Technical Review Acceptance Table

Chapter 1 – Proposed Activities		
Section – Criteria	**Present**	**Location in report**
(1a) Corporate entities	yes	Page 1-2
(1b) Location (county, state, and facility name)	yes	Sections 1.4, 2.1
(1c) Land ownership	yes	Section 1.5
(1d) Ore-body locations and estimated U_30_8 content	yes	Section 1.6
(1e) Proposed solution extraction method and recovery process	yes	Section 1.8
(1f) Operating plans, design throughput, and annual U_30_8 production	yes	Section 1.7, 1.9
(1g) Estimated schedules for construction, startup, and duration of operations	yes	Section 1.10, Fig 1-4
(1h) Plans for project waste management and disposal	yes	Section 1.11
(1i) Plans for ground-water quality restoration, decommissioning, and land reclamation	yes	Sections 1.12, 1.13, 6.1-6.4
(1j) Surety arrangements for facility decommissioning, ground-water restoration, and site reclamation	yes	Sections 1.13, 1.14, 6.6, Appendix E

Chapter 2 – Site Characterization		
Section - Criteria	**Present**	**Location in report**
2.1 Site Location and Layout		
(1) Maps		
well fields	yes	Section 3.1.5 Figures 3-3, 3-4
surface impoundments	yes	Section 3.0, Figure 3-3, 3-4
diversion channels	no	
proposed monitoring wells (not identified in Legend)	yes	Section 3.0, Figure 3-5

deep injection wells	no	
recovery plant buildings	yes	Section 3.0, Figure 3-1
(2) Previous maps	NA	
(3) Maps of exclusion area boundaries and fences	yes	Section 2.1 Figure 2.1-1
(4) Maps of applicant property and leases and current adjacent properties	yes	Section 1, Section 2-2 Figure 2.2-2
(5) Maps of nearby population centers and transportation links	yes	Section 2.2 Figure 2.2-1
(6) Topographic map of drainage basins and variations in drainage gradient in vicinity of proposed ISL facility	yes	Section 2.2, 2.7 Figures 2.2-4, 2.7.2
(7) Proposed ISL is clearly labeled at a scale appropriate to the area being covered (regional and local) with sufficient clarity	yes	Figure 2.1-1, Figure 2.2-1
(8) Data sources are documented	yes	Section 2.2
(9) Maps include designation of scale, orientation and geographic coordinates	yes	All maps
2.2 Uses of Adjacent lands and Waters		
(1a) Surrounding land and water uses - map with residences, and ground-water supply wells, and abandoned wells	yes	Figure 2.2-2, Figure 2.2-9
(1b) present and projected (life of facility) water use with methodology/sources of information	yes	Sections 2.2.3, 3.1.6
(1c) present and projected water use (surface and ground) including withdrawal with methodology / sources of information	yes	Tables 2.2-7, 2.2-9
(1d) ground water well info (depth, elevations, flow rates, drawdown, and description of producing aquifers	yes	Figure 2.2-9 (incomplete)
(1e) location of abandoned drill holes (depth, type of use, condition at closing, plugging procedure, date of completion)	yes	Section 2.2.3, 2.6 Figures 2.2-9, 2.6-34 thru 2.6-47
(1f) nature and extent of projected land use with methodology/sources of information	no	
(1g) location of all nuclear fuel cell facilities located or proposed within 50-mile radius	yes	Figure 2.2-3, Table 2.2-6
(2) Human residences, nearest site boundary(ies) to residences, surface and ground-water use, and projected water use for each 22 1/2-degree sectors centered on the 16 cardinal compass points		Figure 2.2-2

(3) Data source documentation		
(4) Maps include designation of scale, orientation and geographic coordinates	yes	
2.3 Population Distribution		
(1) Population data including demographic information on minority and low-income populations	yes	Section 2.3.4
(2) Map of suitable scale, populations centers within 50 mile radius	yes	Figure 2.3-1
(3) Map with concentric 1, 2, 3, 4, 5, 10, 20 30, 40, 50, 60, 70 and 80 km divided into 22 1/2-degree sectors centered on the 16 cardinal compass points with population totals	yes	Figure 2.3-1 Section 2.3.1.6
(4) Significant population and visitor statistics of neighboring schools, plants, hospitals, sports facilities, residential areas, parks, and forests within 2 miles of proposed ISL (identify data sources)	yes	Section 2.3.1.4 Section 2.3.1.5
(5) Projections of population, visitor, and food production data for life of ISL	yes	Section 2.3.1.3 Table 2.3-3
(6) Methodology and sources for projections	yes	Section 2.3.1.3
2.4 Historic, Scenic, and Cultural Resources		
(1) Listing of properties included or eligible for National Register (National Landmarks)	yes	Section 2.4.1
(2) Map showing all National Register Properties and Landmarks with respect to facilities	no	
(3) Discussions of treatment of areas of historic, scenic, and cultural significance following prescribed guidance.	no	
(4) If delegated by NRC, evidence of contact with state historical preservation and tribal authorities.	no	
(5) If delegated by NRC, memorandum of agreement with state historical preservation and tribal authorities.	no	
(6) Letter from state historical preservation officer	no	
(7) Aesthetic and scenic quality of the site rated in accordance with US Bureau of Land Management 8400	yes	Section 2.4.2.4
2.5 Meteorology		
(1) Description of general climate, local and regional based on appropriate data sources precipitation, evaporation	yes	Section 2.5.3

- Joint-frequency distribution (wind speed and direction, stability class, period of record, height of data)	yes	Section 2.5.3.2 Section 2.5.3.3
- Average inversion height	yes	Section 2.5.3.4
- Diurnal and monthly averages of temp and humidity	yes	Section 2.5.3.1
- Station locations and height	yes	Section 2.5.2
- Minimum of one full year of joint frequency data	yes	Section 2.5.3.1
On-site program designed IAW Regulatory Guide 3.63, "Onsite Meteorological Measurement Program for Uranium Recovery Facilities—Data Acquisition and Reporting" (NRC, 1988)	no	Section 2.5.1
(2) Regional weather patterns and local meteorological conditions based on weather station data/on-site monitoring Local severe weather Information on anticipated air quality impacts from non-radiological sources	yes	Section 2.5.2.
(3) Meteorological data used for assessing impacts are substantiate as being representative of expected long-term conditions	yes and no	Section 2.5.3.3
(4) Description of existing air quality (ISL air quality impacts are indistinguishable from background - radiological and non-radiological	no	
(5) Meteorological and air quality data are documented in open file or other reports	yes	Section 2.5.3.6
2.6 Geology and Seismology		
(1) Description of local and regional geology	yes	Sections 2.6.1, 2.6.2
(1a) surface sampling and descriptions	yes	Sections 2.6.2, 2.6.3
(1b) cutting and core logging reports	no	
(1c) wireline geophysical logs	yes	Section 2.6.2, Figures 2.6-3 to 2.6-16
(1d) geologic interpretations of surface geology and balanced cross sections (i) Maps (ii) Cross sections through ore deposit roughly perpendicular and parallel to the principal ore trend (iii) Fence diagrams showing stratigraphic correlations	yes	Section 2.6.2, CSX: Figures 2.6.3 to 2.6-16 Isopachs: Figures 2.6-18 to 2.6-32
(2) Maps of sufficient scale and resolution showing intended geological information and features	no	Section 2.6.1 and 2.6.2 (wrong scale)
(3) In local stratigraphic section, all important	yes	Section 2.6.2,

