4.0 EFFLUENT CONTROL SYSTEMS

4.1 Gaseous And Airborne Particulates

4.1.1 Areas of Review

The staff should review the proposed ventilation, filtration, and confinement systems that are to be used to control the release of radioactive materials to the atmosphere. The staff should also review analyses of equipment as designed and operated to prevent radiation exposures and to limit exposures and releases to as low as is reasonably achievable. A review should also be conducted of a physical description of discharge stacks, types and estimated composition and flow rates of atmospheric effluents, and proposed methods for controlling such releases.

4.1.2 Review Procedures

The staff should review facilities, designs, and operational modes to determine whether the proposed ventilation, filtration, and confinement systems and equipment described in the application are sufficient to control the release of radioactive materials to the atmosphere to meet acceptance criteria identified in Section 4.1.3.

4.1.3 Acceptance Criteria

The gaseous and airborne particulate effluent control systems are acceptable if they meet the following criteria:

(1) Monitoring and control systems for the facility are located to optimize their intended function. Monitors used to assess worker exposures are placed in locations of maximum anticipated concentration based upon determination of airflow patterns.

(2) Monitoring and control systems for the facility are appropriate for the types of effluents generated. The intended purposes of measurement devices are clearly stated and criteria for monitoring are provided. The acceptance criteria from Section 5.7.7.3 of this standard review plan should be met.

(3) The application provides a demonstration that adequate ventilation systems are planned for process buildings to avoid radon gas buildup. Ventilation systems should be consistent with the requirements of Regulatory Guide 8.31, “Information Relevant to Ensuring that Occupational Radiation Exposures at Uranium Mills Will Be as Low as Is Reasonably Achievable,” Section 3.3 (NRC, 2002).

The review emphasis should be on radon gas mobilization from (i) recovery solutions entering the plant, (ii) the extraction process (where tanks are vented), and (iii) uranium particulate emissions resulting from drying and packaging operations and spills. For facilities using an open air design for processing (i.e., processing equipment is not enclosed by a building), ventilation will be less of a safety concern. Aspects of design that can significantly limit airborne releases include closed production systems (i.e., no venting) and the use of vacuum dryers that eliminate airborne uranium particulate releases from drying operations.

(4) The application demonstrates that the effluent control systems will limit exposures under both normal and accident conditions. The application also provides information on the health and safety impacts of system failures and identifies contingencies for such occurrences.

(5) The application demonstrates that the operations will be conducted so that all airborne effluent releases are as low as is reasonably achievable.

4.1.4 Evaluation Findings

If the staff review as described in this section results in the acceptance of the effluent control systems for gaseous and airborne particulates, the following conclusions may be presented in the technical evaluation report and environmental assessment.

NRC has completed its review of the effluent control systems for gaseous and airborne particulates proposed for use at the _____*in situ* leach facility. This review included an evaluation using the review procedures in standard review plan Section 4.1.2 and the acceptance criteria outlined in standard review plan Section 4.1.3.

The applicant has acceptably described the discharge stacks and the types, estimated composition, and flow rates of effluents released to the atmosphere. The applicant has designated monitoring and control systems (e.g., ventilation, filtration, and confinement) for the types of effluents generated. Also, the applicant has specified acceptable monitoring criteria and has located the facility monitoring and control systems for the required functions to optimally assess worker exposure in locations of likely maximum concentrations determined by the applicant's analysis of airflow patterns. The applicant has demonstrated that ventilation systems are acceptable to prevent radon gas buildup where (i) recovery solutions enter the plant, (ii) tanks are vented during the extraction process, and (iii) drying and packaging operations occur. By providing information on the health and safety impacts of system failures and identifying contingencies for such occurrences, the applicant has acceptably shown that effluent control systems will limit radiation exposures under both normal and accident conditions. The applicant has committed to occupational radiation doses and doses to the general public that meet dose limits and as low as is reasonably achievable goals.

