



STATE OF WASHINGTON

DEPARTMENT OF HEALTH

OFFICE OF RADIATION PROTECTION

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TDD Relay Service: 1-800-833-6388

August 10, 2017

TO: Interested Parties, Dawn Mining Company Closure

FROM: Kristen Schwab, Interim Supervisor *KS*
Waste Management Section

SUBJECT: Dawn Mining Company Uranium Mill License Amended to Specifically License Thorium-230 Source Used to Check Alpha Radiation Instruments

This memo is to inform you that the Department of Health (the Department) has amended Dawn Mining Company's (DMC) state of Washington Radioactive Materials License. Items 6, 7, and 8 and License Conditions 9 and 42 have been amended to include thorium-230 as licensed radioactive material at the millsite. Item 7 identifies the thorium-230 physical form as an electroplated standard source. Item 8 lists the maximum quantity of the thorium-230 source as 8,270 picocuries, which is the total activity of the source as noted by the manufacturer on the 1997 certificate of calibration. Additionally, License Condition 9.B has been added to include the authorized use of thorium-230 as an electroplated planchette standard check source for alpha efficiency determination and instrument quality control, and License Condition 42.E has been added to describe the license change that occurred.

I have attached Amendment 29 to DMC's state of Washington Radioactive Materials License WN-I043-2.

Department Review of DMC's Radioactive Materials Source Inventory

The department conducted a review in June 2017 of DMC's radioactive materials source inventory as a component of their review of DMC's millsite operational procedures. As a result, the department is administratively amending DMC's radioactive materials license to specifically license the thorium-230 check source which, per WAC 242-220-010 (140), meets the definition of source material and is not exempt from licensing per Chapter 246-232 WAC. The check source is an electroplated standard which DMC uses for alpha radiation instrument efficiency determinations and quality control.

DMC has used the thorium-230 check source at the millsite since 1997. The total activity of the source, as noted by the manufacturer on the 1997 certificate of calibration, is 8,270 picocuries. At the time DMC acquired the source, federal regulations supported use of the source at the millsite under a manufacturers' general license for DMC as the end user or as exempt from

regulatory licensing for the end user. Changes to federal regulations 10 CFR 40.13 and 10 CFR 40.22 in 2013 resulted in the need for the department to specifically license the thorium-230 check source because general licensing and exemptions no longer apply.

Summary of Changes to DMC's Radioactive Materials License Conditions 6, 7, 8 and 9

- Addition of Item 6.B. to list thorium-230 as licensed radioactive material.
- Addition of Item 7.B. to list the chemical and/or physical form of the thorium-230 radioactive material as an electroplated standard source.
- Addition of Item 8.B. to list the maximum thorium-230 quantity that DMC may possess as 8,270 picocuries, which is the measurement provided on the 1997 certificate of calibration for the standard as provided to DMC by the manufacturer, Thermo NUtech of Albuquerque.
- Addition of License Condition 9.B. to describe the authorized use of the electroplated thorium-230 standard as a check source for alpha radiation instrument efficiency and quality control.
- Addition of License Condition 42.E to describe the license change that occurred.

Conclusion

The department's amendment complies with applicable radiation protection laws and regulations contained in RCW 70.98 and Chapter 246-252 WAC. There are no changes to the radioactive materials license that have not already been evaluated under existing SEPA documents. Amendment 29 is attached and will be posted on the department's website at:
<http://www.doh.wa.gov/CommunityandEnvironment/Radiation/WasteManagement/DawnMining>

Anyone who is not on the department's list for receiving these mailings related to closure of the DMC millsite may be added to that list, or may request copies of these attachments, by contacting Teresa Davis at (360) 236-3240, Teresa.Davis@doh.wa.gov, or at DOH Office of Radiation Protection, P.O. Box 47827, Olympia, WA 98504-7827.

KS:td

Attachments: WN-I043-2, Amendment 29

State of Washington
Radioactive Materials License

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License Number: WN-I043-2
Amendment No. 29

DAWN MINING COMPANY, LLC
5326 Uranium City Road
Ford, Washington 99013

Attention: William Lyle
Vice-President & General Manager

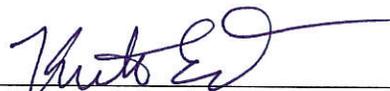
In accordance with amendment information referenced in License Condition 42.E, Radioactive Materials License Number WN-I043-2 is administratively amended as follows:

Items 6.B, 7.B, 8.B, and License Conditions 9.B and 42.E are added to read:

- 6.B. Thorium-230. 7.B. Electroplated standard source.
- 8.B. 8,270 picocuries.
- 9.B. Possession of electroplated planchette standard check source for alpha efficiency determination and instrument quality control.
- 42.E Administrative amendment; RE: specifically licensing the thorium-230 check source which, per WAC 242-220-010(140), meets the definition of source material and is not exempt from licensing per Chapter 246-232 WAC; Dawn Mining Company, LLC radioactive materials source inventory signed and dated June 8, 2017.

FOR THE STATE OF WASHINGTON DEPARTMENT OF HEALTH

Date: August 10, 2017

By: 

Kristen Schwab, Interim Supervisor
Waste Management Section