units/zones are clearly marked		Figure 2.6-1
(4) Geological and geochemical description of mineralized zone and geological units immediately surrounding the zone is provided	yes	Section 2.6.2
(5) Inventory of economically significant mineral and energy-related deposits, in addition to uranium, is included (well abandonment and plugging issue)	yes	Section 2.2
(6) Description of local and regional geologic structure including folds and faults	yes	Section 2.6.2, Figure 2.6-18 and 2.6-32
(7) Discussion of seismicity & seismic history of region	yes	Section 2.6.6
(8) Generalized stratigraphic column	yes	Figure 2.6-1, Figure 2.7-1
(9) Sources of all geological and seismological data are documented	yes	Section 2.6.7
(10) Proper map scale and orientation shown	yes	
(11) Short-term seismic stability has been demonstrated for ISL in accordance with Regulatory Guide 3.11, Section 2.6 (NRC, 1977)	yes	Section 2.6.6
(12) General description of site soils and their properties (i.e., impact on construction and operation on erosion)	yes	Section 2.6.5
(13) Description of site soils and their properties where land application of water is anticipated	NA	
2.7 Hydrology		
(1) Characterized surface-water bodies and drainage within licensed area (maps providing relevant information)	yes	Section 2.7.1 Figures 2.7-1 and 2.7-2
(2) Assessment for the potential for flooding and erosion that could affect ISL facilities Modeling, if needed.	yes	Section 2.7.1 Figures 2.7-6, 2.7-7, 2.7-8
(3) Local and regional hydraulic gradient and hydrostratigraphy potentiometric maps (local and regional) Hydraulic parameters	yes	Section 2.7.2 Figures 2.7-10; Figures 2.7-13 to 2.7-17 Section 2.7.2.4
(4) Reasonably comprehensive chemical and radiochemical analysis of water samples within and outside mineralized zones Four seasonably variable sampling events	yes	Section 2.7.3.1 and 2.7.3.2

(5) Seasonable/historical variability in potentiometric head	no	
(6) Past, current, and future ground water use	yes	Section 2.2.3 Addendum 2.7
2.8 Ecology		
(1) Inventories of terrestrial and aquatic species	NA	
(2) Inventories of locally significant domestic flora and fauna (cattle, sheep, etc.)	NA	
(3) Identified endangered species	NA	
(4) Description of species-environment relationships within radius of expected impacts	NA	
(5) All sources or ecological information are documented	NA	
2.9 Background Radiological Characteristics		
(1) Monitoring programs to establish background radiological characteristics IAW Regulatory Guide 4.14, Revision 1, Section 1.1, collected at least 12 consecutive months	yes/no	Section 2.9.2 -2.9.10 Section 2.9.2 Section 2.9.4 Section 2.9.11
(2) Soil sampling is conducted at both 5-cm and 15-cm depths for background decommissioning data	yes	Section 2.9.3
2.10 Other Environmental Features		
Background Non-Radiological Characteristics		

Chapter 3 – Description of Proposed Facility		
Section - Criteria	**Present**	**Location in report**
***3.1 In Situ* Leaching Process and Equipment**		
(1) Sufficiently detailed discussion of mineralized zone(s), aerial extent and approximate thickness with U_3O_8 grade	yes/no	Section 3.1.1
(2a) Well design and construction - injection and recovery wells	yes	Section 3.1.3, Figure 3 -2
(2a) Well design and construction - monitor wells	yes	Section 3.1.3, Figure 3 -2
(2b) Well integrity testing - injection and recovery wells	yes	Section 3.1.3.4
(3) Number, location and screened intervals of excursion monitoring wells	yes/no	Section 3.1.4, 3.1.4.1 (incomplete)
(4) Methods for timely detection and cleanup of leaks	yes	Section 3.3.1

Chapter 3 – Description of Proposed Facility		
Section - Criteria	**Present**	**Location in report**
from surface and near-surface pipes within well fields		
(5a) Description of ISL process - projected down-hole injection pressures with the hydrostatic pressure of the fluid column (avoid hydrofracturing in aquifer)	yes/no	Section 3.1.5
(5b) Overall production rates should be higher than injection rates	yes	Section 3.1.4, 3.1.5.3, 3.1.6.1
(5c) Proposed plant material balances and flow rates should be acceptably described	yes	Section 3.1.6.1, Figures 3-6 and 3-7;
(5d) Lixiviant makeup	yes	Section 3.1.4
(5e) Description/identification of gaseous, liquid, and solid wastes and effluents generated	yes	Sections 3.3.3, 3.3.5, 4.1.2
(5f) Effects of ISL are likely to have on surrounding water users	yes/no	Sections 3.1.6.1, 7.2.5.1 (incomplete)
(5fi) Ability to control lixiviant from the production zones to surrounding environs	no	
(5fii) Ground-water and surface water pathways that might transport solutions off-site in event of uncontrolled excursion	no	
(5fiii) Impact of ISL operations on ground-water flow patterns and aquifer levels	no	
(5fiv) Expected post-extraction impact on geochemical properties and water quality	yes	Section 6.1.2 Table 6-2
(6) Proposed operating plans and schedules including timetables for well field operation, surface reclamation, and ground-water restoration	yes	Section 3.2.3, Figure 3-10
(7) Analysis of flood and flood velocities	yes	Section 2.7.1
(8) Design of diversion channels	yes	Section 3.5.3
(9) Review plans, specifications, inspection programs, and quality assurance/quality control	no	
(10) Results from other production areas	NA	
(11) Approved waste disposal agreement for 11e.(2) byproduct materials disposal.	no	
3.2 Recovery Plant, Satellite Processing Facilities, Well Fields, and Chemical Storage Facilities - Equipment Used and Materials Processed **Note: Smith Ranch Central Processing Plant (CPP)**		

Chapter 3 – Description of Proposed Facility		
Section - Criteria	**Present**	**Location in report**
is currently licensed		
(1) Application provides diagrams showing the proposed (or existing) plant/facilities layout in adequate detail	yes	Figure 3-8
(2) Areas were dust, fumes, or gases would be generated are clearly identified, along with a description of the source of the emissions	yes	Section 5.7.1.1
(3) All ventilation, filtration, confinement, dust collection and radiation monitoring equipment are described as to size, type, and location	yes	Section 4.1.2.1
(4) Availability requirements for safety equipment are adequately stated, and measures for ensuring availability and reliability are clearly identified	no	
(5) Specifications, quantities, locations, and operating conditions such as flow rates, temperatures, and pressures of radioactive materials and those hazardous materials with the potential to impact radiological safety, are clearly identified	no	Section 3.2.2 (incomplete)
(6) List of applicable federal, state, and local regulations that licensee intends to use to ensure that process chemicals having the potential to impact radiological safety are safely handled	yes	Section 3.2.2
(7) Controls used for eliminating or mitigating the hazards presented by the radioactive materials and those hazardous materials with the potential to impact radiological safety, are adequately described	no	
3.3 Instrumentation and Control		
(1) Instrumentation has been described for various components of the processing facility, including well fields, well field houses, trunk lines, production circuit, surface impoundments, and deep injection disposal wells	yes	Sections 3.3.1, 3.3.2, 3.3.3
(2) Instrumentation is designed to allow the plant operator to continuously monitor and control a variety of systems and parameters, including total flow into the plant, total waste flow leaving the plant, tank levels, and yellowcake dryer	yes	Sections 3.3.2
(3) Control components of the systems are equipped with backup systems that activate in the event of a failure of the operating system	yes	Sections 3.3.1
(4) Well field operating pressures are kept below casing		

