The hourly NOx emissions for all of the diesel engines at a facility can be calculated using the applicable gram/kW-hr limit to which each is certified or AP-42 emission factor for pre-NSPS CI ICE.

The NOx hourly emission limits shall be calculated as follows:

To convert horse power to kilowatts multiply the horse power by 0.746.

Enter the size engine in kilowatts into the following calculations and add the resulting pound per hour emissions for all of the diesel engines operating at the facility, to document that the total facility emissions do not exceed 50.7 or 53.7 pounds of NOx per hour and to determine the minimum distance of any of the facility engines from the fenceline.

The pound per hour emission limitations for NOx shall be calculated as follows, based on the emission limits to which the engine is certified. Select the appropriate General Permits (GP) based on the model year and certification:

______________________________________________________________________________________

Templates #1 and #2 for pre-2007 engines installed on or after 6/12/06:

The nitrogen oxide limit from Table 1 to Part 60, Subpart IIII and/or the Tier 1 limits from Table 1 to 40 CFR 89.112 is 9.2 grams of NOx per kilowatt hour.

The estimated pound per hour emissions shall be calculated as follows:

\[
9.2 \text{ g NOx/kW-hr} \times \text{kW} \times 0.002205 \text{ lb/g} = \text{XX lb NOx/hr}
\]

______________________________________________________________________________________

Template #3 for 2007 model year or earlier engines from 50 HP (37 kW) to <75 HP (<56 kW)
Template #4 for 2007 to 2011 model year or earlier engines from 75 HP (56 kW) to <100 HP (<75 kW)
Template #8 for 2008 to 2012 model year engines from 50 HP (37 kW) to <75 HP (<56 kW)

The nitrogen oxide limit from Table 1 to 40 CFR 89.112 and/or Table 3 to 40 CFR 1039.102 is 4.7 grams NOx + NMHC/kW-hr

Since the limit is for NOx + NMHC*, the NOx and VOC limits shall be calculated using a ratio of 76.0%** NOx to 24.0% VOC.

The estimated pound per hour emissions shall be calculated as follows:

\[
4.7 \text{ grams NOx + NMHC/kW-hr} \times 76\% \text{ NOx} = 3.6 \text{ grams NOx/kW-hr}
\]

\[
3.6 \text{ g NOx/kW-hr} \times \text{kW} \times 0.002205 \text{ lb/g} = \text{XX lb NOx/hr}
\]

______________________________________________________________________________________

Template #5 for 2007 to 2011 model year or earlier engines from 100 HP (75 kW) to <175 HP (<130 kW)
Template #6 for 2007 to 2010 model year or earlier engines from 175 HP (130 kW) to 750 HP (560 kW)

The nitrogen oxide limit from Table 1 to 40 CFR 89.112 for these model years and size engines is 4.0 grams NOx + NMHC/kW-hr
Since the limit is for NOx + NMHC*, the NOx and VOC limits shall be calculated using a ratio of 74.6%** NOx to 25.4% VOC.

The estimated pound per hour emissions shall be calculated as follows:

4.0 grams NOx + NMHC/kW-hr x 74.6% NOx = 3.0 grams NOx/kW-hr

3.0 g NOx /kW-hr x kW x 0.002205 lb/g = XX lb NOx/hr

Template #7 for 2007 to 2010 model year or earlier engines from >750 HP (560 kW) to 1,100 HP (820 kW)

The nitrogen oxide limit from Table 1 to 40 CFR 89.112 for these model year and size engines is 6.4 grams NOx + NMHC/kW-hr

Since the limit is for NOx + NMHC*, the NOx and VOC limits shall be calculated using a ratio of 79.4%** NOx to 20.6% VOC.

The estimated pound per hour emissions shall be calculated as follows:

6.4 grams NOx + NMHC/kW-hr x 79.4% NOx = 5.1 grams NOx/kW-hr

5.1 g NOx /kW-hr x kW x 0.002205 lb/g = XX lb NOx/hr

Templates #9, #10, and #11 for pre-NSPS RICE less than 600 HP, permitted at emission factors from AP-42

The nitrogen oxide limit from AP-42 Table 3.3-1 for pre-NSPS ICE is 4.41 lbs NOx/MMBtu

The estimated pound per hour emissions shall be calculated as follows:

4.41 lbs NOx/MMBtu x 137,000 Btu/gal x gallons/hour = XX lb NOx/hr

Template #12 for pre-NSPS RICE more than 600 HP, permitted at emission factors from AP-42

The nitrogen oxide limit from AP-42 Table 3.4-1 for pre-NSPS ICE is 3.2 lbs NOx/MMBtu

The estimated pound per hour emissions shall be calculated as follows:

3.2 lbs NOx/MMBtu x 137,000 Btu/gal x gallons/hour = XX lb NOx/hr

* non-methane hydrocarbons

**This ratio is based upon the linear relationship of NOx to NMHC from Table 1 of Subpart IIII, Table 1 from 40 CFR 89.112, to Tables 4, 5, and 6 from 40 CFR 1039.102.