



Department of Environmental Quality

To protect, conserve and enhance the quality of Wyoming's environment for the benefit of current and future generations.



Matthew H. Mead, Governor

John Corra, Director

September 21, 2012

Mr. Ken Garoutte
Manager, Safety, Health, Environment & Quality
Cameco Resources
P.O. Box 1210
Glenrock, WY 82637

**RE: TFN 5 1/119, Restoration Plan Minor Revision, T6 Review
Permits 603, Cameco Resources (CR)**

Dear Mr. Garoutte:

The Land Quality Division (LQD) has reviewed the proposed changes and response to previous review comments and would like to approve the proposed revision. However, due to discovery of an unsolicited change, and a text change that was not previously reviewed, LQD requests additional change. CR will need to make the final corrections. Please find the review enclosed.

The LQD continues to have concerns regarding delays in restoration. LQD must see resolution of these issues from CR, occurring simultaneously with our review of the Permit Combination/Amendment. To ensure that the issues in the context of this revision are addressed and can appropriately be reflected in the proposed Permit Combination/Amendment, LQD will require a permit condition describing this. A new Form 11 will be required to complete the approval of this TFN with the addition of a permit condition. LQD is near completion of the T2 review of the Permit Combination/Amendment with a goal to send the review by September 28, 2012.

As soon as CR provides acceptable responses to the T6 review and a new Form 11, LQD will approve the TFN as a **Minor Revision** with a condition. The intent of the approval is to update the permit with an updated restoration schedule and water balance. CR will be expected to provide additional information with regard to accelerating restoration and the ability to mine and restore the groundwater simultaneously. This is discussed in the Summary of the enclosed review. As proposed by CR, this revision is expected by March 31, 2013.

If you have any questions, please contact me at pam.rothwell@wyo.gov or 307-777-7048.

Sincerely,

Pam Rothwell
Permit Coordinator/District I Assistant Supervisor
Land Quality Division

Enclosure T6 Review

Cc: Cameco Resources, Cheyenne
Doug Mandeville, NRC w/att.

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TFN 5 1/119, REVISED RESTORATION SCHEDULE, T6 REVIEW

PERMIT 603, CAMECO RESOURCES, HIGHLAND URANIUM PROJECT

INTRODUCTION

The LQD received responses to T5 review comments on May 1, 2012. The LQD has reviewed the final changes for approval of the TFN but discovered an unsolicited change that needs to be corrected as well as a problem with text indicating a delay of wellfield restoration in lieu of mining. See T6 review comments below.

Although CR has provided an updated schedule and revised text, the crucial points of the restoration revisions remain unresolved. The concerns that CR has not addressed are the management of delayed restoration. In early January 2012, the reviewer consulted with LQD's Administrator Nancy Nuttbruck in regard to the outstanding issues of the restoration revisions (i.e., TFN 5 1/119 and 5 3/121). The Administrator was reluctant to approve the revised schedule until all of the issues are resolved. Subsequently, the reviewer met with CR's mine manager Brent Berg and staff on January 9, 2012 to discuss the outstanding concerns which are preventing the approval of the restoration revisions. During the meeting in January, CR was asked to explain the limiting factors that are causing the delays. CR explained that the primary operational limitation was the waste water disposal capacity. The deep disposal wells installed during the previous few years were not resolving the problems due to their limited capacity. CR discussed their plan to evaluate renovations of PSR-1 and Irrigator 1 to assist with the disposal limitations. CR was asked whether the capacity of the aquifer to conduct both mining and restoration simultaneously was a factor in the limitations of restoration. CR stated that it was not. However, a text change to the proposed revision states, "*The ground water restoration portion of the schedule is designed to achieve the fastest restoration possible given the ability of the aquifer to yield water.*" This statement implies that an operational limitation is the capacity of the aquifer.

In close-out of the meeting, CR was asked to provide 1) a commitment/proposal to address the evaluation of PSR-1 and Irrigator 1 and/or 2) proposal for installing the permitted but unconstructed additional two disposal wells and 3) a commitment to operate the additional disposal capacity by a proposed date. The reviewer is not aware that information to indicate the intent to improve the disposal capacity at SHRUP has been submitted.

Through persistent inquiry and observation of the mine operations the reviewer has concluded that CR:

- 1) has insufficient disposal capacity to manage accelerated restoration demands;
- 2) has potential limitations of the aquifer to satisfy mining and restoration demands simultaneously;
- 3) continues to defer the acceleration of restoration in lieu of the acceleration of mining.

With the lack of information explaining CR's intent to address the insufficient disposal capacity at the SHRUP mines and the noted conclusions by the reviewer, LQD has reservations with approving any new amendments for the permits. As was conveyed to CR with receipt of the responses to the Permit Combination/Amendment (TFN 5 6/100), that review was put into "preliminary" status until the restoration TFNs were approved. The reviewer was anticipating that the requested information to address disposal capacity would have been provided; however, the reviewer is not aware that this information has been submitted.