Chapter 3 – Description of Proposed Facility		
Section - Criteria	**Present**	**Location in report**
and formation rupture pressures to prevent vertical excursions. Operation pressure are routinely monitored	yes	Sections 3.1.3.4
(5) Manufacturer's recommendations for maintenance and operation of yellowcake dryers, and checking and logging requirements contained in 10 CFR Part 40, Appendix A, Criterion 8 are followed	NA	

Chapter 4 – Effluent Control System		
Section - Criteria	**Present**	**Location in report**
4.1 Gaseous and Airborne Particulates		
(1) Monitoring and control systems are located to optimize their intended function	no and yes	Section 4.1.1
(2) Monitoring and control systems are appropriate for the types of effluents generated	no and yes	Section 4.1.1
(3) Provides a demonstration that adequate ventilation systems are planned for the process building to avoid radon gas buildup. (Consistent with Reg Guide 8.31) (i) recovery solutions entering the plant (ii) extraction process (where tanks are vented) (iii) uranium particulate emissions resulting from drying and packing operations and spills	yes	Sections 4.1.1 and 4.1.2
(4) Demonstrates that the effluent control systems will limit exposures under both normal and accident conditions	no	Section 4.1.1 and 4.1.2
(5) Demonstrates that the operations will be conducted so that all airborne effluent releases are as low as reasonably achievable	no	
4.2 Liquids and Solids		
(1) Common liquid effluents generated from the process bleed, process solutions, wash-down water, well development water, pumping test water, and restoration waters are properly controlled	yes and no	Section 4.2.1
On-site land applications (i) description of waste physical/chemical properties (ii) description of the proposed manner and condition of waste disposal (iii) analysis/evaluation of pertinent information on	NA	

Chapter 4 – Effluent Control System		
Section - Criteria	**Present**	**Location in report**
affected environment (iv) information on nature and location of other facilities likely to be affected (v) analyses and procedures to ensure that doses are maintained as low as is reasonably achievable		
For land applications (i) concentrations of radioactive contaminants in soils to show that levels of radium and other nuclides in the soil will not exceed the standard in 10 CFR part 40, Appendix A (ii) impacts to ground-water and surface-water quality (iii) impacts on land use, particularly crops and vegetation (iv) exposures and health risks that may be associated with radioactive constituents reaching the food chain. Doses and risks conform to 10 CFR part 20	NA	
(2) On-site evaporation systems are designed and operated in a manner that prevents migration of waste from the evaporation system to the subsurface monitoring and inspection programs Actions to be taken if surface impoundment water analysis indicates leaking (i) notify NRC with 48 hours (ii) analyze standpipe water quality samples for leak parameters for specified period (iii) file written report with NRC within 30 days of first notification	yes	Section 4.2.4.4 Addendum 4-A Section 5.3.1.1
(3) Design, installation and operation of surface impoundments used to manage 11e.(2) byproduct material meet relevant guidance provided in Regulatory Guide 3.11, Section 1 Inspections consistent with Regulatory Guide 3.11.1 Sufficient capacity and designed, constructed, maintained, and operated to prevent overtopping during (i) normal or abnormal operations, overfilling, wind and wave action, rainfall, or run-on (ii) malfunctions of level controllers, alarms, and other equipment (iii) human error	yes	Sections 4.2.3, 5.3.1 Addendum 4-A
(4) Design of surface impoundment used to manage 11e.(2) byproduct material meets or exceeds the	yes	Addendum 4-A

Chapter 4 – Effluent Control System		
Section - Criteria	**Present**	**Location in report**
requirements in 10 CFR Part 40, Appendix A, Criterion 5(A) - Design details, drawings, and pertinent analysis should be provided - Tests should show that liner will not deteriorate when subjected to the waste products and expected atmospheric and temperature conditions - Quality control program for installation components - Protection features to prevent damage to impoundments components - Leak detection system - Inspections		
(5) Plans and procedures are provided for addressing contingencies for all reasonably expected system failures (a) listing of likely consequences of any failures in process or well field equipment (b) identification of appropriate plant and corporate personnel to be notified (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	no	
(6) Contains a description of the methods to be used for disposing of contaminated solid wastes that are generated during the operation of the facility Applicant has an approved waste disposal agreement for 11e.(2) byproduct materials disposal at an NRC or NRC Agreement State licensed disposal facility	no	Section 4.2.3 (no agreement)
(7) Water quality certification and discharge permits have been obtained, or plans are in place to obtain them.	NA	Section 4.2
(8) Acceptable methods for effluent disposal by release to surface water, evaporation from surface impoundments, land application, and deep well injection	yes	Section 4.2

Chapter 4 – Effluent Control System		
Section - Criteria	**Present**	**Location in report**
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	yes	Sections 4.2.4.4, 8.1.7
4.3 Contaminated Equipment	yes	Section 4.2.3

Chapter 5 - operations		
Section - Criteria	**Present**	**Location in report**
5.1 Corporate Organization and Admin procedures		
(1) Adequate descriptions of corporate organization Radiation safety officer - responsibilities and authority outlined in Reg Guide 8.31, Sec. 1.2	yes	Section 5.1
(2) Organizational structure shows integration among groups that support the operation and maintenance of the facility	yes and no	Figure 5-2
(3) Established Safety and Environmental Review Panel (at least three members with appropriate expertise)	yes	Section 5.2.4
(4) Proposed administrative procedures conform with Regulatory Guide 8.2 and Regulatory Guide 4.15 Covers 10 CFR 20.1101 10 CFR 40.32(b), (c) and (d)	yes	Section 5.7.10 & Addendum 5-A (QA Plan)
(5) Sufficient independence is available to the plant supervisor, radiation safety officer, and Safety and Environmental Review Panel	yes	Sections 5.1.6; 5.1.7; and 5.2.4
5.2 Management Control Program		
(1) Proposed management control program is sufficient to assure that all proposed activities that may affect health, safety, and the environment, including compliance with any license commitments or conditions, will be conducted in accordance with written operating procedures 10 CFR 40.60 - Reporting Requirements	yes	Sections 5.2.1, 5.2.3, 5.2.5, 5.1.10

