



Shell OCS Exploration Program: Kulluk Minor Modification Permit Application

Christopher.Lindsey

to:

R10OCSAirPermits_Reports

09/19/2012 06:07 PM

Cc:

Natasha Greaves, Dave Bray, Lance.Tolson, kirk.lilley, ehansen, rsteen, spryor, Inoland, UA-AK-Regulatory-admin-record, Andrea.Stahlman

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History: This message has been replied to and forwarded.

1 Attachment



2012-09-19 Kulluk – Beaufort Sea- Application for Minor Permit Modification.pdf

Please find attached the application for a minor modification to Shell's Conical Drilling Unit Kulluk Operating Permit No. R10OCS030000. If you have any questions or concerns, please do not hesitate to contact me.

Chris Lindsey

Air Permit Compliance Engineer

Shell Exploration & Production

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September 19, 2012

**Re: Shell Offshore Inc.
Conical Drilling Unit *Kulluk* – Beaufort Sea
Application for Minor Permit Modification
OCS Permit to Construct and Title V Air Quality Operating Permit No. R10OCS030000**

Shell Offshore Inc. (Shell) submits this request for a Title V minor permit modification to Permit No. R10OCS030000 for the Conical Drilling Unit *Kulluk* to revise specific monitoring conditions for the *Kulluk* incinerator (Emission Unit K-8). Shell does not propose to change any emission limit or equipment. Rather, Shell requests flexibility in tracking compliance with the existing emissions limits based on actual waste incinerated.

The *Kulluk* permit limits hourly nitrogen oxides (NO_x) and daily particulate matter (PM₁₀ and PM_{2.5}) emissions from the *Kulluk* incinerator. The permit also limits annual fleet-wide emissions of NO_x, carbon monoxide (CO), and greenhouse gases, and requires daily emissions calculations to monitor compliance with these annual limits. Unlike the approach to monitoring emissions from other emission units, however, the permit requires that Shell use the rated hourly capacity of the incinerator (276 lb/hr) to calculate hourly emissions, regardless of the actual mass of material that was combusted. Furthermore, the permit requires Shell to assume 12 hours of operation per day when calculating daily emissions, regardless of whether the incinerator was actually operated for the allowed 12 hours per day.

Shell conducted emissions tests on the *Kulluk* incinerator on May 26, 2012. Although emissions of CO and particulate matter were lower than anticipated in our initial *Kulluk* application, NO_x emissions were higher. Consequently, Shell must reduce the quantity of waste combusted in order to meet the 0.4 pound per hour NO_x emission limit in the permit.

Shell requests that EPA revise the *Kulluk* permit to provide flexibility to weigh each batch of waste added to the *Kulluk* incinerator and to use source-test derived emission factors when estimating hourly and daily mass emissions from the incinerator. Section G of the permit already requires that Shell log hours of operation and weigh each batch of waste combusted in the incinerator, so the only changes to permit language would be allow the option of calculating hourly and daily emissions based on the actual waste combusted for any day rather than defaulting to the rated capacity of the incinerator at which may be an artificial 12 hour operating cycle. Attached are the proposed changes to permit language that will provide the flexibility Shell requests. We note that while five conditions require revision to accommodate the requested flexibility, it is the same adjustment that is made to each condition – the option to calculate emissions based on either incinerator capacity or actual mass of waste combusted.

Under Title 40 Code of Federal Regulations (CFR) Part 71 rules, an application for a minor permit modification must include a description of the change (provided), the emissions resulting from the change (there will be no emissions increases resulting from the requested changes), any new applicable requirements resulting from the change (provided), a suggested draft permit (changes to existing permit provided), a responsible official certification (provided), and completed forms (no changes to previously provided forms are required). Minor permit modification procedures are appropriate for the changes

requested because the modifications do not violate any applicable requirement, do not require changing an emission limit determination or impacts analysis, do not change terms for which there is no corresponding underlying applicable requirement, do not trigger new source review, and are not required to be processed as significant. While it is acknowledged that this application seeks changes to some monitoring provisions, the proposed changes only provide for an estimate of incinerator emissions that is more reflective of actual operations than is currently provided in the existing permit language.

