

Oil & Gas Permitting Issues and Guidance Revisions

Statewide and Jonah/Pinedale Development
Area

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Effective Date of New Guidance

- New submission deadlines, emission control requirements, and installation deadlines apply to all wells spudded or facilities modified on/after

September 1, 2007.

Kaizen Event

- June 18 – 22, 2006
 - With the help of a consultant from Guidon, a group made up of AQD and Industry met to improve efficiency and streamline O&G permitting process.
- Many of the results of this event are now included in our process as well as our new guidance.

Submission/Installation Dates

- **Permit Applications**
 - 90 days after First Production
- **Prescribed Controls**
 - 60 days after First Production unless required upon First Production
- **Completion Reports**
 - 60 days after First Production
- **Notice of Installation (NOI) has been eliminated**

Submitting an Application

- Currently **3** hard copies of each application are submitted.
- **August 1, 2007** we will still accept 3 hard copies, but we would prefer to have **1 hard copy and an electronic PDF copy on CD.**
- We currently are working on a paperless application system where the application can be submitted online.

NEW DEFINITION, FIRST DATE OF PRODUCTION (FDP):

- The date permanent production equipment is in place and product is flowing to sales lines, gathering lines or storage tanks. Production occurring during well completion activities which is routed to temporary production equipment is considered to occur prior to the FDP. If extended periods of time pass between zone completions and production from initially completed zones is flowing to permanent production equipment, the FDP is the date when production began flowing to the permanent equipment, even though more zones will be completed later.

Dehydration Units - Statewide

Current Guidance

- for projected potential emissions \geq major source levels
(10 TPY single HAP or 25 TPY combined HAPs)

install **95%** emissions control on all dehy's
w/in **45** days of FDP

- for projected potential emissions \geq 7 TPY combined HAPs or 15 TPY VOCs and $<$ major source levels

3 control options:

limit glycol pump rate
w/in 40 days of FDP

OR

install smaller glycol pump
w/in 120 days of FDP

OR

install 95% emissions control
w/in 120 days of FDP

New Guidance

- for projected potential emissions \geq 5 TPY combined HAPs or 15 TPY VOCs

install **98%** emissions control on all dehy's
w/in **60** days of FDP

Dehydration Units – Jonah/Pinedale Development Area

Current Guidance

Single Well Facilities

- for projected potential emissions \geq major source levels
(10 TPY single HAP or 25 TPY combined HAPs)

install **95%** emissions control on all dehyds
w/in 45 days of FDP

Multiple Well Facilities

install **95%** emissions control
on all dehyds upon FDP

- for projected potential emissions \geq 5 TPY combined HAPs or 15 TPY VOCs
and $<$ major source levels

3 control options:

limit glycol
pump rate
w/in 40
days of
FDP

OR

install
smaller
glycol pump
w/in 120
days of
FDP

OR

install **95%**
emissions
control on all
dehyds
w/in 120 days
of FDP

New Guidance

All Well Facilities

install **98%** emissions control on **all**
dehyds upon FDP

Flashing Emissions – Statewide

Current Guidance

- All well facilities

for projected flashing emissions ≥ 40 TPY VOC

install 98% emissions control w/ in **120-days** of FDP

control may be removed after one year if flashing emissions have declined to **< 30** TPY VOCs

New Guidance

- All well facilities

for projected flashing emissions ≥ 20 TPY VOC

install 98% emissions control w/ in **60-days** of FDP

control may be removed after one year if flashing emissions have declined to **< 15** TPY VOCs

Flashing Emissions – Jonah/Pinedale Development Area

Current Guidance

- Multiple Well Facilities

control flashing emissions upon FDP

AND

control may be removed after one year
if flash emissions have declined to **< 20 TPY VOCs**

- Single Well Facilities

control flash emissions \geq **30 TPY VOC**
w/in **90 days of FDP**

AND

control may be removed after one year
if flash emissions have declined to **< 20 TPY VOCs**

New Guidance

- **All** Well Facilities

control flashing emissions upon FDP

AND

control may be removed after one year
if flash emissions have declined to **< 15 TPY VOCs**

Jonah/Pinedale Development Area

Pneumatic Heat Trace/Hot Glycol Circulation Pumps

Current Guidance

Single Well Facilities

- pneumatic pumps - BACT review is required if VOC emissions exceed 15 TPY
- emissions from pneumatic process controllers (pressure and level controllers, etc.) are considered insignificant and are not reported

New Guidance

All Well Facilities

- Discharge lines of all pneumatic heat trace and hot glycol circulation pumps which use hydrocarbon as the motive gas must be routed into fuel gas supply lines or any line which will be tied into a closed or controlled system upon the FDP.
- BACT review is required if total VOC emissions from all other pneumatic sources exceed 15 TPY

Miscellaneous Updates, Additions, Revisions

Current Guidance

Proposed Guidance

using the NOI as a complete application for certain situations

expanded situations where the NOI may be used as a complete application

NOI used as a complete application for pumping unit engines up to 50 Hp/**10 TPY** NO_x

NOI used as a complete application for pumping unit engines up to 50 Hp/**5 TPY** NO_x due to updated engine BACT

written instructions for using NOIs and applications

written instructions and **easy to follow flow charts** for using NOIs and applications

statewide applicability

separate sections for (1) **STATEWIDE** and (2) **Jonah/Pinedale Development Area**

Updated application and NOI forms, added AQD Pinedale 1 form

reporting of emissions associated with oil/condensate truck loading considered insignificant at single wells and PAD wells with no reporting required

truck loading emissions at single & PAD wells must be reported

BACT for Compressor Engines

- Rich Burn Engines > 800 hp
 - Require BACT analysis to control NO_x to 0.7g/hp-hr or below.
 - Initial test data shows meeting 0.7 g/hp-hr is technically feasible.
 - One company has accepted 0.7 g/hp-hr as BACT for NO_x.
We are reviewing analyses from other companies at this time.
- Lean Burn Engines
 - We are still reviewing these on a case by case basis and have seen a range of 0.7-1.5 g/hp-hr for NO_x.

Water Tank Controls

- Potential VOC emission source.
 - Current and New guidance require no controls for water tanks.
- We are continuing to gather data and may address this issue in future guidance revisions.

Concentrated Development Areas

- Pro-active vs. Reactive.
 - Going forward we will be working with industry to identify potential areas.

Drill Rig Engine Permitting

- **VOLUNTARY** partnership between industry and AQD.
 - Met with several operators to see how permitting will fit their drilling plans.
- JPDA only.
- Not looking to control emissions every rig.
- Full development drilling may have different requirements than exploratory drilling.
- Demonstration period for exploring different control measures.
 - EnCana found that switching to natural gas not only lowered emissions, but was more economical.

Questions?