Chapter 5 - operations		
Section - Criteria	**Present**	**Location in report**
10 CFR 20, Subpart M - Reports/Notification of Incidents		
(2) Provides a process that will be used to identify and prepare operating procedures for routine work. Development, approval, and review (annual) of SOPs by radiation safety staff	yes	Section 5.2.1
3) Presents methods for review and approval of non-routine work or maintenance activity by the radiation safety staff	yes	Section 5.2.2
(4) Provides for the establishment of a Safety and Environmental Review Panel and associated records/reports	yes	Section 5.2.4
(5) Exempted from requirements of 20 CFR 1902(e) for areas within facility provided proper signs are conspicuously posted	yes	Section 5.2.6
(6) Licensee has agreed to administer a cultural resources inventory before engaging in any development activity not previously assessed by NRC	yes	Section 5.2.7
(7) Record keeping and retention plans maintained and retained for receipt, transfer, and disposal of any source or byproduct material processed or produced by licensed facility for period set out in license conditions	yes	Section 5.2.3
Permanently maintained and retained until license termination: (8a) Records of on-site radioactive disposal such as by deep well injection, land application, or burial under 10 CFR 20.2002 and 20.2007	yes	Section 5.2.3
(8b) Records required by 10 CFR 20 Subpart L specifically 10 CFR 20.2103(b)(4)	yes	Section 5.2.3
Section 5.2.3 (8c) 10 CFR 40, Appendix A, Criteria 8 and 8A Criterion 8--Milling operations Criterion 8A--Daily inspections of tailings or waste retention systems Regulatory Guide 3.11.1 - Operational Inspection and Surveillance of Embankment Retention Systems for Uranium Mill Tailings (Rev. 1, ML003740229)	 no no no	
Section 5.2.3 (8d)(i) – descriptions of spills, excursions, contamination events or unusual occurrences	yes	Section 5.2.3

Chapter 5 - operations		
Section - Criteria	**Present**	**Location in report**
Section 5.2.3 (8d)(ii) – info of site characterization, residual soil contamination, hydro, geo, surface impoundments, ponds, lagoons, and well field aquifer anomalies	yes	Section 5.2.3
Section 5.2.3 (8d)(iii) – as built drawings of structures, equipment, well fields, modifications	yes	Section 5.2.3
Section 5.2.3 (8d)(iv) – drawings of buried pipes or pipelines	yes	Section 5.2.3
Section 5.2.3 (8d)(v) – preoperational background radiation levels	yes	Section 5.2.3
(9) Licensee demonstrates that records can be provided to a new owner or new licensee or licensee in the event that the property or license is transferred or to NRC after license termination	yes	Section 5.2.3
(10) New licensees or owners demonstrate that any such records received from a previous owner or licensee will be retained or turned over to NRC after license termination	yes	Section 5.2.3
(11) Records will be maintained as hard copy originals, as copies on microfiche, or electronically protected	yes	Section 5.2.3
(12) Reports of spills, evaporation pond leaks, excursions of source, 11e.(2) byproduct material will be made to Headquarters Project Manager within 48 hours of the event. Written notice within 30 days of notification	yes	Section 5.1.10
(13) Annual report will be submitted to the NRC that includes the as low as is achievable audit report, land use survey, monitoring data, corrective action program report, one of the semiannual effluent and environmental monitoring reports, and the Safety and Environmental Review Panel (SERP) information	yes	Section 5.2.5.2
5.3 Management Audit and Inspection Program		
The proposed frequencies, types, and scopes of reviews and inspections, action levels, and corrective action measures are acceptable to implement the proposed controls (see Regulatory Guides 3.11, 3.11.1, and 8.31). ALARA Policy	yes and no	Section 5.3
5.4 Qualifications for Personnel Conducting the Radiation Safety Program		
Personnel meet minimum qualifications and experience for radiation safety staff that are consistent with requirements in Regulatory Guide 8.31, Section 2.3		

Chapter 5 - operations		
Section - Criteria	**Present**	**Location in report**
5.5 Radiation Safety Training		
(1) Consistent with the approach described in Regulatory Guide 8.31, Section 2.5		
(2) Consistent with Regulatory Guide 8.13		
(3) Consistent with Regulatory Guide 8.29		
5.6 Security program – Passive and Active controls	yes	Section 5.6
5.7 Radiation Safety Controls and Monitoring		
5.7.1 Effluent Control Techniques		
(1) Radon gas from processing tanks within enclosed buildings is properly controlled	yes	Section 5.7.1
(2) Emissions from yellowcake drying operations are properly controlled	NA	
Release of liquids into surface waters must comply with the public dose limits in 10 CFR 20.1301, which must be demonstrated by one of the following methods: (3a) The licensee demonstrates compliance with 10 CFR Part 20, Appendix B (i) Showing that the discharge of effluent from any surface impoundment is within 10 CFR part 20, Appendix B, limits at the point of discharge (ii) Monitoring the incoming process water to demonstrate compliance with the effluent discharge requirements of 10 CFR Part 20, Appendix B for process water (3b) The licensee demonstrates that the total effective dose equivalent to the individual likely to receive the highest dose from the facility does not exceed the annual dose limit for the public	no	Section 5.7.1.2 (incomplete)
(4) The applicant describes minimum performance specifications for the operation of the effluent controls and the frequencies of tests and inspections to ensure proper performance to specifications	no	Section 5.7.1.1 (incomplete)
(5) Record keeping for the effluent control techniques is sufficient to meet requirements in 10 CFR 20.2103(b)(4)	no	
(6) The applicant describes emergency procedures in the event of equipment failures or spills, references existing emergency procedures, or commits to the development of emergency procedures	no	
(7) The effluent control techniques are designed to keep	yes	

Chapter 5 - operations		
Section - Criteria	**Present**	**Location in report**
exposures to members of the public as low as is reasonably achievable as described in Regulatory Guide 8.37, Section 2		
(8) The effluent control techniques are designed to limit exposures to members of the public from emissions to air (excluding Radon-222 and progeny) to no greater than 0.1 mSv (10 mrem/yr)	no	
5.7.2 External Radiation Exposure Monitoring Program		
(1) The application contains one or more drawings that depict the facility layout and the location of monitors for external radiation. (Regulatory Guide 4.14, Section 1.1.5 and 2.1.6)	yes	Section 5.7.2
(2) The application provides criteria to be used in establishing which employees are to receive external exposure monitoring. (Regulatory Guide 8.34)	yes	Section 5.7.2.2
(3) Monitoring equipment is identified by type, sensitivity, calibration methods and frequency, availability, and planned use to protect health and safety	yes	Sections 5.7.1, 5.7.2
(4) All monitoring equipment has a lower limit of detection that allows measurement of 10 percent of the applicable limits (Regulatory Guide 8.3)	yes	Section 5.7.1
(5) Plans for documentation of radiation dose levels for corrective action that are consistent with 10 CFR Part 20	yes	Section 5.7.2
(6) Application presents radiation dose levels for corrective action that are consistent with 10 CFR Part 20	no	
(7) Radiation doses will be kept as low as is reasonably achievable by following Regulatory Guide 8.10 1a, 1c, 1e and 1f , 1b, 1d, Regulatory Guide 8.31	no	
(8) The applicant monitoring program is adequate to protect workers from hazards of beta radiation resulting form the decay products of uranium-238 when effective shielding is not present	NA	
(9) The monitoring program is sufficient to detect and control gamma radiation from uranium decay products in areas where large volumes of uranium may be present and is consistent with Regulatory Guide 8.30	yes	Section 5.7.2.1
(10) The program for external exposure monitoring and determining doses from external exposure is consistent with Regulatory Guide 8.34, Section C	yes	Section 5.7.2.2

