

April 8, 2014

**Meeting Notes Summary – Technical Subgroup of Workgroup for Global Air Permit Policy
Development for Temporary Oil and Gas Drill Rigs**

Date of Meeting: Thursday, April 3, 2014

Time of Meeting: 14:00 – 15:30

Location of Meeting: Conference Room A, Bayview Building, 619 E. Ship Creek Ave., Ste. 249, Anchorage, AK 99501 and Teleconference

Technical Subgroup of Workgroup for Global Air Permit Policy Development for Temporary Oil and Gas Drill Rigs (Subgroup) Members present in person: Brad Thomas, ConocoPhillips (CPAI); Barbara Trost, Program Manager, Monitoring and Quality Assurance, Alaska Department of Environmental Conservation/ Division of Air Quality (ADEC/ AQ); Ben Wedin, Nordic–Calista Services (Nordic); Mike Gravier, ADEC/ AQ

Technical Subgroup of Workgroup for Global Air Permit Policy Development for Temporary Oil and Gas Drill Rigs (DRWG) Members present via telephone: Tom Damiana, AECOM; Deanna Huff, ADEC/ AQ; Dan Fremgen, ADEC/ AQ; Randy Kanady, CPAI; Alan Shuler, ADEC

Public members present in person: Tom Turner, ADEC

Public members present by telephone: Kate Kaufman, Hilcorp Energy (Hilcorp); Ann Mason, SLR; Tom Chapple, HMM Consulting; Josh Kindred, Alaska Oil & Gas Association (AOGA)

Meeting Facilitator: Jeanne Swartz, ADEC/AQ

1) Introductions

The meeting commenced at 14:00. Jeanne Swartz welcomed all the participants and asked for introductions, first from the participants present in person and from the participants joining the meeting by telephone.

2) Review of PowerPoint Presentation on Analysis of Air Monitoring Data from Previous Meeting (March 27, 2014) and Discussion

Dea Huff presented selected slides from a presentation originally given to the DRWG Technical subgroup members that provided information about three monitoring stations on the North Slope (NS) that were determined to have had the greatest potential for increased levels of NO₂ from nearby effects of drill rig operations. The full presentation is provided on the DRWG website, <http://www.dec.alaska.gov/air/ap/OilGasDrillWorkgroup.html>. The focus of the slides was to present information that had been received since the last meeting and to look at the differences in air monitoring results when drilling was on the pad compared to when drilling was not taking place on the pad.

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The DRWG Technical subgroup engaged in discussion about the presentation. Some topics of discussion were as follows:

- What is the standard for “minimal impacts”?
- Meteorological conditions affect ambient air monitoring (AAM) results
- If the maximum impacts were not from drill rig activity, were the monitoring sites placed in the right place on the pad?

3) ADEC Summary of AAM Data Analysis and Discussion

ADEC presented the following summary points (with subsequent edits for improved clarity):

TDR Technical Subcommittee Summary of the Monitoring Data Review

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Proposed Subcommittee Mission Statement:

The Drill Rig Technical Subgroup shall determine whether the available monitoring and modeling data is sufficiently accurate, representative and complete to reasonably conclude that drilling activity anywhere in the state is unlikely to cause ambient air concentrations greater than the NAAQS, and, if these conclusions cannot be made, recommend what additional data or limitations on the conclusions are needed to assist in developing and finalizing a programmatic approach that would provide protection of ambient air quality standards and reasonably address air quality planning requirements

DEC review

- *Industry provided DEC with 12 data sets (1 included met only)*
- *DEC prioritized them into drill rig dominated, then on-line or off line power*
- *Resulted in 7 short-term drilling periods at 5 different pads (CD1, CD3, DS1F, 3 at A Pad, Liberty)*
- *Industry provided additional data including daily fuel use (hourly data not available) and drill rig name and location*
- *DEC analyzed data according to wind direction and wind speed, and created pollution roses*

DEC Findings:

- *Maximum NO₂ concentration occur predominantly at wind speeds around 5 mph*
- *Most frequent wind speeds are in the range of 6-10 mph*
- *Max 1 hourly NO₂ concentrations on some pads above the 100 ppb standard, with a bulk of the 1 hour NO₂ observations below 30 ppb range*
- *Significant number of 1 hourly NO₂ averages in the 40-80 ppb*

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- *Pollution roses indicate that not all higher NO₂ concentrations on pads are a result of drill rig emissions, but rather associated activity (i.e. wind direction is not from the rig)*
- *Significant differences in North Slope and Kenai meteorological data*
 - *More calms and low wind speeds in Kenai*
 - *high impacts occur under these conditions, therefore higher frequency could lead to higher occurrence of high impacts*
- *Liberty dataset provides best representation of impacts from drill rigs only*

Conclusions

- *There are no violations of the 1 hour NO₂ NAAQS in these data sets*
- *The data could be considered adequate for determining that drilling under similar North Slope conditions (i.e. similar number of rigs, fuels use, met conditions, duration of activities, type of drill rigs, etc.) would not cause a violation of the 1-hour NO₂ standard*
- *However, the data are not adequate to conclude that drill rig emissions under any scenario will not threaten the 1 hour NO₂ NAAQS.*
- *The proper mechanism for establishing the above findings into a viable SIP program is a topic for the policy group.*

Points made from the discussion following the presentation of the conclusions were:

- Though standard for National Ambient Air Monitoring (NAAQS) was not violated, ADEC saw enough red flags to conclude that they cannot declare that the standard won't be violated in the future, without sidebars on fuel usage or numbers of rigs on a pad at one time
- Drill rigs used to drill new holes are larger than rigs used for workover drilling
- With newer drill rig engines, it is more likely that NO_x emissions would be decreased in the future
- Drill rigs that are under highline power may not be excepted from concerns about violating NAAQS
- Seven datasets from five pads on the North Slope – still unclear whether that is enough data
- Cook Inlet weather conditions have more low-wind speed days than North Slope
- It is difficult to put more than two rigs on one pad at a time

4) Set Focus for Next Meeting and Steps/ Actions Needed Prior to Meeting

- A sixth DRWG Technical subgroup meeting will be held before the next DRWG Option subgroup set for April 23, 2014
- Purpose of this subgroup (DRWG Technical subgroup) is to present information for the Options subgroup, not make policy determinations
- For drilling situations, there may be some drill rig configurations that don't need permitting with modeling (activities covered by MG-1 permits); some infield drilling is already covered

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under Title V (TV) permits, so that leaves drill rig situations that are not covered by either ends of the permitting spectrum to set new policies

The meeting concluded at 15:33.

Action Items Generated From April 3 DRWG Technical subgroup Meeting:

- **ADEC staff will reword third bulleted conclusion- this has been done; see above**
- **Sixth DRWG Technical subgroup meeting set for Thursday, April 17, 2014, 2:00-3:30 PM AST**
 - **ADEC will send out meeting invitation and PN, a meeting place in Anchorage, and agenda**
- **Next (Sixth) meeting will be concerned with exploring ideas around the concept of bracketing development drilling with more clarity around individual scenarios**
- **The meeting summary from the March 13th DRWG Technical subgroup meeting will be circulated and placed on the DRWG website within a few days.**

Respectfully submitted,

Jeanne Swartz ADEC/AQ