Based on information and belief formed after reasonable inquiry, I certify that the statements and information in this submission are true, accurate, and complete.

Please contact Pauline Ruddy (907-771-7243) or Chris Lindsey (907-771-7262) if you have any questions about our request.

Thank you.



Susan Childs
Alaska Venture Support Integrator, Manager

Attachment: Proposed Revised Conditions to *Kulluk* Permit No. R10OCS030000

Cc: Pauline Ruddy, Shell
Lance Tolson, Shell
Natasha Greaves, EPA Region 10

ATTACHMENT A: Proposed Revised Conditions to Kulluk Permit No. R10OCS030000

(Proposed new language is underlined and language to be removed is struck out)

Calculating daily NOx emissions:

D.4.1.2. For the Kulluk incinerator (Unit K-8), the permittee shall use ~~the maximum incineration capacity (ton/hr) documented pursuant to Condition 3.3 multiplied by 12 in place of the recorded daily operation rate~~ one of the following methods when calculating emissions pursuant to Condition D.4.1.1.

4.1.2.1. the maximum incineration capacity (ton/hr) documented pursuant to Condition C.3.3 multiplied by 12; or

4.1.2.2. the actual waste combusted as measured per batch and per day pursuant to Conditions G.5.2.2 and G.5.2.3, respectively.

Calculating daily CO emissions:

D.4.2.2. For the Kulluk incinerator (Unit K-8), the permittee shall use ~~the maximum incineration capacity (ton/hr) documented pursuant to Condition C.3.3 multiplied by 12 in place of the recorded daily operation rate~~ one of the following methods when calculating emissions pursuant to Condition D.4.2.1.

4.2.2.1. the maximum incineration capacity (ton/hr) documented pursuant to Condition C.3.3 multiplied by 12; or

4.2.2.2. the actual waste combusted as measured per batch and per day pursuant to Conditions G.5.2.2 and G.5.2.3, respectively.

Calculating daily greenhouse gas emissions:

D.4.4.3. For the Kulluk incinerator (Unit K-8), the permittee shall use ~~the maximum incineration capacity (ton/hr) documented pursuant to Condition C.3.3 multiplied by 12 in place of the recorded daily operation rate~~ one of the following methods when calculating emissions pursuant to Condition D.4.4.1.

4.4.3.1. the maximum incineration capacity (ton/hr) documented pursuant to Condition C.3.3 multiplied by 12; or

4.4.3.2. the actual waste combusted as measured per batch and per day pursuant to Conditions G.5.2.2 and G.5.2.3, respectively.

Calculating hourly NOx emissions:

D.6.14.2. For the ~~Kulluk~~, icebreaker and OSRV incinerators (Units ~~K-8~~, IB1-4, IB2-4 and OSRV-3), the permittee shall use the maximum incineration capacity (ton/hr) documented pursuant to Condition C.3.3 in place of the recorded daily operation rate when calculating emissions pursuant to Condition D.6.14.

D.6.14.3. For the Kulluk Incinerator (Unit K-8), the permittee shall use one of the following methods when calculating emissions pursuant to Condition D.6.14.

6.14.3.1. the maximum incineration capacity (ton/hr) documented pursuant to Condition C.3.3 multiplied by 12; or

- 6.14.3.2. the actual waste combusted as measured per batch per day pursuant to Condition G.5.2.2.

Calculating daily PM_{10} and $PM_{2.5}$ emissions:

D.6.15.2. For the Kulluk incinerator (Unit K-8), the permittee shall use ~~12 times the maximum incineration capacity (ton/hr) documented pursuant to Condition C.3.3 in place of the recorded daily operation~~ one of the following methods when calculating emissions pursuant to Condition D.6.15.

