of net electric power output, with carbon dioxide emissions and net
24 electric power output measured on a new and clean basis. For a base load gas plant designed
25 with power augmentation technology as defined in OAR 345-001-0010, the Council shall apply
26 this standard to the incremental carbon dioxide emissions from the designed operation of the
27 power augmentation technology. The Council shall determine whether the carbon dioxide
28 emissions standard is met as follows:

29 (1) The Council shall determine the gross carbon dioxide emissions that are reasonably
30 likely to result from the operation of the proposed energy facility. The Council shall base such
31 determination on the proposed design of the energy facility, the limitation on the hours of
32 generation for each fuel type and the average temperature, barometric pressure and relative
33 humidity at the site during the times of the year when the facility is intended to operate. For a
34 base load gas plant designed with power augmentation technology, the Council shall base its
35 determination of the incremental carbon dioxide emissions on the proposed design of the
36 facility, the proposed limitation on the hours of generation using the power augmentation
37 technology and the average temperature, barometric pressure and relative humidity at the site
38 during the times of the year when the facility is intended to operate with power augmentation
39 technology. The Council shall adopt site certificate conditions to ensure that the predicted
40 carbon dioxide emissions are not exceeded on a new and clean basis; however, the Council may
41 modify the parameters of the new and clean basis to accommodate average conditions at the
42 times when the facility is intended to operate and technical limitations, including operational
43 considerations, of a non-base load power plant or power augmentation technology or for other
44 cause.

1 (2) For any remaining emissions reduction necessary to meet the applicable standard, the
2 applicant may elect to use any of the means described in OAR 345-024-0600 or any
3 combination thereof. The Council shall determine the amount of carbon dioxide or other
4 greenhouse gas emissions reduction that is reasonably likely to result from the applicant's
5 offsets and whether the resulting net carbon dioxide emissions meet the applicable carbon
6 dioxide emissions standard. The amount of greenhouse gas emissions means the pounds of
7 carbon dioxide and the carbon dioxide equivalent of other greenhouse gases. For methane, one
8 pound of methane is equivalent to 25 pounds of carbon dioxide. For nitrous oxide, one pound
9 of nitrous oxide is equivalent to 298 pounds of carbon dioxide.

10 (3) If the applicant elects to comply with the standard using the means described in OAR
11 345-024-0600(2), the Council shall determine the amount of greenhouse gas emissions
12 reduction that is reasonably likely to result from each of the proposed offsets. In making this
13 determination, the Council shall not allow credit for offsets that have already been allocated or
14 awarded credit for greenhouse gas emissions reduction in another regulatory setting. The fact
15 that an applicant or other parties involved with an offset may derive benefits from the offset
16 other than the reduction of greenhouse gas emissions is not, by itself, a basis for withholding
17 credit for an offset. The Council shall base its determination of the amount of greenhouse gas
18 emission reduction on the following criteria and as provided in 345-024-0680:

19 (a) The degree of certainty that the predicted quantity of greenhouse gas emissions
20 reduction will be achieved by the offset.

21 (b) The ability of the Council to determine the actual quantity of greenhouse gas
22 emissions reduction resulting from the offset, taking into consideration any proposed
23 measurement, monitoring and evaluation of mitigation measure performance.

24 (c) The extent to which the reduction of greenhouse gas emissions would occur in the
25 absence of the offsets.

26 (4) Before beginning construction, the certificate holder shall notify the Department of
27 Energy in writing of its final selection of an equipment vendor and shall submit a written design
28 information report to the Department sufficient to verify the facility's designed new and clean
29 heat rate and its nominal electric generating capacity at average annual site conditions for each
30 fuel type. For a base load gas plant designed with power augmentation technology, the
31 certificate holder shall include in the report information sufficient to verify the facility's
32 designed new and clean heat rate, tested under parameters the Council orders pursuant to
33 section (1), and the nominal electric generating capacity at average site conditions during the
34 intended use for each fuel type from the operation of the proposed facility using the power
35 augmentation technology. The certificate holder shall include the proposed limit on the annual
36 average number of hours for each fuel used, if applicable. The certificate holder shall include
37 the proposed total number of hours of operation for all fuels, subject to the limitation that the
38 total annual average number of hours of operation per year is not more than 6,600 hours. In
39 the site certificate, the Council may specify other information to be included in the report. The
40 Department shall use the information the certificate holder provides in the report as the basis
41 for calculating, according to the site certificate, the gross carbon dioxide emissions from the
42 facility and the amount of greenhouse gas emissions reductions the certificate holder must
43 provide under OAR 345-024-0600.

44 (5)(a) Every five years after commencing commercial operation, the certificate holder shall
45 report to the Council the facility's actual gross carbon dioxide emissions. The certificate holder

1 shall calculate actual gross carbon dioxide emissions using the new and clean heat rate and the
2 actual hours of operation on each fuel during the five-year period or shall report to the Council
3 the actual measured or calculated carbon dioxide emissions as reported to either the Oregon
4 Department of Environmental Quality or the U.S. Environmental Protection Agency pursuant to
5 a mandatory carbon dioxide emissions reporting requirement.

