

WDEQ IMPACT System Training

Instructions for creating a new natural gas-fired Engine Emission Unit with diesel fuel as a secondary fuel with oxidation catalyst and low NO_x burner control devices:

Step 1: From the IMPACT Home Page select "Make a Facility Inventory Change".

New Tasks
Select from the lists below to create a new task

<p>Facility Management</p> <div style="border: 1px solid red; display: inline-block; padding: 2px;">Make a Facility Inventory Change</div> <div style="border: 1px solid gray; display: inline-block; padding: 2px;">Make a change to the Facility Contact(s)</div>	<p>Permitting</p> <div style="border: 1px solid gray; display: inline-block; padding: 2px;">Create an NSR Permit Application</div> <div style="border: 1px solid gray; display: inline-block; padding: 2px;">Create a Title V Permit Application</div>
<p>Emissions Reporting</p> <div style="border: 1px solid gray; display: inline-block; padding: 2px;">Create an Emissions Inventory</div>	<p>Compliance Reporting</p> <div style="border: 1px solid gray; display: inline-block; padding: 2px;">Create a Stack Test Report</div> <div style="border: 1px solid gray; display: inline-block; padding: 2px;">Create a Compliance Report</div>

Note: If you already have a facility change task open a new task cannot be opened. Instead you will need to click on the "In Progress Task" with Task Description of "Facility Inventory Change".

Step 2: Select Create Emissions Unit

Facility Information

Facility ID: F025927
 Facility Name: AQD Test Facility
 Facility Description:
 Operating Status: Operating AFS: 5600900022
 Facility Class: Title V Facility Type: Compressor Station

Location

ID	Physical Address	City	County	Lat/Long	PLSS	Effective Date
33620	On Cow Creek Road 2 miles east of Dull Center Road	Converse County	Converse	43.29083/-105.09956	QSESE-S2-T38N-R69W	5/8/2012

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 213112 Support Activities for Oil and Gas Operations

[NAICS reference information](#)

Create Emissions Unit

Step 3: Select "Engine" as Emission Unit Type from drop down menu

Step 4: Populate as much information as possible but all fields with an asterisk (*) are required data fields. Screen shot below indicates the data we will use for this unit.

Step 5: Save and the AQD ID will auto-populate.

Emissions Unit Information

AQD ID: _____

+ Emission Unit Type: [Help me select the Emission Unit Type](#)

AQD Description:

* Company Equipment ID:

* Company Equipment Description:

* Operating Status:

Initial Construction Commencement Date: 

Initial Operation Commencement Date: 

Most Recent Construction/Modification Commencement Date: 

Most Recent Operation Commencement Date: 

Emission Unit Type Specific Information

Name Plate Rating: * Units:

Site Rating: Units:

+ Primary Fuel Type: * Secondary Fuel Type:

* Model Name and Number: * Engine:

Serial Number Tracking

Row Id	Serial Number	Manufacturer Name	Construction / Installation Commencement Date	Operation Commencement / Start-up Date	Order Date	Manufacture Date	Shutdown Date	Removal Date
001	TBD	Caterpillar						

*There must be at least one entry in the Serial Number Tracking table.

Permitted Emissions

This table is populated by AQD staff based on established/permitted emission limits. It is shown here for informational purposes only.

Pollutant	Potential Emissions	Allowable Emissions	Comments
	Rate Units	Rate Units	

Step 6: With the Emission Unit you just added selected, select Create Emissions Process and then Select SCC through cascading levels

Process Information

Process ID:

Process Name:

Company Process Description:

* Source Classification Code (SCC):

Enter as 1-22-333-44 or 12233344

Select SCC through cascading levels search SCCs by keyword

Save Cancel

Step 7: Set the process name as NG Combustion for Natural Gas Combustion. Select appropriate SCC fields as indicated in screen shot below and click Save.

Process Information

Process ID:

Process Name:

Company Process Description:

Source Classification Code (SCC):

* SCC Level 1 Description:

* SCC Level 2 Description:

* SCC Level 3 Description:

* SCC Level 4 Description:

Save Cancel

Step 8: To create a fuel oil combustion process as secondary fuel, click on the AQD Engine ID in the Facility Tree on the left hand side and Click “Create Emissions Process” at the bottom of the page. Populate the process information as indicated in the screen shot below and click Save.

Process Information

Process ID: _____
Process Name:
Company Process Description:
Source Classification Code (SCC): 20200102
* SCC Level 1 Description:
* SCC Level 2 Description:
* SCC Level 3 Description:
* SCC Level 4 Description:

Step 9: On the Natural Gas Combustion Process select Create and Associate Control Equipment.