Based on the information provided in the application and the detailed review conducted of the effluent control systems for gaseous and airborne particulates for the _____*in situ* leach facility, the staff concludes that the proposed effluent control systems for gaseous and airborne particulates are acceptable and are in compliance with 10 CFR 20.1101, which requires that an acceptable radiation protection program that achieves as low as is reasonably achievable goals is in place and that a constraint on air emissions, excluding Radon-222 and its decay products, will be established to limit doses from these emissions; 10 CFR 20.1201, which defines the allowable occupational dose limits for adults; 10 CFR 20.1301, which defines dose limits allowable for individual members of the public; 10 CFR 20.1302, which requires compliance with dose limits for individual members of the public; 10 CFR Part 40, Appendix A, Criterion 5(G)(1), which requires that the chemical and radioactive characteristics of wastes be defined; and 10 CFR Part 40, Appendix A, Criterion 8, which provides requirements for control

of airborne effluent releases. The related reviews of the 10 CFR Part 20 radiological aspects of the effluent control systems for gaseous and airborne radionuclides in accordance with standard review plan Sections 5.0, "Operations;" and 7.0, "Environmental Effects" are addressed elsewhere in this technical evaluation report.

4.1.5 Reference

NRC. Regulatory Guide 8.31, "Information Relevant to Ensuring that Occupational Radiation Exposures at Uranium Mills will be as low as is Reasonably Achievable." Washington, DC: NRC, Office of Standards Development. 2002.

4.2 Liquids and Solids

4.2.1 Areas of Review

The staff should review estimates of quantities and compositions of waste residues expected during construction and operation and the procedures proposed for their management. The staff should also review design specifications for effluent control systems for liquids and solids. Staff should review the design specifications of any retention systems such as surface impoundments. If effluents are to be released into surface waters or injected into disposal wells, the staff should also review the plans to obtain any water quality certifications and discharge permits that may be necessary.

Areas to be reviewed include

(1) Information related to surface impoundment design, monitoring programs, freeboard requirements, and leak reporting procedures

(2) Liquid effluent disposal plans

(3) Contingency plans for dealing with leaks and spills

(4) Contaminated solid waste generation and disposal plans

(5) Non-contaminated solid waste generation and disposal plans

4.2.2 Review Procedures

The staff should ensure that facility descriptions include a discussion of design features to contain contamination from spills resulting from normal operations and the likely consequences of any accidents (e.g., valve and tank failures, leaks in impoundment liners). The staff should perform the following assessments:

(1) Verify that surface impoundments rely on standard engineering design to ensure proper containment performance, including appropriate leak detection systems. The staff

should also ensure that appropriate freeboard requirements are established, and that appropriate monitoring programs and reporting procedures are in place.

(2) If liquid effluents are to be released into surface waters, applied to land surfaces, or injected into disposal wells, determine whether the applicant has applied for or been issued appropriate water quality certifications and discharge permits (see standard review plan Section 10.0 for review of these documents). If the applicant has not yet applied for or been issued such permits, the reviewer should determine that the applicant has identified the necessary permits, and should ensure that a license condition is required prohibiting mineral extraction until all permits are received.

(3) Ensure that contingency plans are in place for dealing with spills of process fluids from valve, pipe, or tank failures.

(4) Ensure that an agreement is in place for disposal of 11.e(2) byproduct material in an NRC licensed disposal facility or a licensed mill tailings facility.

In evaluating surface impoundments, an evaluation of environmental impacts must be made, and a conclusion of the acceptability of those impacts should be documented. The reviewer should also determine if the design of the impoundment meets the applicable requirements of 10 CFR Part 40, Appendix A.

4.2.3 Acceptance Criteria

The liquids and solids effluent control systems are acceptable if they meet the following criteria:

(1) Common liquid effluents generated from the process bleed, process solutions (e.g., backwash, resin transfer waters), wash-down water, well development water, pumping test water, and restoration waters are properly controlled.

Acceptable control methods include diversion of liquid wastes to surface impoundments, deep well injection, and land application/irrigation. Solid effluents can be considered either as contaminated or as noncontaminated. Contaminated solid effluent that can be decontaminated and released for unrestricted use is discussed in detail in Section 5.7.6 of this standard review plan.

To dispose of liquid waste by on-site land application, the applicant must provide (i) a description of the waste including its physical and chemical properties that are important to risk, (ii) a description of the proposed manner and conditions of waste disposal, (iii) an analysis and evaluation of pertinent information on the affected environment, (iv) information on the nature and location of other facilities likely to be affected, and (v) analyses and procedures to ensure that doses are maintained as low as is reasonably achievable and within the dose limits in 10 CFR 20.1301.

