

RAI Admin §5 #3:

The applicant did not provide details of its qualification program for designees approving Radiation Work Permits (RWPs) and Standing Radiation Work Permits (SRWPs) in the absence of the RSO. In TR Section 5.2.1.2, the applicant stated that qualified designees will review and approve RWPs and SRWPs in the absence of the RSO, but did not provide any description of its qualification program for such designees. Please provide a description of the qualifications of the designees that will be allowed to review and approve RWPs and SRWPs in the absence of the RSO.

RAI Admin §5 #3 Response (9/25/14):

Section 5.3.1 and 5.5.4 have been revised to present the qualifications and training for operators designated to perform daily inspections; and added a new section 5.7.6.3 for the elements of the Restricted Area Status program to allow designated staff to conditionally release items, packages and resin trailers.



All SERP reports and associated records of any changes made pursuant to the PBL or PBLC shall be maintained through termination of the NRC license.

CBR will submit an annual report to the NRC that describes all changes, tests, or experiments made pursuant to the PBL or PBLC. The report will include a summary of the SERP evaluation of each change. In addition, CBR will annually submit any pages of the license renewal application to reflect changes to the license renewal application or supplementary information. Each replacement page shall include both a change indicator for the area of change (e.g., bold marking vertically in the margin adjacent to the portion actually changed) and page change identification (date of change, change number, or both).

5.3 Management Audit and Inspection Program

The following internal inspections, audits, and reports are performed for the Crow Butte Project operations. Similar activities will be performed for the MEA.

5.3.1 Radiation Safety Inspections

5.3.1.1 Daily ~~and Weekly~~ Inspections

The RSO, HPT, or trained designated operator conducts a daily facility inspection. The purpose of the walk-through inspection is to ensure proper implementation of radiation safety requirements and standard operating procedures.

The RSO will determine the specific areas at the facility that will be included in the daily inspection based on the potential for radiological hazards and specific license requirements. The inspection is primarily a visual inspection to ensure that process designs and procedural methods for maintaining exposures ALARA are being implemented and used correctly. During the walk through inspection, the RSO, HPT, or trained designated operator will document on a standard inspection form or in a log book the results of the inspection. The documentation contains the radiological/safety hazards examined.

In all areas where corrective actions are needed the appropriate employee or supervisor will be notified. A Radiation Work Permit will be issued if the RSO or designee determines a significant radiological hazard or potential hazard exists and for which there is no SOP.

Although the inspection helps ensure a satisfactory working environment, it cannot replace the employees' or supervisors' role in maintaining exposures ALARA. The walk through inspection is intended to assist both supervisory personnel and employees in maintaining an awareness of the potential radiological hazards and to institute preventative or corrective measures. The qualifications requirements for a designated operator are provided in section 5.5.4

~~The RSO and the facility foreman, or designees, should conduct a weekly inspection of all facility areas to observe general radiation control practices and review required changes in procedures and equipment. The RSO, HPT, or qualified designee should conduct a daily walk through (visual) inspection 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 would minimize unnecessary contamination. Problems observed during all inspections should be noted in writing in an inspection logbook or other retrievable record format. The entries should be~~

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~~dated, signed, and maintained on file for at least 1 year. The RSO should review all violations of radiation safety procedures or other potentially hazardous problems with the resident manager or other mine employees who have authority to correct the problem. Also, the RSO should review the daily work order and shift logs regularly to determine that all jobs and operations with a potential for exposing personnel to uranium, especially those RWP jobs that would require a radiation survey and monitoring, were approved in writing by the RSO, the RSO staff, or the RSO designee prior to initiation of work.~~

5.3.1.2 Monthly Reviews

At least monthly, the RSO should review the results of daily and weekly inspections, including a review of all monitoring and exposure data for the month. The RSO should provide to the resident manager and all department heads for their review a written summary of the month's significant worker protection activities that contains (1) a summary of the most recent personnel exposure data, including bioassays and time-weighted calculations, and (2) a summary of all pertinent radiation survey records.

In addition, the monthly summary report should specifically address any trends or deviations from the radiation protection and ALARA program, including an evaluation of the adequacy of license conditions regarding radiation protection and ALARA. The summary should describe unresolved problems and the proposed corrective measures. Monthly summary reports should be maintained on file and readily accessible for at least 5 years.

5.3.2 Annual ALARA Audits

CBR will conduct annual audits of the radiation safety and ALARA programs. The Manager of SHEQ may conduct these audits. Alternatively, CBR may employ qualified personnel from other uranium recovery facilities or an outside radiation protection auditing service to conduct these audits. The purpose of the audits is to confirm that all radiation health protection procedures and license condition requirements are being conducted properly at the Crow Butte Uranium Project facility. Any outside personnel employed for this purpose will be qualified in radiation safety procedures as well as environmental aspects of solution mining operations. Whether conducted internally or through the use of an audit service, the auditor will meet the same minimum qualifications for education and experience as for the RSO as described in Section 5.4.

