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February 9, 2015

Mr. Larry Camper
Director
Division of Decommissioning, Uranium Recovery, and Waste Programs
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Dear Mr. Camper:

Subject: LC 12.10 Technical Evaluation Report (Adams Accession Number: ML14289A148)

The Wyoming Mining Association (WMA) is an industry trade association representing mining companies, contractors, vendors, suppliers, and consultants in the State of Wyoming. Among its mining industry members are uranium recovery licensees, including four (4) in-situ uranium recovery operations, one (1) conventional uranium recovery operation (on standby), several companies planning new uranium recovery operations and several companies conducting final reclamation/restoration operations.

A WMA uranium recovery industry member received a Technical Evaluation Report (LC 12.10 Technical Evaluation Report (Adams Accession Number: ML14289A148)) from the Nuclear Regulatory Commission (NRC) dated November 3, 2014 in response to its *Submittal to Satisfy License Condition 12.10 and Amend the Source and Byproduct Materials License SUA-1598.*

Katie Sweeney of the National Mining Association (NMA) responded to this Technical Evaluation Report in a letter dated January 23, 2015, given the broad issues that it raised which impacted all uranium recovery licensees. In addition, the licensee also responded to this Technical Evaluation Report.

Total uranium concentrate production in the United States in 2013 was 4,659,000 pounds (U.S. Energy Information Administration - *2013 Domestic Uranium Production Report*). 2013 Wyoming uranium production was 2,600,000 pounds (Wyoming State Geological Survey), accounting for 56% of United States production. Wyoming contributes the largest share of any state to the total production of uranium in the United States. As such the issues raised in the Technical Evaluation Report and in the National Mining Association's response are of special concern to the WMA and its uranium recovery industry members.

The Wyoming Mining Association has reviewed and concurs with the National Mining Association's response. The WMA wishes to add the following discussion regarding the issues raised by the Technical Evaluation Report.

- **Refusal to accept the use of Standard Operating Procedures (SOPS) as the basis for dose calculation.**
    - The Technical Evaluation Report states:
        - *Staff observes that SOPs may be revised many times during the lifetime of a facility, including their removal from use. Therefore, due to the non-permanent nature of the SOPs, staff is not considering the SOPs in its evaluation of the licensee's response to this license condition.*
    - While it is true that SOPs are subject to periodic change, so, in fact, are statutory and regulatory requirements and standards. Subsequently, licensee SOPs must be adjusted to comply with changes in regulations and statutes. SOPs are considerably more detailed as to methodology, procedure, and quality control than statutes and regulations, and are designed to provide reliable compliance thereto. Because compliant SOPs are required to implement statutes and regulations and are approved for that purpose by NRC, it is inappropriate to disregard them in this process. NRC staff presumably evaluated and approved such SOPs for the purposes of meeting regulatory requirements and determined that they did so at the time of approval. Without evidence to the contrary, approved SOPs must be incorporated into staff's consideration.
    - Given that SOPs are required by licenses and are inspected as part of routine site inspections, it is nonsensical that SOPs are not an acceptable means to document dose calculation procedures. If a procedure were inadequate, or if one were removed when in fact it was required, a Notice of Violation (NOV) would be issued following the site inspection.
- **Measurement of radon effluents around buildings**
    - The document states:
        - *In addition, for sources on or near buildings (e.g., the CPP), the concentrations of the effluent are difficult to predict due to complexities associated with curved streamlines, sharp velocity discontinuities, and highly non-homogeneous and non-isotropic turbulence (Slade, 1968). Aerodynamic effects due to buildings and other structures are reported to be significant, not only in the vicinity of the structures, but at considerable distances downwind (EPA, 2000). It is suggested that the best way to estimate concentrations near buildings and other structures is to obtain experimental data (Slade, 1968). Staff is not aware of any attempts by the licensee to characterize the flow of air, and thus expected concentrations of radioactive materials from its effluents, in the vicinity of the CPP and*

other structures. Therefore, due to the uncertainties associated with determining effluent concentrations near buildings and other structures, and in the absence of empirical data describing air flow characteristics in the vicinity of the CPP and other structures, staff concludes that the method proposed by the licensee does not provide a reasonable estimation of effluent from its licensed activities for demonstrating compliance with 10 CFR 40.65 or 10 CFR 20.1302(b)(2)(i).

- 10 CFR § 20.1301 Dose limits for individual members of the public states:

  (a) Each licensee shall conduct operations so that -
  (1) The total effective dose equivalent to individual members of the public from the licensed operation does not exceed 0.1 rem (1 mSv) in a year, exclusive of the dose contributions from background radiation, from any administration the individual has received, from exposure to individuals administered radioactive material and released under § 35.75, from voluntary participation in medical research programs, and from the licensee's disposal of radioactive material into sanitary sewerage in accordance with § 20.2003,

  - The dose to the public in question is a dose from the licensed operation as a whole. When calculating a dose from licensed operations as a whole, it is unnecessary to specifically address air flow around buildings. Measurements, or site-wide release/concentration/dose modeling at the maximally exposed individual's location, provide far better and more meaningful estimates of public dose. In addition, building wake effect modeling efforts greatly increase the complexity of dose modeling for a facility, providing no actual benefit and involving the use of computational fluid dynamics modeling, which is not justified given the low risks posed by uranium recovery operations.

- **Minimal Risk posed by uranium recovery facilities**

  - The WMA believes that ultimately all of the issues raised by the Technical Evaluation Report are due to a lack of understanding of and failure to recognize the low risks posed by the uranium recovery industry. They are contrary to the risk-informed, risk-based approach to regulation mandated by the Commission. The low risk nature of ISR facilities is discussed in NUREG-1910, the *Generic Environmental Impact Statement for In Situ Uranium Milling Facilities.* This programmatic assessment of ISR operations provides, in significant detail, an analysis of the potential impacts/risks associated with ISR facilities and concludes that most, including those noted above, are considered small.

    The Atomic Energy Act (AEA) requires the consideration of risk, stating in Section 84(a)(1) that management of 11e.(2) byproduct material, and by

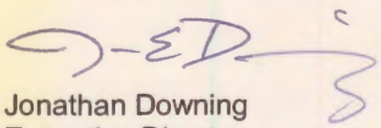
implication, uranium recovery operations, is to be carried out in such a manner as the Commission deems appropriate to protect the public health and safety and the environment from radiological and non-radiological hazards associated with the processing, possession and transfer of such material, taking risk into account, with due consideration of the economic costs and such other factors as the Commission determines to be appropriate.

The WMA believes that staff should narrow their focus to "significant risks".

In conclusion, the WMA believes that NRC staff should be prevented from imposing new approaches on these health physics issues (or any new issues) until significant risk potential has been identified and clear guidance on acceptable approaches are developed with public input as required by the Commission. In the interim, uranium recovery facilities should continue to estimate dose to the public using previously accepted methods (e.g., MILDOS (with operational inputs) and measurements in certain cases if, due to site specific circumstances, such an approach is simpler) as allowed by the regulations, current guidance and approved practice.

Thank you for the opportunity to comment on this matter.

Sincerely yours,



Jonathan Downing
Executive Director

Cc: Katie Sweeney - National Mining Association (NMA)
Mark A Satorius, NRC Executive Director for Operations
Michael F. Weber, NRC Deputy Executive Director for Materials, Waste, Research, State, Tribal and Compliance Programs
Catherine Haney, NRC Director, Office of Nuclear Material Safety and Safeguards