For land application, the applicant must analyze and assess projected (i) concentrations of radioactive contaminants in the soils to show that the concentration of radium and

other nuclides in the soil will not exceed the standard in 10 CFR Part 40, Appendix A, Criterion 6(6); (ii) impacts on ground-water and surface-water quality; (iii) impacts on land use, particularly crops and vegetation; and (iv) exposures and health risks that may be associated with radioactive constituents reaching the food chain. All projected doses and risks must conform to the risk levels permitted under 10 CFR Part 20. The applicant should propose periodic soils surveys that include contaminant monitoring to verify that contaminant levels in the soil do not exceed the projected levels. A remediation plan must be in place to be implemented in the event that the projected levels are exceeded.

The applicant must conduct analyses to assess the chemical toxicity of radioactive and nonradioactive constituents to evaluate health risks associated with land application involving irrigation at particular sites. The staff should determine that the specific toxicity evaluations and any necessary permits are sufficient to conform to the applicable regulations such as 10 CFR 20.2007. In the absence of compliance monitoring wells in the uppermost aquifer in the area used for land application, the applicant must demonstrate that contaminants will not be returned to the ground water and cause any exceedance of site-specific ground-water protection standards.

Applicants are required to comply with NRC requirements for decommissioning before facility closure and license termination. (Decommissioning requirements are discussed in Section 6 of this standard review plan.)

(2) On-site evaporation systems are designed and operated in a manner that prevents migration of waste from the evaporation system to the subsurface.

The following discussion provides guidelines for an acceptable application section dealing with surface impoundments.

The monitoring and inspection program consists of documented daily checks of impoundment freeboard and the leak detection system. Because small amounts of condensation can accumulate in leak detection sumps, samples for chemical analysis are not commonly collected until water levels greater than a specified amount are detected. NRC has found 15 cm [6 in.] to be an acceptable level. When significant water levels are detected, the water in the standpipes must be sampled for indicator parameters to confirm that the water in the detection system is from the impoundment. The applicant should specify and provide the basis for selecting the indicator parameter(s) used to verify leaks.

Corrective actions should commence on leak confirmation and should consist of transferring the solution to another impoundment so that liner repairs can be made. Thus, sufficient freeboard capacity should be maintained in the surface impoundments such that any one impoundment could be transferred to the remaining impoundments in the event of a leak. An additional freeboard requirement is that water levels should be kept far enough below the top of the impoundment to prevent waves from overtopping during high wind conditions.

Actions to be taken in the event that surface impoundment water analyses indicate leakage include (i) notifying NRC by telephone within 48 hours of verification, (ii) analyzing standpipe water quality samples for leak parameters once every 7 days during the leak period and once every 7 days for at least 14 days following repairs, and (iii) filing a written report with NRC within 30 days of first notifying NRC that a leak exists. (This report includes analytical data and describes the corrective actions and the results of those actions.)

(3) The design, installation, and operation of surface impoundments at the site used to manage 11e.(2) byproduct material meet relevant guidance provided in Regulatory Guide 3.11, Section 1 (NRC, 1977). The impoundments should have sufficient capacity that the entire contents of one impoundment can be transferred to the other surface impoundments in the event of a leak. (See Section 2.7.3 of this standard review plan for additional discussion of design and evaluation of retention systems and diversion facilities.) Inspections of impoundments will be done consistent with Regulatory Guide 3.11.1, "Operational Inspection and Surveillance of Embankment Retention Systems for Uranium Mill Tailings" (NRC, 1980).

The surface impoundment must have sufficient capacity and must be designed, constructed, maintained, and operated to prevent overtopping resulting from (i) normal or abnormal operations, overfilling, wind and wave actions, rainfall, or run-on; (ii) malfunctions of level controllers, alarms, and other equipment; and (iii) human error. If dikes are used to form the surface impoundment, the dikes must be designed, constructed, and maintained with sufficient structural integrity to prevent massive failure of the dikes. In ensuring structural integrity, the applicant must not assume that the liner system will function without leakage during the active life of the impoundment.

Controls should be established over access to the impoundment, including access during routine maintenance. A procedure should be provided that assures that unnecessary traffic is not directed to the impoundment area.

(4) The design of surface impoundments used in the management of 11e.(2) byproduct material meets or exceeds the requirements in 10 CFR Part 40, Appendix A, Criterion 5(A) .

The design of a clay or synthetic liner and its appurtenant component parts should be presented in the application or related amendment applications for a uranium recovery operation. At a minimum, design details, drawings, and pertinent analyses should be provided. Expected construction methods, testing criteria, and quality assurance programs should be presented. Planned modes of operation, inspection, and maintenance should be discussed in the application. Deviation from these plans should be submitted to and approved by the staff before implementation.