Chapter 5 - operations		
Section - Criteria	**Present**	**Location in report**
5.7.3 Airborne Radiation Monitoring Program		
(1) The applicant provides one or more drawings that depict the facility layout and the location of samplers for airborne radiation (Regulatory Guide 8.3)	yes	Section 5.7.3.2
(2) Monitoring equipment is identified by type, sensitivity, calibration methods and frequency, availability and planned use to accurately measure concentrations of airborne radioactive species.	yes	Section 5.7.3.2
(3) Planned surveys of airborne radiation are consistent with the guidance in Regulatory Guide 8.3	yes	Section 5.7.3.2
(4) The proposed monitoring program is sufficient to adequately protect workers from radon gas releases from venting of processing tanks and from yellowcake dust from drying operations, spills, and maintenance activities (Regulatory Guide 4.14, Sections 1.1 and 2.1 and Regulatory Guide 8.3)	yes	Section 5.7.3.3
(5) Plans for documentation of radiation exposures are consistent with the requirements in 10 CFR 20.2102, 20.2103, 20.2106, and 20.2110	yes	Section 5.7.4
(6) The applicant demonstrates that respirators will routinely be used for operations with drying and packing areas and identifies the criteria for determining when respirators will be required for special jobs or emergency situations (Regulatory Guide 8.15, Revision 1)	no	
(7) For license renewal applications, the historical results summary of the airborne radiation monitoring program is included through the most recent reporting period preceding the submittal of the application	NA	
5.7.4 Exposure Calculations		
(1) Methodologies proposed to determine the intake of radioactive materials by personnel in work areas where airborne radioactive materials could exist (10 CFR 20.1204 and 20.1201)	yes	Section 5.7.4.1
(2) Exposure calculations for natural uranium are consistent with Regulatory Guide 8.30, Section 3. Inhale Calculating DCA-hr - besides no possibility of inhalation with respirator	yes	Section 5.7.4.1
3) For airborne radon daughter exposure (working levels), calculations are consistent with Regulatory	yes	Section 5.7.4.2

Chapter 5 - operations		
Section - Criteria	**Present**	**Location in report**
Guide 8.30 and Regulatory Guide 8.34, Section C. Krusnetz method		
(4) Calculations and guidance for prenatal and fetal radiation exposure are consistent with Regulatory Guide 8.36 and Regulatory Guide 8.13	yes	Section 5.7.4.4
(5) Exposure calculations are presented for routine operations, non-routine operations, maintenance, and clean-up activities and are consistent with Regulatory Guide 8.30 and Regulatory Guide 8.34	yes	Section 5.7.4.1
(6) Parameters used in exposure calculations are representative of conditions at the site and include the time-weighted exposure that incorporates occupancy time and average airborne concentrations	yes	Section 5.7.4.1 Section 5.7.4.2
(7) Estimation of airborne uranium concentrations take into account the maximum production capacity requested in the application and the anticipated efficiencies of airborne particulate control systems reviewed using Sections 4.1 and 5.7.1 of ISL Standard Review Plan	no	
(8) Reporting and record keeping of worker doses is done in conformance with Regulatory Guide 8.7 and 10 CFR 20.2103	yes	Section 5.7.4.5
(9) For license renewal applications, the historical results of radiation exposure calculations are included through the most recent reporting period preceding this submittal	NA	
5.7.5 Bioassay program		
Bioassay program is acceptable if it meets: (1) Consistent with applicable sections of Regulatory Guide 8.22 and Regulatory Guide 8.31 Can confirm results from airborne radiation monitoring program and exposure calculations	yes	Section 5.7.5
(2) Determination of which workers will be monitored in the bioassay program	yes	Section 5.7.5
(3) Sampling and analysis frequencies include baseline urinalyses for all new employees and exit bioassays on termination of employment (consistent with Regulatory Guide 8.22 and Regulatory Guide 8.8.9, Revision 1)	yes	Section 5.7.5
(4) Action levels for bioassay monitoring are set in	no	Section 5.7.5

Chapter 5 - operations		
Section - Criteria	**Present**	**Location in report**
accordance with Regulatory Guide 8.22, Section 5		(incomplete)
(5) All reporting and record keeping are done in conformance with the requirements of 10 CFR Part 20, Subparts L and M	yes	Section 5.7.4.5
(6) For license renewal applications, the historical bioassay program results are included through the most recent reporting period preceding the submittal of the application	NA	
5.7.6 Contamination Control Program		
(1) Radiation surveys of workers will be conducted to prevent contaminated employees from entering clean areas (Regulatory Guide 8.30)	yes	Section 5.7.6
(2) Requirements for a contamination control program (e.g., maintaining change areas and personal alpha radiation monitoring before leaving radiation areas) are included in standard operating procedures or are discussed in application Consistent with Regulatory Guide 8.30	yes	Section 5.7.6
(3) Action levels for surface contamination are set in accordance with (Regulatory Guide 8.30)	yes	Section 5.7.6
(4) Monitoring equipment by type, specification of the range, sensitivity, calibration methods and frequency, availability, and planned use is adequately described	yes	Section 5.7.6
(5) All reporting and record keeping is done in conformance with the requirements of 10 CFR Part 20	yes	Section 5.7.6
(6) The licensee will ensure that radioactivity on equipment or surfaces is not covered by paint, plating, or other covering material unless contamination levels are below limits specified in Table 5.7.6.3-1	no	
(7) The radioactivity of the interior surfaces of pipes, drain lines, or duct work will be determined by making measurements at all traps and other appropriate access points.	yes	Section 5.7.6
(8) The licensee will make a comprehensive radiation survey, in conformance with Regulatory Guide 8.30, Section 1 and NUREG-1575, Revision 1	no	
(9) Appropriate criteria are established to relinquish possession or control of equipment or scrap having surfaces contaminated with material in excess of the limits specified in Table 5.7.6.3-1 (a) Provide detailed information describing the	yes	Section 5.7.6