6.15.2.1. 12 times the maximum incineration capacity (ton/hr) documented pursuant to Condition C.3.3 multiplied by 12; or

6.15.2.2. the actual hourly waste combusted as measured per batch and per day pursuant to Conditions G.5.2.2 and G.5.2.3, respectively.



Shell OCS Exploration Program: Kulluk Minor Modification Permit Application - Revised Attachment

Christopher.Lindsey

to:

R10OCSAirPermits_Reports

09/20/2012 02:30 PM

Cc:

Natasha Greaves, Dave Bray, Lance.Tolson, kirk.lilley, ehansen, rsteen, spryor, Inoland, UA-AK-Regulatory-admin-record, Andrea.Stahlman, John Pavitt

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1 Attachment



Shell-KullukMinorMod_20120919 Revised Attachment.pdf

Please find enclosed a revision to the attachment originally provided with the Kulluk Minor Modification Application submitted yesterday. An error was noted in our proposed revision to Condition D.6.15.2.1 and is now corrected. If you have any questions or concerns, please do not hesitate to contact me.

Chris Lindsey

Air Permit Compliance Engineer

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- 6.14.3.2. the actual waste combusted as measured per batch per day pursuant to Condition G.5.2.2.

Calculating daily PM_{10} and $PM_{2.5}$ emissions:

D.6.15.2. For the Kulluk incinerator (Unit K-8), the permittee shall use ~~12 times the maximum incineration capacity (ton/hr) documented pursuant to Condition C.3.3 in place of the recorded daily operation~~ one of the following methods when calculating emissions pursuant to Condition D.6.15.

- 6.15.2.1. the maximum incineration capacity (ton/hr) documented pursuant to Condition C.3.3 multiplied by 12; or
- 6.15.2.2. the actual hourly waste combusted as measured per batch and per day pursuant to Conditions G.5.2.2 and G.5.2.3, respectively.



Kulluk Incinerator clarification

Pauline.Ruddy

to:

Natasha Greaves, Dave Bray

09/27/2012 01:05 PM

Cc:

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Cc: <Christopher.Lindsey@shell.com>, <ehansen@environcorp.com>, <Lance.Tolson@shell.com>, <kirk.lilley@comcast.net>

History: This message has been replied to.

1 Attachment



2012-09-26 Kulluk Beaufort Sea- Application for Minor Permit Modification.pdf

Natasha, per discussions with Chris yesterday attached is clarifications regarding the Kulluk incinerator. Thanks!

Pauline M Ruddy
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September 27, 2012

**Re: Shell Offshore Inc.
Conical Drilling Unit *Kulluk* – Beaufort Sea
Application for Minor Permit Modification
OCS Permit to Construct and Title V Air Quality Operating Permit No. R10OCS030000**

Shell Offshore Inc. (Shell) submits this clarification to our request for a Title V minor permit modification to Permit No. R10OCS030000 for the Conical Drilling Unit *Kulluk* to revise specific monitoring conditions for the *Kulluk* incinerator (Emission Unit K-8).

Shell's proposed language under Condition 6.14.3 is intended to provide a method for calculating the worst case hourly emissions based on actual mass of waste burned per hour. Shell proposes to calculate these emissions relying on data captured under existing conditions F.2.6 and G.5.2.2.1 of the permit.

Based on information and belief formed after reasonable inquiry, I certify that the statements and information in this submission are true, accurate, and complete.

Please contact Pauline Ruddy (907-771-7243) or Chris Lindsey (907-771-7262) if you have any questions about our request.

Thank you.

A handwritten signature in blue ink that reads "Susan Childs".

Susan Childs
Alaska Venture Support Integrator, Manager

Attachment: Proposed Revised Conditions to *Kulluk* Permit No. R10OCS030000

Cc: Pauline Ruddy, Shell
Lance Tolson, Shell
Chris Lindsey, Shell
Dave Bray, EPA Region 10