The liner for a surface impoundment used to manage 11e.(2) byproduct material must be designed, constructed, and installed to prevent any migration of wastes out of the impoundment to the subsurface soil, ground-water, or surface-water at any time during the active life of the surface impoundment. The liner may be constructed of materials

that allow wastes to migrate into the liner provided that the impoundment decommissioning includes removal or decontamination of all waste residues, contaminated containment system components, contaminated subsoils, and structures and equipment contaminated with waste and leachate.

The liner must be constructed of materials that have appropriate chemical properties and sufficient strength and thickness to prevent failure because of pressure gradients, physical contact with the waste or leachate, climatic conditions, and the stresses of installation and daily operation. The subgrade must be sufficient to prevent failure of the liner because of settlement, compression, or uplift. Liners must be installed to cover all surrounding earth which is likely to be in contact with the wastes or leachate.

Tests should show conclusively that the liner will not deteriorate when subjected to the waste products and expected atmospheric and temperature conditions at the site. Applicant test data and all available manufacturers test data should be submitted with the application. For clay liners, tests, at a minimum, should consist of falling head permeameter tests performed on columns of liner material obtained during and after liner installation. The expected reaction of the impoundment liner to any combination of solutions or atmospheric conditions should be known before the liner is exposed to them. Field seams of synthetic liners should be tested along the entire length of the seam. Representative sampling may be used for factory seams. The testing should use state-of-the-art test methods recommended by the liner manufacturer. Compatibility tests that document the compatibility of the field seam material with the waste products and expected weather conditions should be submitted for staff review and approval. If it is necessary to repair the liner, representatives of the liner manufacturer should be called on to supervise the repairs.

Proper preparation of the subgrade and slopes of an impoundment is very important to the success of the surface impoundment. The strength of the liner is heavily dependent on the stability of the slopes of the subgrade. The subgrade should be treated with a soil sterilant. The subgrade surface for a synthetic liner should be graded to a surface tolerance of less than 2.54 cm [1 in.] across a 30.3 cm [1 ft] straightedge. NRC Regulatory Guide 3.11, Section 2 (NRC, 1977) outlines acceptable methods for slope stability and settlement analyses, and should be used for design. If a surface impoundment with a synthetic liner is located in an area where the water table could rise above the bottom of the liner, under drains may be required. The impoundment will be inspected in accordance with Regulatory Guide 3.11.1 (NRC, 1980).

A quality control program should be established for the following factors: (i) clearing, grubbing, and stripping; (ii) excavation and backfill; (iii) rolling; (iv) compaction and moisture control; (v) finishing; (vi) subgrade sterilization; and (vii) liner subdrainage and gas venting.

To prevent damage to liners, some form of protection should be provided, including (i) soil covers, (ii) venting systems, (iii) diversion ditches, (iv) side slope protection, or (v) game-proof fences. A program for maintenance of the liner features should be developed, and repair techniques should be planned in advance.

A leak detection system should be installed at all sites using natural or synthetic liners. The system should be designed to perform the following functions: (i) detect accidental leaks from the impoundment, (ii) identify the location of the leak so that liner repair can be implemented immediately, and (iii) isolate the leakage and control it.

Inspections should be made of the liner, liner slopes, and other earthwork features. Any damage or defects that could result in leakage should be immediately reported to the staff. Appropriate repairs should be implemented as soon as possible.

(5) Plans and procedures are provided for addressing contingencies for all reasonably expected system failures and include:

(a) A listing of the likely consequences of any failures in process or well field equipment that could result in a release of material

(b) Identification of appropriate plant and corporate personnel who must be notified in the event of specific types of failures

(c) Measures for quickly containing and mitigating the impacts of released materials

(d) Provisions for issuing radiation work permits for workers to mitigate impacts

(e) Specific procedures for complying with notification requirements in the regulations, license, and other permits, as appropriate

Processing plants should have sump capacity sufficient to contain the volume of the largest tank in the plant that contains hazardous material. Well field flow circuits should be equipped with alarms to notify the operator in the event of loss of pressure or excess pressure anywhere within the production circuit. NRC should be notified of spills in accordance with criteria in Section 5.3.1.3(2) of this standard review plan.

(6) The application contains a description of the methods to be used for disposing of contaminated solid wastes that are generated during operation of the facility. Decommissioning wastes are addressed separately in Chapter 6 of this review plan.