Chapter 5 - operations		
Section - Criteria	**Present**	**Location in report**
equipment, or scrap, radioactive contaminants, and the nature and extent, and degree of residual surface contamination		
(9b) Applicant will provide a detailed health and safety analysis that reflects that the residual amounts of contaminated materials on surface areas, together with other considerations such as prospective use of the equipment, or scrap, are unlikely to result in an unreasonable risk to the health and safety of the public	yes	Section 5.7.6
(9c) Applicant includes materials created by special circumstances including, but not limited to, the razing of buildings, transfer of structures or equipment, or conversion of facilities to a long-term storage facility or to standby status	no	
5.7.7 Airborne Effluent & Env. Monitoring Program		
(1) The proposed airborne effluent and environmental monitoring program is consistent with Regulatory Guide 4.14, Sections 1.1 and 2.1 Regulatory Guide 4.14, Sections 1.1 and 2.1 Regulatory Guide 8.37, Section 3	yes	Section 5.7.7
(2) The proposed locations of the airborne effluent monitoring stations are consistent with guidance in Regulatory Guide 4.14, Section 1.1.1 Regulatory Guide 4.14, Section 2.1.2 Criteria used in selecting location Sampling locations show on topographic map	no	
(3) The proposed airborne effluent and environmental monitoring program should sample radon, air particulates, surface soils, subsurface soils, vegetation, direct radiation, and sediment in accordance with Regulatory Guide 4.14, Section 3 (Quality of Samples)	yes	Section 5.7.7
(4) The proposed sampling methods are consistent with guidance in Regulatory Guide 4.14, Section 3 (Quality of Samples)	yes	Section 5.7.7
(5) For license renewal applications, the historical airborne effluent and environmental monitoring program results are included through the most recent reporting	NA	

Chapter 5 - operations		
Section - Criteria	**Present**	**Location in report**
period.		
(6) The applicant commits to semiannual airborne effluent and environmental monitoring reporting	yes	Section 5.7.7
5.7.8 Ground-water & Surface-water Monitoring Programs		
(1)For each new well field, the applicant's approach for establishing baseline water quality is sufficient to: (i) define the primary restoration goal of returning each well field to its pre-operational condition (ii) provide a standard for determining when an excursion has occurred	no	
(2) Applicant selects excursion indicator constituents and upper control limits	yes	Section 5.7.8.2.6
(3) Applicant establishes criteria for determining monitoring well locations. Horizontal and vertical exclusions		
(4) Applicant establishes well field test procedures. Well are tested to prove hydraulic connection between production, injection, and monitoring wells	yes	Section 5.7.8.2.5
(5) Applicant defines operational approaches for the monitoring program (which wells will be sampled for excursion indicators, monitoring frequency, and criteria for determining that an excursion has occurred	yes	Section 5.7.8.2.6 Section 5.7.8.2.7
(6) If ISL is located adjacent to bodies of surface-water, the applicant must establish a surface-water monitoring program that will be effective to detect migration of contaminants into surface-water bodies or demonstrate that the risk in negligible	yes	Section 5.7.8.2.8 Appendix A1
5.7.9 Quality Assurance		
(1) The quality assurance program has been established and applied to all radiological, effluent, and environmental programs (Regulatory Guide 4.14, Section 3 and 6 and Regulatory Guide 4.15)	yes	Section 5.7.10 Addendum 5-A
(2) All reporting and record keeping will be done in conformance with the criteria presented in Section 5.3.2 of this standard review plan	no	
(3) For license renewal applications, the historical quality assurance program results are included through the most recent reporting period preceding the submittal of the application	NA	

Chapter 6 – Groundwater Quality Restoration, Surface Reclamation and Facility Decommissioning		
Section - Criteria	**Present**	**Location in report**
6.1 Plans and Schedules for Groundwater Quality Restoration		
(1) Estimates volume of and quality of extraction solutions that need to be cleaned up during ground-water restoration	yes	Section 6.1.4
(2) Applicant describes the method used for estimating well field pore volume and the associated horizontal and vertical flare	yes	Section 6.6
(3) The application includes well field restoration plans (description of processes and projected completion schedule)	yes	Section 6.1.3, 6.1.5, Figure 6-1
(4) Restoration standards	yes	Section 6.1.1
(5) Post-reclamation stability monitoring	yes	Section 6.1.8.2
(6) External effects of ground-water restoration	no	Section 6.1.7 (incomplete)
(7) methods for abandoning wells	yes	Section 6.1.9
(8) Descriptions of water consumption impacts	yes	Sections 3.1.6 & 6.1.7
(9) alternatives to primary or secondary standards	no	
(10) onsite evaporation	NA	
(11) release to surface waters	NA	
(12) land applications	NA	
(13) deep well injections	yes	Section 6.1.10
6.1 Plans and Schedules for Reclaiming Disturbed Lands		

Chapter 6 – Groundwater Quality Restoration, Surface Reclamation and Facility Decommissioning		
Section - Criteria	**Present**	**Location in report**
(1) appropriate cleanup criteria	yes	Section 6.4, Table 6-7
(2) pre-reclamation radiological survey	yes	Section 6.2.1, 6.2.2
(3) procedures for interpretation of pre-reclamation radiological survey results	no	
(4) pre-construction surface contour map	yes	Figure 2.1-1
(5) any changes to existing NRC-approved radiation safety program	no	
(6) approved waste disposal agreement	no	
(7) submit final reclamation plan 12-months before planned commencement	yes	Sections 6.2.1, 6.4
(8) Decommissioning addresses non-radiological hazardous constituents	yes	Section 6.3.3
(9) QA/QC program addresses all aspects of decommissioning	no	
6.3 Procedures for Removing and Disposing of Structures, Waste Materials, and Equipment		
(1) a program is in place to control residual contamination on structures and equipment	yes	Section 5.7
(2) Measurements of radioactivity on the interior surfaces of pipes, drain lines, and duct work will be determined by making measurements at all traps and other appropriate access points, provided that contamination at these locations is likely to be representative of contamination on the interior of the pipes, drain lines, and duct work	yes	Section 6.3.2
(3) Surfaces of premises, equipment, or scrap that are likely to be contaminated but are of such size, construction, or location as to make the surface inaccessible for purposes of measurement are presumed to be contaminated in excess of the limits.	yes	Section 6.3.2.1

Chapter 6 – Groundwater Quality Restoration, Surface Reclamation and Facility Decommissioning		
Section - Criteria	**Present**	**Location in report**
(4) Before release of structures for unrestricted use, the licensee makes a comprehensive radiation survey to establish that contamination is within the limits specified in standard review plan Section 5.6.7	yes	Section 6.3.2.1
(5) A contract between the licensee and a waste disposal operator exists to dispose of 11e.(2) byproduct material	yes	
(6) The applicant commits to providing final (detailed) decommissioning plans for structures and equipment to the NRC for review and approval at least 12 months before the planned commencement of decommissioning of such structures and equipment	yes	Section 6.3
6.4 Methodologies for Conducting Post-Reclamation and Decommissioning Radiological Surveys		
(1) The cleanup criteria for radium in soils are met as provided in 10 CFR Part 40, Appendix A, Criterion 6(6)	yes	Section 6.4.1.1 Section 6.4.1.2
(2) Background radionuclide concentrations are determined using appropriate methods as described in Section 2.9 of standard review plan	yes	Section 2.9
(3) Acceptable cleanup criteria for uranium in soil, such as those in Appendix E of standard review plan, are proposed by applicant	yes	Sections 6.4.1.2 and 6.4.1.3
(4) For areas that already meet the radium cleanup criteria, but that still have elevated thorium levels, the applicant proposes an acceptable cleanup criterion for thorium-230	no	
(5) The survey method for verification of soil cleanup is designed to provide 95-percent confidence that the survey units meet the cleanup guidelines	no	
6.5 Financial Assurance		
(1) The bases for establishing a financial surety in 10	yes	Appendix E

