

QUALIFIED DESIGNATED OPERATOR

Crow Butte Resources Qualifications for Daily Walkthrough Inspections

Regulatory Guide 8.31 requires that daily inspections be conducted by the Radiation Safety Officer (RSO) or designated health physics technician (HPT) and that a weekly inspection be conducted by the RSO and the facility foreman. In the Crow Butte license renewal application, Cameco states that the RSO, HPT or a *qualified designated operator* would conduct the daily walkthrough inspection of the plant.

At Crow Butte, NRC staff determined that Cameco had not adequately identified personnel that will perform the daily inspections in the absence of the radiation safety staff (i.e., the *qualified designated operator*). NRC staff decided that Cameco must identify the qualified personnel and provide sufficient health physics training consistent with the qualifications for radiation safety staff in Regulatory Guide 8.31 as it pertains to the daily inspections to allow an alternative approach.

Cameco Response

Crow Butte Resources will use an alternative approach to qualify Designated Operators to conduct daily walkthrough inspections of all work and storage areas at the Crow Butte Plant and satellite facilities. The Designated Operators will only conduct the inspections on weekends and holidays when neither the RSO or HPT is present. With the exception of the Thanksgiving holiday, the Designated Operator will not conduct the inspections for more than two days per week (three if a Federal holiday falls on Friday or Monday). For the Thanksgiving holiday, the Designated Operator may perform the daily inspection for four consecutive days.

Any problems noted by the Designated Operator during the daily inspection will be recorded on an inspection form, signed and dated, and retained on file. The RSO will review the inspection forms and take appropriate action to correct any noted problems.

Before a Designated Operator may conduct such inspections, he must be qualified by reason of training and experience to observe proper implementation of good radiation safety practices. In addition to the annual radiation worker training required by Regulatory Guide 8.31, Section 2.5, the operator seeking designation must not only complete one-time training specific to daily inspections, but also demonstrate proficiency.. The additional training will emphasize how the inspections affect employee safety.

At a minimum, the operator seeking designation must have the following combination of education, training and experience:

Education: a high school diploma or equivalent

Training: New employee radiation safety training, including guidance pertinent to prenatal radiation exposure (Regulatory Guide 8.13) and instruction concerning risks from occupational radiation exposure (Regulatory Guide 8.29); and additional training specific to conducting daily inspections at Crow Butte ISR facilities. In addition, the Designated Operator will be required to demonstrate proficiency during daily inspections to the RSO. Specifics on the additional training and the proficiency demonstration are provided below in the Technical Basis.

Experience: A minimum of three months work experience in operations or maintenance at a uranium recovery facility, including procedures that involve health

physics, industrial safety or industrial hygiene at a uranium recovery facility to demonstrate qualification is required.

Technical Basis

Cameco conducts daily walk-through inspections of all work and storage areas of the facility to ensure proper implementation of good radiation safety procedures, including good housekeeping and cleanup practices that minimize unnecessary contamination. Normally, these inspections are conducted by the RSO or an HPT. However, on certain occasions, such as weekends or holidays, a qualified operator may be designated to conduct the daily inspection.

The Designated Operator will observe, through visual inspection, radiation safety practices, housekeeping and implementation of the radiation safety program throughout the plant/satellite. Such duties include, but not be limited to, inspecting for compliance with radiation safety postings, contamination control, proper control point ingress and egress, control of airborne radioactivity, worker protection practices in the yellowcake drying and packaging area, and proper storage of byproduct material.

A qualified Designated Operator has **no** authority for the development and administration of the radiation protection program, other than conducting daily inspections (emphasis added). He may not approve plans for new equipment, process changes, or changes in operating procedures that might affect the radiation protection program. He will not conduct radiation safety audits or make determinations about personnel dosimetry. A qualified Designated Operator may not authorize non-routine maintenance jobs involving potential for personnel radiation exposure or radioactive contamination for which there are not standard operating procedures nor an existing radiation work permit. The designated operator will not have the authority to release materials for unrestricted use. In the event of an emergency, the on-call RSO or HPT will be responsible for radiation protection decisions.

At the Crow Butte Plant and satellite facilities, the only activity required to be performed by the RSO or HPT on a daily basis is the daily inspection. Instrument calibrations are performed on a weekly basis during the regular workweek by the RSO or HPT. For that reason, it is not necessary for the Designated Operator to perform any other HPT function on weekends or holidays.

The additional radiation safety training afforded to operators seeking designation involves four hours training and a test with an 80% passing grade, but does not include the more advanced topics required for the facility RSO or HPT.

The additional training for Designated Operator includes the following topics:

1. Employee PPE usage
2. Personal contamination control (ingress and egress)
3. Radiation area boundaries
4. Signage
5. Labeling
6. Leaks
7. Yellowcake spillage
8. Ventilation
9. General housekeeping
10. Reporting procedures specific to type of finding (e.g. how and when to contact the on call RSO or HPT)

11. Completion and control of the daily inspection form

Upon completion of training and prior to designation, an operator will be required demonstrate to the RSO an understanding of and proficiency in conducting the daily inspections. Prior to performing inspection, the operator seeking designation will perform a minimum of four (4) daily inspections under the supervision of the RSO or HPT. The supervised inspections will cover the training topics listed above and will be documented with signatures of the RSO or HPT and the operator seeking designation on the daily inspection form. An operator who fails to qualify will be re-evaluated after performing additional supervised inspections until proficiency is demonstrated to the satisfaction of the RSO.

The designation process will be documented in a file which includes, education, training results with a passing test score and signed supervised daily inspection forms. The designation itself will be co-signed by the designated operator and the RSO when the RSO is satisfied that the training and supervised inspections demonstrate proficiency.

To remain qualified, the Designated Operators must complete an annual refresher training which addresses the same topics covered in the additional training described above. A test will be given with a required passing grade of 80%. In addition, the Designated Operator must complete at least two (2) supervised inspections performed semiannually under the direct supervision of the RSO or HPT.

Justification

The qualifications presented for a Designated Operator will ensure a level of skill and responsibility appropriately suited to address the safety implications contemplated for daily inspections in Reg. Guide 8.31.

The designated tasks are not highly technical in nature and not similar to the duties commonly taught to HPTs or RSOs, such as dose calculation, instrument calibration, LLD calculation, unrestricted release surveys and training.

The additional training and supervised inspections will allow the RSO to ensure proficiency is demonstrated prior to designation. The continuing requirement of annual refresher training and two supervised inspections per year performed on a semiannual basis will ensure continued proficiency.

References

1. Crow Butte License Renewal Application, License SUA-1534, Section 5.4.1.1, November 2007.
2. Crow Butte Safety Evaluation Report, License SUA-1534, December 2012
3. US NRC Regulatory Guide 8.22, Bioassay at Uranium Mills, Revision 1, August 1988
4. US NRC Regulatory Guide 8.30, Health Physics Surveys in Uranium Recovery Facilities, Revision 1, May 2002
5. US NRC Regulatory Guide 8.31, Information Relevant to Ensuring that Occupational Radiation Exposures at Uranium Recovery Facilities will be As Low As Reasonably Achievable, Revision 1, May 2002
6. Crow Butte Radioactive Material License, SUA-1534