Equipment that can be decontaminated and released for unrestricted use is discussed in Section 5.7.6 of this standard review plan. The storage of byproduct material that either cannot or will not be decontaminated and released for unrestricted use will be managed to ensure compliance with occupational dose limits in 10 CFR Part 20, Subpart C. The detailed review of occupational doses will be completed as described in Section 5.7 of this standard review plan. The application should provide an estimate of the amount of contaminated material that will be generated and objective evidence of an agreement for disposal of these materials either in a licensed waste disposal site or at a licensed mill tailings facility.

The applicant has an approved waste disposal agreement for 11e.(2) byproduct material disposal at an NRC or NRC Agreement State licensed disposal facility. This agreement is maintained onsite. The applicant has committed to notify NRC in writing within 7 days if this agreement expires or is terminated and to submit a new agreement for NRC approval within 90 days of the expiration or termination (failure to comply with this license condition will result in a prohibition from further lixivient injection).

(7) Water quality certification and discharge permits have been obtained, or plans are in place to obtain them (review requirements for the status of these permits are addressed in Section 10.0 of the standard review plan). If such permits are not yet applied for or issued, the reviewer should determine that the applicant has identified the necessary permits and should ensure that a license condition is required prohibiting lixiviant injection until all permits are received. Table 4.2.3-1 provides a list of non-NRC permits that may be required to support liquid effluent disposal at *in situ* leach facilities.

(8) Acceptable methods for effluent disposal by release to surface water, evaporation from surface impoundments, land application, and deep well injection are consistent with NRC guidance.

(9) Alternatives to liquid management activities have been considered and none is found to be obviously superior to the selected option. In addition, environmental impacts from all liquid waste management activities have been found to be acceptable.

4.2.4 Evaluation Findings

If the staff review as described in this section results in the acceptance of the effluent control systems for liquids and solids, the following conclusions may be presented in the technical evaluation report and environmental assessment.

NRC has completed its review of the effluent control systems for liquids and solids proposed for use at the _____ *in situ* leach facility. This review included an evaluation using the review procedures in standard review plan Section 4.2.2 and the acceptance criteria outlined in standard review plan Section 4.2.3.

The applicant has acceptably described the common liquid effluents generated at the facility. Appropriate control methods, including diversion to surface impoundments, deep well injection, and land application/irrigation (select appropriate methods) are identified. On-site evaporation system designs are prescribed in acceptable detail, including engineering plans and drawings. The applicant has shown that liquid waste disposal facilities are adequate to handle production and restoration efforts and has designed installation and operation of surface impoundments such that the impoundments can contain the entire contents of any other leaking or inoperative impoundment. The applicant has described how any dikes used to form a surface impoundment are designed, constructed, and maintained with sufficient structural integrity to prevent massive failure. Additionally, surface impoundments and associated liners are properly designed. The applicant has proposed daily checks of impoundment freeboard and leak

Table 4.2.3-1. Non-NRC Permits That May Be Required to Support Liquid Effluent Disposal at Uranium *in Situ* Leach Facilities

Permit	Comments
Underground Injection Control	Mandatory. Issued either by EPA or a state under EPA authority. EPA reserves exclusive aquifer exemption action.
Surface-Water Discharge	Optional. Usually issued by the state, under U.S. Environmental Protection Agency (EPA) authority.
Air	Mandatory with dryer. Usually issued by state under EPA authority; may also be local.
Mining	Mandatory. Usually issued by state under legislative authority.
Wetlands	Issued by U.S. Army Corps of Engineers
Consumptive Water Use	Mandatory. Issued by a state under legislative authority. (Secure water rights)
Leases/Permits on Federal Lands	Issued by U.S Bureau of Land Management , U.S. Bureau of Indian Affairs (Department of the Interior), U.S. Forest Services. U.S. Department of Agriculture, or U.S. Bureau of Reclamation.
Construction/Sewage	Issued by local authorities: building codes, utility authorities, and planning authorities.
Leases/Permits on State Lands	Issued by state land offices.

detection systems. Chemical sampling is initiated when levels are greater than 15 cm [6 in.]. The planned sampling and analysis of contaminants in the leak detection systems are acceptable.