Chapter 6 – Groundwater Quality Restoration, Surface Reclamation and Facility Decommissioning		
Section - Criteria	**Present**	**Location in report**
CFR Part 40, Appendix A, Criterion 9, are satisfied		
(2) All activities included in the cost estimate are activities that are included either in the reclamation plan or in the operation review completed using Sections 6.1 through 6.4 of this standard review plan	yes	Appendix E
(3) All activities included either in the reclamation plan or in Sections 6.1 through 6.4 of standard review plan are included in the financial analysis	yes	Appendix D
(4) The assumptions used for the proposal surety are consistent with what is known about the site and design and operations of the facility and its effluent control system	yes	Appendix E
(5) Surety values are based on current dollars (or are adjusted for inflation) and reasonable costs for the required reclamation activities are defined	yes	Appendix E
(6) The applicant commits to funding the approved financial surety through one of the mechanisms described in 10 CFR Part 40, Appendix A, Criterion 9	yes	
(7) The applicant commits to updating the surety value annually, in response to changes in closure or decommissioning plans, and as necessitated by changes in the facility and its operations	no	Section 6.6 (incomplete)
(8) The applicant commits to extending the surety for an additional year if NRC has not approved a proposed revision 30 days prior to the surety expiration date	yes	Section 6.6
(9) The applicant commits to revising the surety arrangement within 3 months of NRC approval of a revised closure (decommissioning) plan if estimated costs exceed the amount of the existing financial surety	yes	Section 6.6
(10) Surety documentation includes a breakdown of costs; the basis for cost estimates with adjustments for inflation; a minimum 15-percent contingency; and changes in engineering plans, activities performed, and any other conditions affecting estimated costs for site	yes	Appendix E

Chapter 6 – Groundwater Quality Restoration, Surface Reclamation and Facility Decommissioning		
Section - Criteria	**Present**	**Location in report**
closure		
(11) The licensee commits to submitting for NRC approval an updated surety to cover any planned expansion or operational change not included in the annual surety update at 90 days prior to beginning associated construction	no	
(12) The licensee commits to providing NRC with copies of surety-related correspondence submitted to a state, a copy of the state's surety review, and the final approved surety arrangement	no	
(13) Reclamation/decommissioning plan cost estimates, and annual updates should follow the outline in Appendix C to the standard review plan	yes	Appendix E

Chapter 7 – Environmental Affects		
Section - Criteria	**Present**	**Location in report**
7.1 Site Preparation and Construction		
7.2 Effects of Operations		
(1) All anticipated significant environmental impacts from facility operations are identified and applicant provides (i) mitigation measures for these impacts (ii) justification for why impacts cannot be mitigated (iii) justification for why it is not necessary to mitigate these impacts to protect the local environment	yes	Section 7.2.1 Section 7.2.2 Section 7.2.4,1
(2) The applicant demonstrates that the anticipated impacts on terrestrial and aquatic ecology, air quality, surface-and ground-water systems, land, and land use are environmentally acceptable	yes	Sections 7.2.3-7.2.10
7.3 Radiological Effects		
7.3.1.1 Exposure from Water Pathways		
(1) The estimates of individual exposure to radionuclides at the site boundary meet the regulatory requirements in 10 CFR 20.1302(b)(2)(i)	yes	Section 7.3.1.1

Chapter 7 – Environmental Affects		
Section - Criteria	**Present**	**Location in report**
(2) Calculations of concentrations of radionuclides in receiving water at locations where water is consumed or is otherwise used by humans or where it is inhabited by biota of significance to human food chains are included in the compliance demonstration for public dose limits in 10 CFR 20.1301	yes	Section 7.3.1.2 Section 7.3.1.3
(3) For facilities that generate liquid effluents, the relevant exposure pathways are included in a pathway diagram provided by the applicant	no	
(4) The conceptual model (scenarios and exposure pathways) is similar to and consistent with methodologies for liquid effluent exposure pathways in Regulatory Guide 1.109	no	
(5) The conceptual model used for calculating the source term and individual exposures from liquid effluents at the facility boundary is representative of conditions described at the site, as reviewed in Section 2.0 of the standard review plan	no	
(6) The parameters used to estimate the source term, environmental concentrations and exposures are applicable to conditions at the site, as reviewed in Section 2.0 of the standard review plan	no	
7.3.1.2 Exposures from Air Pathways		
(1) The estimates of individual exposure to radionuclides at the site boundary meet the regulatory requirements in 10 CFR 20.1302(b)(2)(i) with regard to annual average concentrations in airborne effluents or the dose limit in 10 CFR 20.1301	yes	Section 7.3.1.3
(2) Calculations of concentrations of radionuclides in air at locations downwind where residents live or where biota of significance to human food chains exist are included in the compliance demonstration for public dose limits in 10 CFR 20.1301	yes	Section 7.3.1.3
(3) Relevant airborne exposure pathways are included in the pathway diagram provided by the applicant.	yes	Figure 7-2
(4) The conceptual model used for calculating the source term and individual exposures from airborne effluents at the facility boundary is representative of conditions described at the site as reviewed in Section 2.0 of this standard plan	yes	Section 7.3.1.3
(5) The parameters used to estimate the source term, environmental concentrations, and exposures are	yes	Section 7.3.1.3

Chapter 7 – Environmental Affects		
Section - Criteria	**Present**	**Location in report**
applicable to conditions at the site, as reviewed in Section 2.0 of this standard review plan		
7.3.1.3 Exposures from External Radiation		
7.3.1.4 Total Human Exposures		
7.3.1.5 Exposures to Flora and Fauna		
(1) The model and parameters values used for calculation of concentrations of radionuclides in important local flora and fauna are consistent with generally accepted health physics practices and are applicable to the species identified at the site, as reviewed in Section 2.0 of the standard review plan	yes	Section 7.3.1.3.6
7.4 Non-Radiological Effects		
(1) The estimated concentrations of nonradiological wastes in effluents at the point of discharge and the projected effects for both acute and chronic exposure of the biota are adequately quantified in accordance with the NEPA Act of 1969 requirements in 10 CFR 51.45 and 51.60	yes	Section 7.4
7.5 Effects of Accidents		
(1) The applicant has provided analyses of credible accident consequences that are consistent with the facility design and planned operations and are sufficient to identify likely environmental impacts from operations	yes	Section 7.5.1 Section 7.5.2
(2) Analyses of accident consequences include mitigation measures, as appropriate	yes	Section 7.5.1 Section 7.5.2
(3) Analyses of accidents include results from operating experience at similar facilities	yes	Section 7.5.1 Section 7.5.2
(4) For radiological accidents, the applicant's response program provides for notification to NRC in compliance with the requirements of 10 CFR 20.2202 and 20.2203	yes	Section 7.5.1 Section 7.5.2
7.6 Economic and Social Effects of Construction & Operation		