The audit of the radiation protection and ALARA program is conducted in accordance with the recommendations contained in RG 8.31. A written report of the results is submitted to corporate management. The RSO may accompany the auditor but may not participate in the documentation of conclusions.

The audit report should summarize the following data:

- Employee exposure records (external and time-weighted calculations)
- Bioassay results
- Inspection log entries and summary reports of daily, weekly, and monthly inspections
- Documented training program activities
- Radiation safety meeting reports
- Radiological survey and sampling data



- o Provide prenatal instruction
- o Provide RG 8.13 and its appendix, review with worker
- o Provide opportunity to ask questions
- o Discuss possible effect on job status, which may involve adjustment of work duties as necessary
- Written declaration
 - o View prenatal instructions again and review RG 8.13
 - o Review worker-specific exposure monitoring (e.g., dosimetry, bioassay where appropriate) following declaration
 - o Adjust work duties as necessary

5.5.2 Testing Requirements

A written test with questions directly relevant to the principals of radiation safety and health protection in the facility covered in the training course is given to each worker. The instructor reviews the test results with each worker and discusses incorrect answers to the questions with the worker until the worker understands the correct answer. Workers who fail the exam are retested, and test results remain on file.

5.5.3 On-The-Job Training

5.5.3.1 Health Physics Technician

On-the-job training is provided to HPTs in radiation exposure monitoring and exposure determination programs, instrument calibration, facility inspections, posting requirements, respirator programs and Health Physics Procedures contained in the SHEQMS Volume IV, Health Physics Manual.

5.5.3.2 Refresher Training

Following initial radiation safety training, all permanent employees and long-term contractors receive ongoing radiation safety training as part of the annual refresher training and, if determined necessary by the RSO, during monthly safety meetings. This ongoing training is used to discuss problems and questions that have arisen, any relevant information or regulations that have changed, exposure trends, and other pertinent topics.

5.5.3.3 Training Records

Records of training are kept until license termination for all employees trained as radiation workers (i.e., occupationally exposed employees).

5.5.4 Qualifications and Requirements for Daily Inspections

The -RSO will qualify Designated Operators to conduct daily walkthrough inspections of all work and storage areas at the MEA Plant and associated satellite facilities. The Designated Operators will only conduct the inspections on weekends and holidays when neither the RSO nor 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 days if a Federal holiday falls on



Friday or Monday). For the Thanksgiving holiday only, the Designated Operator may perform the daily inspections 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.

The qualified Designated Operator has the authority for conducting daily inspections only.

- The Designated Operator will not have authority for the development or administration of the radiation protection program.
- The Designated Operator will not approve plans for new equipment, process changes, or changes in operating procedures that might affect the radiation protection program.
- The Designated Operator will not conduct radiation safety audits or make determinations about personnel dosimetry.
- A 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.

A qualified Designated Operator has no authority for the development and administration of the radiation protection program, other than conducting daily inspections. The qualified Designated Operator may not approve plans for new equipment, process changes, or changes in operating procedures that might affect the radiation protection program. The Designated Operator will not conduct radiation safety audits or make determinations about personnel dosimetry. A 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 Plant and satellite facilities, the only activity required to be performed by the RSO or HPT on a daily basis is the daily inspection. For that reason it is not necessary for the, Designated Operator to perform any other HPT function on weekends or holidays.

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.



5.5.4.1 Minimum Qualifications for Designated Operators

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 complete one-time training specific to daily inspections, and demonstrate proficiency. The additional training will emphasize how the inspections affect employee safety and contamination control.

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.

5.5.4.2 Additional Training for Designated Operators

The additional radiation safety training afforded to operators seeking designation involves four hours training and 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.

The additional radiation safety training afforded to operators seeking designation involves four hours training and a test with and 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



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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

5.5.4.3 Demonstration of Proficiency

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 inspections, 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.

5.5.4.4 Documentation

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.

5.5.4.5 Maintaining Designated Operator Status

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.

5.6 Security

CBR security measures for the current operation are specified in the Security Plan and Security Threat chapter in the SHEQMS Volume VIII, Emergency Manual. CBR is committed to:

- Providing employees with a safe, healthful, and secure working environment;
- Maintaining control and security of NRC licensed material;
- Ensuring the safe and secure handling and transporting of hazardous materials; and
- Managing records and documents that may contain sensitive and confidential information.

The NRC requires licensees to maintain control over licensed material (i.e., natural uranium [“source material”] and byproduct material defined in 10 CFR §40.4). 10 CFR 20, Subpart I, Storage and Control of Licensed Material, requires the following: