

The Site Closure/License Termination
Process for the Western Nuclear, Inc.
Split Rock Uranium Mill Facility

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INTRODUCTION

- ▶ Western Nuclear, Inc. (WNI) Split Rock Mill operated from 1958 to 1981;
- ▶ Site reclamation activities began in 1986;
- ▶ Mill decommissioning was completed in 1989, and finally approved by NRC in 1999;
- ▶ Cleanup of site soils was completed in 1997;
- ▶ Tailings reclamation completed in 1999

INTRODUCTION & SUMMARY

- ▶ Groundwater monitoring began in 1981 and a corrective action plan (CAP) was approved in 1989;
- ▶ Termination of the groundwater CAP was approved in 2006 with the approval of alternate concentration limits (ACLs) and a revised long term surveillance boundary (LTSB);
- ▶ Approval of ACLs necessarily required approval of the groundwater model;
- ▶ “Alternative” in the form of durable institutional controls (IC) and exclusion of constituents not posing a substantial hazard pursuant to 10 CFR, Part 40, Appendix A, Criterion 5B(3)

CURRENT STATUS OF SITE CLOSURE LICENSE TERMINATION PROCESS

- ▶ Site closure activities (i.e., mill decommissioning, soil cleanup, tailings reclamation, groundwater CAP) ALL have been completed and approved by NRC;
- ▶ DOE has submitted two draft long-term surveillance plans (LTSPs) to NRC:
 - ▶ LTSPs raised an issue regarding the ACL for nitrates not fitting the regulatory paradigm for ACL's in Criterion 5B(5);
 - ▶ DOE has submitted "privileged" cost estimates to implement the current draft LTSP

CURRENT STATUS (CONTINUED)

- ▶ WNI and NRC Staff have engaged in a dialogue regarding the history of site-closure efforts and the bases for license termination and transfer of the site to DOE:
 - WNI prepared and submitted a memorandum to NRC on June 16, 2014, detailing the history of NRC decisions and requesting development of a clear path forward to achieve termination and transfer.

REGULATORY APPROVALS

▶ Three elements of WNI's final closure plan and license termination:

- Groundwater model;
- Institutional controls;
- Alternate concentration limits (ACL)

REGULATORY APPROVALS: GROUNDWATER MODEL

- ▶ Groundwater model is the centerpiece of the site closure plan:
 - Submitted in 1999 Site Closure Plan;
 - Amended and supplemented from 2000 to 2002;
 - NRC notified WNI via telephone conference in 2003 that the model had been accepted;
 - Technical Evaluation Report (TER) specifically notes groundwater model was accepted

REGULATORY APPROVALS: GROUNDWATER MODEL

- ▶ WNI could not have reached this point without an approved groundwater model:
 - LTSB could not have been defined (which has been accepted by NRC and DOE in its two (2) LTSP drafts);
 - Groundwater model focused on 1,000 year closure period; no known LTSB until fate and transport was understood and accepted;
 - Nature of property acquisitions and ICs could not be known without an approved groundwater model

REGULATORY APPROVALS: INSTITUTIONAL CONTROLS

- ▶ Institutional controls for the Split Rock site are both conceptual and site-specific:
 - Conceptual: Does the Commission allow the use of ICs for its licensees (including general licensees such as DOE at UMTRCA Title II sites)?
 - Answer: Yes; the Commission will endorse their use if they are both durable and legally enforceable;
 - Yes: 2002 Commission decision specifically endorses their use on a conceptual level

REGULATORY APPROVALS: INSTITUTIONAL CONTROLS

- ▶ Site-specific ICs for WNI (proposed October 29, 1999):
 - Two (2) separate Commission decisions endorsing ICs and/or property acquisitions:
 - Broad property decision;
 - Red Mule properties (acquisitions & good faith effort)
 - Commission language specifically targets good-faith effort to acquire property or the need for ICs:
 - Restrictive covenants;
 - Easements;
 - Deed restrictions

REGULATORY APPROVALS: INSTITUTIONAL CONTROLS

- ▶ Further documented evidence exists for site-specific IC approvals:
 - TER & EA specifically evaluated the use of ICs as part of the larger site closure plan:
 - Proposed action was to eliminate water exposure pathway (based on travel times of hazardous constituents in groundwater model);
 - ICs specifically selected to accomplish purpose of proposed action
 - ICs and property acquisitions were acquired prior to 1999 site closure plan (Except Red Mule):
 - Cannot develop groundwater model and ACLs without those ICs;
 - Red Mule “good faith effort” to acquire the property subject of specific Commission decision

REGULATORY APPROVALS: ALTERNATE CONCENTRATION LIMITS

- ▶ Alternate concentration limits were the final piece of the regulatory puzzle:
 - ACLs required to cease groundwater CAP (10 CFR Part 40, Appendix A, Criterion 5);
 - ACLs focus on protection of human health and the environment at the point of exposure (defined by 1,000 year closure period in groundwater model);
 - Nitrates issue addressed by groundwater model (DOE 2nd Draft LTSP)

REGULATORY APPROVALS: ALTERNATE CONCENTRATION LIMITS

- ▶ ACLs have been formally approved:
 - Final NRC Staff approval in 2006;
 - EA and TER associated with ACLs specifically approve them based on the presence of ICs;
 - Groundwater model fuels approval of POE;
 - Point of compliance is completely irrelevant due to legacy issues

PATH FORWARD

- ▶ Issue response to WNI memorandum acknowledging all approvals are in place;
 - ▶ Direct DOE to amend LTSP to remove nitrate language;
 - ▶ Initiate scope of work and costing discussions with WNI and DOE;
 - ▶ Prepare site transfer documents with assistance of DOE, USACE, and WNI;
- ▶ ALL TASKS MUST BE DONE ON PARALLEL PATHS**