An appropriate corrective action plan is described that allows for the contents of a given impoundment to be transferred to another impoundment with no release of contamination. The applicant has an acceptable action plan to notify NRC, analyze samples, and file a written report in the event of leaks. The applicant has ensured that disposal plans are in compliance with applicable directives. Acceptable plans and procedures that address contingencies for all reasonably expected system failures are provided. The applicant has demonstrated that sump capacity is sufficient to contain the volume of the largest hazardous material source. The facility has acceptable alarms to notify the operator of loss of or excess pressure within the production circuits. The applicant log of significant solution spills is acceptable. Applicant plan for spill notification is acceptable. The applicant has an acceptable plan for the disposal of contaminated solid wastes that are generated by the facility. The applicant has proposed storage of contaminated material that either cannot or will not be decontaminated and released

for unrestricted use. The applicant has demonstrated that the contamination will be managed to insure compliance with occupational dose limits, as discussed in Section 5.7 of this standard review plan. The applicant has demonstrated possession of the appropriate water quality certification and discharge permits or has plans in place to obtain them. By providing information on the health and safety impacts of system failures and identifying preventive measures and mitigation for such occurrences, the applicant has shown that effluent control systems will limit radiation exposures under both normal and accident conditions. The applicant has committed to maintaining occupational radiation doses and doses to the general public within applicable 10 CFR Part 20 exposure limits and as low as is reasonably achievable.

Based on the information provided in the application and the detailed review conducted of the effluent control systems for liquids and solids for the _____ *in situ* leach facility, the staff has concluded that the proposed effluent control systems for liquids and solids are acceptable and are in compliance with 10 CFR 20.1101, which requires that an acceptable radiation protection program that achieves as low as is reasonably achievable goals is in place; 10 CFR 20.1201, which defines the allowable occupational dose limits for adults; 10 CFR 20.1301, which defines dose limits allowable for individual members of the public; 10 CFR 20.1302, which requires compliance with dose limits for individual members of the public; 10 CFR 20.2007, which requires that disposal by injection in deep wells must also meet any other applicable federal, state, and local government regulations pertaining to deep well injection; 10 CFR Part 40, Appendix A, Criterion 2, which requires that the applicant provide an estimate of the amount of contaminated material that will be generated and objective evidence of an agreement for disposal of these materials either in a licensed waste disposal site or at a licensed mill tailings facility to demonstrate nonproliferation of waste disposal sites; 10 CFR Part 40, Appendix A, Criteria 5A(1) through 5A(5), which define design provisions for surface impoundments; Criterion 5E which requires measures to protect ground water; Criterion 5F which provides requirements for seepage control; Criterion 5G(1), which requires that the chemical and radioactive characteristics of wastes be defined; Criterion 6(6), which defines cleanup standards for radium. The related reviews of the 10 CFR Part 20 radiological aspects of the effluent control systems for liquids and solid radionuclides, in accordance with standard review plan Sections 5.0, “Operations” and 7.0, “Environmental Effects” are addressed elsewhere in this technical evaluation report.

The design of dikes used to construct surface-water impoundments complies with Regulatory Guide 3.11, Sections 2 and 3 (NRC, 1977), and therefore meet the requirements of 10 CFR Part 40, Appendix A, Criterion 5(A)5. In addition, because the impoundment dikes may meet the definition of a dam as given in the Federal Guidelines for Dam Safety, they are subject to the NRC Dam Safety Program, and to Section 215, “National Dam Safety Program, of the Water Resources Development Act of 1966” (optional, staff should add only if appropriate).

The staff has also considered the environmental impacts from the proposed liquid waste management approach. Considered in the evaluation were the potential environmental impacts as well as alternatives and mitigative measures. In evaluating the environmental impacts, the staff examined effects from radiological as well as non-radiological aspects. Alternatives considered include [staff should list as appropriate]. In addition, the applicant will take the following preventive and mitigative measures to reduce the environmental impacts (staff should

list measures and discuss how they reduce impact based on this evaluation). The staff has determined that the environmental impacts from the proposed facility are acceptable.

4.2.5 References

NRC. Regulatory Guide 3.11.1 "Operational Inspection and Surveillance of Embankment Retention Systems for Uranium Mill Tailings." Revision 1. Washington, DC: NRC. 1980.

———. Regulatory Guide 3.11, "Design, Construction, and Inspection of Embankment Retention Systems for Uranium Mills." Washington, DC: NRC, Office of Standards Development. 1977.

4.3 Contaminated Equipment

The review in this area will be conducted using Section 5.7.6 of this standard review plan.