6 (b) The certificate holder shall specify its election of method used to measure or calculate
7 carbon dioxide emissions in the notification report described at section (4) of this rule. That
8 election, once made, shall apply for each five year period unless the site certificate is amended
9 to allow a different election. If the certificate holder calculates actual carbon dioxide emissions
10 using the new and clean heat rate and the actual hours of operation, the certificate holder shall
11 also report to the Council the facility's actual annual hours of operation by fuel type. If the
12 actual gross carbon dioxide emissions exceed the projected gross carbon dioxide emissions for
13 the five-year period calculated under section (4), the certificate holder shall offset any excess
14 emissions for that period and shall offset estimated future excess carbon dioxide emissions
15 using the monetary path as described in OAR 345-024-0600(3) and (4) or as approved by the
16 Council

17 (6) For a base load gas plant designed with power augmentation technology, every five
18 years after commencing commercial operation, the certificate holder shall report to the Council
19 the facility's actual hours of operation using the power augmentations technology for each fuel
20 type. If the actual gross carbon dioxide emissions, calculated using the new and clean heat rate,
21 tested under parameters the Council orders pursuant to section (1), and the actual hours of
22 operation using the power augmentation technology on each fuel during the five-year period
23 exceed the projected gross carbon dioxide emissions for the five-year period calculated under
24 section (4), the certificate holder shall offset any excess emissions for that period and shall
25 offset estimated future excess carbon dioxide emissions using the monetary path as described
26 in OAR 345-024-0600(3) and (4) or as approved by the Council.

27 28 **345-024-0620**

29 **Standard for Nongenerating Energy Facilities**

30 To issue a site certificate for a nongenerating energy facility that emits carbon dioxide, the
31 Council must find that the net carbon dioxide emissions rate of the proposed facility does not
32 exceed 0.458 pounds of carbon dioxide per horsepower hour. The Council shall determine
33 whether the carbon dioxide emissions standard is met as follows:

34 (1) The Council shall determine the gross carbon dioxide emissions that are reasonably
35 likely to result from the operation of the proposed energy facility. The Council shall base such
36 determination on the proposed design of the energy facility. In determining gross carbon
37 dioxide emissions for a nongenerating facility, the Council shall calculate carbon dioxide
38 emissions for a 30-year period unless the applicant requests, and the Council adopts in the site
39 certificate, a different period. The Council shall determine gross carbon dioxide emissions
40 based on its findings of the reasonably likely operation of the energy facility. The Council shall
41 use a rate of 117 pounds of carbon dioxide per million Btu of natural gas fuel (higher heating
42 value) and a rate of 161 pounds of carbon dioxide per million Btu of distillate fuel (higher
43 heating value), if the applicant proposes to use such fuel. If the applicant proposes to use any
44 other fossil fuel, the Council shall adopt by rule an appropriate carbon dioxide content rate for
45 the fuel.

1 (2) For any remaining emissions reduction necessary to meet the applicable standard, the
2 applicant may elect to use any of the means described in OAR 345-024-0630 or any
3 combination thereof. The Council shall determine the amount of carbon dioxide or other
4 greenhouse gas emissions reduction that is reasonably likely to result from the applicant's
5 offsets and whether the resulting net carbon dioxide emissions meet the applicable carbon
6 dioxide emissions standard. The amount of greenhouse gas emissions means the pounds of
7 carbon dioxide and the carbon dioxide equivalent of other greenhouse gases. For methane, one
8 pound of methane is equivalent to 25 pounds of carbon dioxide. For nitrous oxide, one pound
9 of nitrous oxide is equivalent to 298 pounds of carbon dioxide.

10 (3) If the applicant elects to comply with the standard using the means described in OAR
11 345-024-0630(1), the Council shall determine the amount of greenhouse gas emissions
12 reduction that is reasonably likely to result from each of the proposed offsets. In making this
13 determination, the Council shall not allow credit for offsets that have already been allocated or
14 awarded credit for greenhouse gas emissions reduction in another regulatory setting. The fact
15 that an applicant or other parties involved with an offset may derive benefits from the offset
16 other than the reduction of greenhouse gas emissions is not, by itself, a basis for withholding
17 credit for an offset. The Council shall base its determination of the amount of greenhouse gas
18 emission reduction on the following criteria and as provided in 345-024-0680:

19 (a) The degree of certainty that the predicted quantity of greenhouse gas emissions
20 reduction will be achieved by the offset.

21 (b) The ability of the Council to determine the actual quantity of greenhouse gas
22 emissions reduction resulting from the offset, taking into consideration any proposed
23 measurement, monitoring and evaluation of mitigation measure performance.

24 (c) The extent to which the reduction of greenhouse gas emissions would occur in the
25 absence of the offsets.

26 (4) Before beginning construction, the certificate holder shall notify the Department of
27 Energy in writing of its final selection of an equipment manufacturer and shall submit a written
28 design information report to the Department sufficient to verify the facility's designed rate of
29 fuel use and its nominal capacity for each fuel type. In the site certificate, the Council may
30 specify other information to be included in the report. The Department shall use the
31 information the certificate holder provides in the report as the basis for calculating, according
32 to the site certificate, the amount of greenhouse gas emissions reductions the certificate holder
33 must provide under OAR 345-024-0630.

34 (5) In the site certificate, the Council shall specify the schedule by which the certificate
35 holder shall provide offsets. In the schedule, the Council shall specify the amount and timing of
36 offsets the certificate holder must provide to an offset credit account. In determining the
37 amount and timing of offsets, the Council may consider the estimate of total offsets that may
38 be required for the facility and the minimum amount of offsets needed for effective offset
39 projects. The Department shall maintain the record of the offset credit account.