Process Information

Process ID: PRC008
Process Name: _____
Company Process Description: _____
Source Classification Code (SCC): 20200254
SCC Level 1 Description: 2:Internal Combustion Engines
SCC Level 2 Description: 02:Industrial
SCC Level 3 Description: 002:Natural Gas
SCC Level 4 Description: 54:4-cycle Lean Burn

[SCC reference information](#)

Step 10: Select Oxidation Catalyst as the control equipment type and populate the information as indicated below. Click Save.

Control Equipment Information

AQD ID: OXI004

* Control Equipment Type: Oxidation Catalyst

AQD Description:

* Company Control Equipment ID: OXI1

* Company Control Equipment Description: Oxidation Catalyst with AFRC

* Operating Status: Not Operating

Initial Installation Date:

Manufacturer Name: Model Name and Number:

Control Equipment Type Specific Information

* Catalyst Type: Oxidation Catalyst

* Air Fuel Ratio Controller: Yes No

Pollutants Controlled

Explanation

*You must specify at least one pollutant in the Pollutants Controlled table

[Select All](#) | [Select None](#)

Select Pollutant	Design Control Efficiency(%)	Operating Control Efficiency(%)	Capture Efficiency(%)	Total Capture Control(%)
<input type="checkbox"/> NOx - Nitrogen Oxides	90	90	100	90

Step 11: Select the Oxidation Catalyst Control Equipment in the Facility Tree and click Create and Associate Subsequent Control Equipment at the bottom of the screen.

Control Equipment Information

AQD ID: OXI004
Control Equipment Type: Oxidation Catalyst
AQD Description:

Company Control Equipment ID: OX11
Company Control Equipment Description: Oxidation Catalyst with AFRC

Operating Status: Not Operating
Initial Installation Date:

Manufacturer Name: **Model Name and Number:**

Control Equipment Type Specific Information

Catalyst Type : Oxidation Catalyst
Air Fuel Ratio Controller : Yes

Pollutants Controlled

Explanation

*You must specify at least one pollutant in the Pollutants Controlled table

Pollutant	Design Control Efficiency(%)	Operating Control Efficiency(%)	Capture Efficiency(%)	Total Capture Control(%)
NOx - Nitrogen Oxides	90	90	100	90

Step 12: Select Low NOx Burner for Control Equipment Type and populate the information as indicated below. Click Save.

Control Equipment Information

AQD ID: _____

* Control Equipment Type:

AQD Description:

* Company Control Equipment ID:

* Company Control Equipment Description:

* Operating Status:

Initial Installation Date:

Manufacturer Name: Model Name and Number:

Control Equipment Type Specific Information

Inlet Gas Temp (F):

* Burner Type: Low Nox Burner Ultra Low Nox Burner

Outlet Gas Temp (F):

Pollutants Controlled

Explanation

*You must specify at least one pollutant in the Pollutants Controlled table

[Select All](#) | [Select None](#)

Select Pollutant	Design Control Efficiency(%)	Operating Control Efficiency(%)	Capture Efficiency(%)	Total Capture Control(%)
<input type="checkbox"/> NOx - Nitrogen Oxides	80	80	100	

Step 13: To set the release point, select the Low NO_x Burner Control Equipment in the Facility Tree, then select Create and Associate Release Point.

Control Equipment Information

AQD ID: LNB002

Control Equipment Type: Low NO_x Burner

AQD Description:

Company Control Equipment ID: LNB5

Company Control Equipment Description: Low NO_x Burner

Operating Status: Operating

Initial Installation Date:

Manufacturer Name: Model Name and Number:

Control Equipment Type Specific Information

Inlet Gas Temp (F): 400

Burner Type: Low Nox Burner

Outlet Gas Temp (F): 500

Pollutants Controlled

Explanation

*You must specify at least one pollutant in the Pollutants Controlled table

Pollutant	Design Control Efficiency(%)	Operating Control Efficiency(%)	Capture Efficiency(%)	Total Capture Control(%)
NOx - Nitrogen Oxides	80	80	100	80

Step 14: Populate Release Data as indicated in screen shot below and click Save.

Release Point Information

AQD ID: _____

* Release Point Type:

AQD Description:

* Company Release Point ID:

* Company Release Point Description:

* Operating status:

* Release Point Latitude: Facility Latitude: 43.29083

* Release Point Longitude: Facility Longitude: -105.09956

[Show On Map](#)

Release Point Type Specific Information

* Base Elevation (ft): Feet above sea level

* Stack Height (ft): * Stack Diameter (ft):

Feet above base elevation

* Exit Gas Velocity (ft/s): * Exit Gas Temp (F):

* Exit Gas Flow Rate (acfm):

CEM Data

Select Description	Pollutant Monitored												
	H2S	SO2	NOX	CO	THC	HCL	HFL	O	TRS	CO2	FLOW	OPACITY	PM
<input type="button" value="Add CEM"/> <input type="button" value="Delete Selected CEMs"/> <input type="button" value="Printable view"/> <input type="button" value="Export to excel"/>													

Step 15: To add the same Oxidation Catalyst, Low NOx Burner, and the release point to the secondary fuel process. Select the FO Process Unit under the Engine Emission Unit in the Facility Tree and select Associate Existing Control Equipment.