Chapter 8 – Alternatives to Proposed Action		
Section - Criteria	**Present**	**Location in report**
1) The applicant considers process alternatives to the proposed action	yes	Section 8.1
a) The no-action alternative (must be included.)	yes	Section 8.1

Chapter 8 – Alternatives to Proposed Action		
Section - Criteria	**Present**	**Location in report**
b) Alternative ore extraction processes such as traditional open-pit and underground mining	yes	Section 8.4.1
c) Alternative lixiviant chemistry	yes	Section 8.3.1.1
d) Alternative ground-water restoration and long-term monitoring techniques	yes	Section 8.3.1.2
e) Alternative monitoring and waste management practices	yes	Section 8.3.1.3
f) Uranium recovery process alternatives	yes	Section 8.3.1
g) Construction of a central processing facility versus use of satellite facilities	no	
2) The alternatives are compared with the proposed actions considering the site characteristics as reviewed in Section 2.0 of this standard review plan and consistent with existing uranium extraction standards and practices The rationale for selecting the proposed method should be provided, and the proposed action should be shown to be at least as effective as the considered alternatives in meeting all regulatory requirements. If the application is for a new commercial-scale license, the consideration should be based on the results of the research and development site, if applicable	yes	Section 8.6
3) The applicant considers the environmental, social, and economic effects of a no-action alternative. Presumably, the applicant will provide information to demonstrate that the proposed action will provide social and economic benefits that outweigh the environmental impact of operating the facility.	no	
4) The applicant clearly identifies the preferred alternative and demonstrates that it would meet the requirements of 10 CFR Part 40, Appendix A	no	

Chapter 9 – Cost Benefit Analysis		
Section - Criteria	**Present**	**Location in report**
1) The economic benefits of the construction and operation of the proposed facility are acceptably summarized. These may include, but are not limited to: a) Tax revenues to be received by federal, state, and local governments	yes	Section 9.3.3

Chapter 9 – Cost Benefit Analysis		
Section - Criteria	**Present**	**Location in report**
b) Temporary and permanent jobs	yes	Section 9.3.2
c) Incremental increases in regional productivity of goods and service	no	
d) Enhancement of recreational values	no	
e) Environmental enhancement in support of the propagation or protection of wildlife and the improvement of wildlife habitats	no	
f) Creation and improvement of local roads, waterways, or other transportation facilities	no	
g) Increased knowledge of the environment as a consequence of ecological research and environmental monitoring activities associated with plant operation and technological improvements from the applicant's research program	no	
2) Economic benefits are estimated based on realistic assumptions and objective sources such as census data, tax information, and other site characteristics reviewed in Section 2.0 of this standard review plan.	yes	Section 9.3
3) The applicant provides a summary of the costs of plant decommissioning and site reclamation costs, and ground-water restoration	no	
4) The applicant summarizes short-term external costs as they affect the interests of people other than the owners and operators of the proposed facility. These may include, but are not limited to a) Housing shortages	yes	Section 9.4.1.1, Table 9-3
b) Local inflation	no	
c) Noise and congestion	yes	Section 9.4.1.3
d) Overloading of the water supply, water treatment facilities, and disposal landfills	yes	Section 9.4.1.2
e) Crowding of schools, hospitals, recreational facilities, or other public facilities	yes	Section 9.4.1.2
f) Disruption of people's lives (e.g., ranching, farming) through the acquisition of land	no	
5) The applicant summarizes long-term external costs as they affect the interests of people other than the owners and operators of the proposed facility. These may include, but are not limited to a) Impairment of recreational values through reduction in	yes	Section 9.4.2.1, 9.4.2.3

Chapter 9 – Cost Benefit Analysis		
Section - Criteria	**Present**	**Location in report**
wildlife and sport animals		
b) Restrictions on access to land or water	no	
c) Aesthetic impacts	yes	Section 9.4.2.1
d) Degradation or limited access to areas of historical, scenic, or cultural interests	no	
e) Lost income related to limitations on access to land and facilities	no	
f) Decreased real estate values	no	
g)Increased cost to provide government services for increased populations	no	
6) The applicant identifies who is most likely to be affected by the construction and operation of the proposed facility, and to the extent possible, identifies how long the disturbance is expected. This information should be consistent with the population information reviewed in Section 2.3 of this standard review plan	no	
7) If the application is for a renewal, the applicant provides a summary of the actual economic benefits and costs of the facility since the last licensing action	NA	
8) A comparison of the benefits and costs is presented that acceptably justifies proceeding with the in situ leach operations	yes	Section 9.5
9) For special case environmental assessments (e.g., those that have substantial public interest, decommissioning cases involving on-site disposal, decommissioning/ decontamination cases that allow radioactivity in excess of release criteria, or cases where environmental justice issues have been previously raised) the applicant has provided sufficient data to assess environmental justice issues in accordance with NUREG–1748 (NRC, 2001)	NA	
10) The irreversible and irretrievable commitments of resources for the construction, operation, restoration, reclamation, and decommissioning of the proposed facility are appropriate considering the following: a) Permanent land withdrawal	no	
b) Permanent commitment of mineral resources	no	
c) Permanent commitment of water resources Post ground-water restoration impacts at public water	yes	Section 9.4.3

Chapter 9 – Cost Benefit Analysis		
Section - Criteria	**Present**	**Location in report**
supply wells are acceptable if the water quality at town wells is consistent with EPA primary and secondary drinking water standards and NRC standards for uranium		
d) Irreversible loss of surface vegetation	no	
e) Irreversible loss of wildlife or wildlife habitat	no	
f) Irreversible commitments of material resources including processing chemicals and energy needs	no	
11) For each resource area, the applicant identifies who is affected, the duration of impacts, and any mitigation measures proposed as necessary to alleviate or reduce impacts	no	

Chapter 10 – Environmental Approvals and Consultations		
Section - Criteria	**Present**	**Location in report**
1) The applicant provides a summary of all permits or licenses obtained for the proposed facility. These should clearly identify a) the type of permit or license	yes	Section 10.1
b) The granting authority (local, state, regional, tribal authorities, or federal)	yes	Section 10.1
c) The permit or license number (if appropriate)	yes	Section 10.1
d) The current status, with expiration date, if appropriate	yes	Section 10.1
2) For permits not yet granted, the applicant provides a discussion of the current status of the application and objective evidence that the applicant has applied for, but has not yet received, the permit from the granting authority. Such evidence may include copies of documents such as letters from the granting authority or the permit application	yes	Section 10.1
3) For permits and licenses not yet granted, the applicant indicates when approval is expected. Consultations with the granting authority can be summarized	yes	Section 10.1
4) The granting authority is clearly defined and appropriate to the area being permitted or licensed. If permits are granted under Agreement State status, this should be identified in the application	yes	Section 10.1

Chapter 10 – Environmental Approvals and Consultations		
Section - Criteria	**Present**	**Location in report**
5) For licenses renewals and amendments, the applicant summarizes public meetings and meetings held with environmental and other citizens' groups since the last licensing application, and responses to the concerns expressed at these meetings	NA	