Therefore, with the changes resulting from the T6 review comments, LQD proposes to approve the revised restoration plan and water balance in an effort to update the permit with these requirements. LQD will require a permit condition to approve this TFN which will prohibit approval of proposed amendments until the restoration delays are adequately addressed. CR is required to provide a new Form 11 with no changes to the documented acres shown on the approved Form 11. The Form is required to add the condition only.

Finally, in response to LQD's concern with the proposed "progressive change-over method" of wellfield restoration and defining the end of mining in all or a portion of a wellfield, CR has proposed a submittal date of March 31, 2013 to submit a permit revision addressing these issues. It is requested that this revision also address the reviewer's conclusions noted above.

REVIEW OF T4 RESPONSES

5. Response Acceptable. Section 4.1.1 has been re-inserted with the modifications discussed in the February 1, 2012 meeting. **(SI)**
11. Response Acceptable. CR has removed the progressive changeover statement in Section 4.1.1. Language will be submitted in the near future to address progressive changeover for wellfields. **(SI for PCR)**
13. Response Acceptable. The revised text in Section 4.1.1 includes a statement that individual wellfield restoration plans will be submitted in stand alone volumes for each wellfield. **(SI for PCR)**

REVIEW OF T5 RESPONSES

1. Response Acceptable. See original Comment 5. **(SI)**
6. Response Acceptable. The Statement of Assumptions has been included. **(SI)**
8. Response Acceptable. The discrepancy for the end of production and start of restoration for Mine Units K and 10 has been corrected. **(SI)**

DISCUSSION COMMENTS AND CORRECTIONS

1. Response Acceptable. **(SI)**

2. Response Acceptable. (SI)
3. Response Acceptable. (SI)
4. Response Acceptable. (PCR)
5. Response Acceptable (PCR)

T6 REVIEW COMMENTS

As a result of the final overview of the changes to the permit, two problems were identified as follows:

- 1 Page OP-4. The statement, "*If a mined out unit is adjacent to another unit being mined, restoration of a portion of the unit may be deferred to minimize interference with the mining operation.*" This text was re-evaluated during the T6 review. The deferral of restoration to allow mining is the basis of the issues that LQD has with CR's operation. This text should be removed. CR will need to find a way to accelerate restoration in lieu of mining. Please remove the statement. LQD will expect this issue to be addressed during the revision addressing restoration due in March 2013. (PCR)
- 2 Attachment 2, Water Balance. It was discovered during this round of review that a crucial element of the restoration plan has been removed from Attachment 2, Water Balance. The Title of Attachment 2 no longer includes the number of pore volumes of groundwater sweep and reverse osmosis. This is viewed as a commitment for the water balance that must remain on Attachment 2 to ensure the water balance is based on this requirement. The minimum required pore volumes as determined during a previous permit revision, as required through the Settlement Agreement for NOV Docket No. 4231-08, is one pore volume of groundwater sweep and eight pore volumes of reverse osmosis.

CR will need to revise Attachment 2 with the required pore volumes included in the title or direct the reviewer to the same commitment within the permit text to approve the revision. All CR staff must refrain from making unsolicited changes during a permit revision. All changes to the document must be identified in bold text. Text removal must be identified in the Index of Change. (PCR)

SUMMARY

- With acceptable responses to the T6 review comments and receipt of the new Form 11, LQD will approve TFN 5 1/119 with the proposed condition. The proposed permit condition which will be added to the Form 11 is as follows:
 - Cameco Resources is required to submit a permit revision by March 31, 2013 which will include text discussion addressing the following:*
 - 1) operational limitations that are delaying the acceleration of restoration,*

- 2) *proposed solutions to address these delays including commitments with timelines and proposed dates for implementing the solutions,*
 - 3) *provide explanation, methodology and commitment to accelerate restoration and the ability to mine and restore wellfields simultaneously,*
 - 4) *define an acceptable definition for the "end of mining in a wellfield",*
 - 5) *explain how restoration and mining are conducted in the same wellfield and the "progressive change-over method" of restoring a wellfield,*
 - 6) *explain how and when restoration monitoring will begin with the "progressive change-over method",*
- The approval of proposed amendments to Permit 603 will be evaluated through demonstration of restoration progress and with the progress of the March 31, 2012 proposed revision.*

- The second round of technical review for TFN 5 6/100 (Permit Combination/Amendment) is near completion and will be forthcoming by the end of September 2012. LQD will proceed with reviewing the Permit Combination/Amendment simultaneously with the resolution of these groundwater restoration issues.