Process Information

Process ID: PRC014

Process Name: FO Combustion

Company Process Description: _____

Source Classification Code (SCC): 20200102

SCC Level 1 Description: 2:Internal Combustion Engines

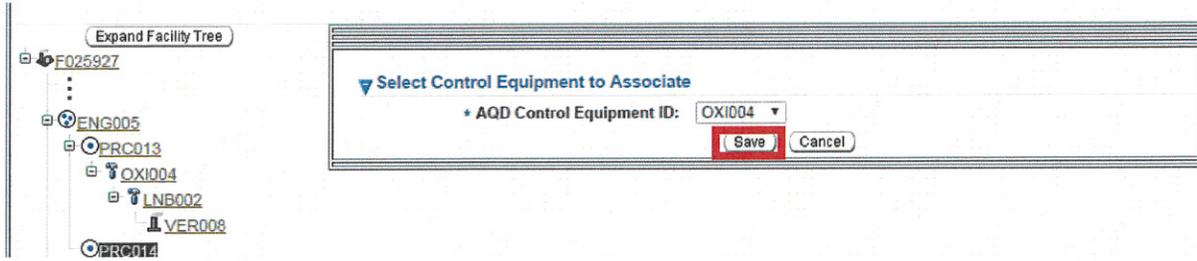
SCC Level 2 Description: 02:Industrial

SCC Level 3 Description: 001:Distillate Oil (Diesel)

SCC Level 4 Description: 02:Reciprocating

[SCC reference information](#)

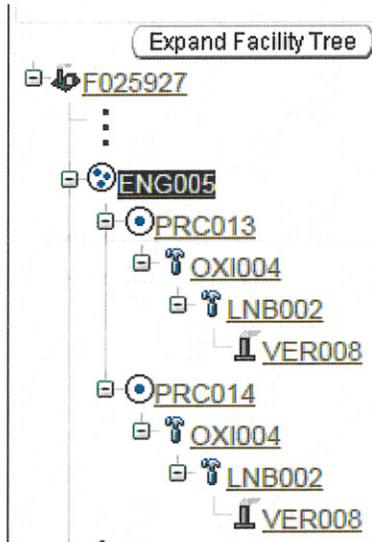
Step 16: Select the AQD Control Equipment ID that was created in Step 10 and click Save. This will associate all subsequent control equipment and the release point as well.



Summary and Submit:

Completing Steps 1-16 has created a single engine that is natural gas fired with diesel as a secondary fuel. An oxidation catalyst and low NOx burner technologies have been added to the engine with a single vertical exhaust stack. Note that the specific unit parameters, flows, and details were fictitious for the purpose of this demonstration and your facility's units may have different parameters.

The Facility Tree for the Tank created should look similar to the screen shot below (Note: the emission unit, process, control, and release point numbers may be different in your test facility, but the flow should look identical).





WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

This is still an In Progress task only visible to Facility (not the agency) until you submit the change. Once you have completed making all facility changes and are ready to submit go back to the IMPACT Home page and select the Facility Inventory Change.

Facility Information

Facility ID: F025927 Facility Name: AQD Test Facility District: District 2
Facility Type: Compressor Station Company Name: WDEQ/WQD County: Converse
Physical Address: On Cow Creek Road 2 miles east of Dull Center Road City: Converse County
Lat/Long: 43.29083/-105.09956 PLSS: QSESE-S2-T38N-R69W

In Progress Tasks

Select	Task Type	Task Description	Dependent on Task	Created Date	User Name
<input type="radio"/>	Facility Contact Change	Facility Contact Change	N/A	9/11/2014	aqdstaff
<input type="radio"/>	NSR Permit Application	NSR Application (A0000505)	Facility Inventory Change	8/29/2014	aqdstaff
<input type="radio"/>	NSR Permit Application	NSR Application (A0000525)	Facility Inventory Change	9/10/2014	aqdstaff
<input type="radio"/>	Facility Detail Change	Facility Inventory Change	Facility Contact Change	9/11/2014	aqdstaff

New Tasks
Select from the lists below to create a new task

Facility Management **Permitting**

Emissions Reporting **Compliance Reporting**

Then select Validate.

Facility Information

Facility ID: F025927 Facility Name: AQD Test Facility
Facility Description: AFS: 5600900022
Operating Status: Operating Facility Type: Compressor Station
Facility Class: Title V

Location

ID	Physical Address	City	County	Lat/Long	PLSS	Effective Date
33620	On Cow Creek Road 2 miles east of Dull Center Road	Converse County	Converse	43.29083/-105.09956	QSESE-S2-T38N-R69W	5/8/2012

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