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NUCLEAR REGULATORY COMMISSION

Notice of Availability of a Standard Review Plan (NUREG–1569) for Staff Reviews for *in Situ* Leach Uranium Extraction License Applications

AGENCY: U.S. Nuclear Regulatory Commission

ACTION: Notice of availability

SUMMARY: The U.S. Nuclear Regulatory Commission (NRC) has developed a Standard Review Plan (NUREG–1569) which provides guidance for staff reviews of applications to develop and operate uranium in situ leach facilities. Under the provisions of Title 10 of the Code of Federal Regulations, Part 40 (10 CFR Part 40), Domestic Licensing of Source Material, an NRC Materials License is required to conduct uranium recovery by *in situ* leach extraction techniques. Applicants for a new license and operators seeking an amendment or renewal of an existing license are required to provide detailed information on the facilities, equipment, and procedures used in the proposed activities. In addition, the applicant for a new license also provides an Environmental Report that discusses the effects of proposed operations on the health and safety of the public and assesses impacts to the environment. For amendment or renewal of an existing license, the original Environmental Report is supplemented, as necessary. This information is used by the NRC staff to determine whether the proposed activities will be protective of public health and safety and the environment and to fulfill NRC responsibilities under the National Environmental Policy Act (NEPA). The purpose of the Standard Review Plan (NUREG–1569) is to provide the NRC staff with guidance on performing reviews of information provided by the applicant and to ensure a consistent quality and uniformity of staff reviews. Each section in the review plan provides guidance on what is to be

reviewed, the basis for the review, how the staff review is to be accomplished, what the staff will find acceptable in a demonstration of compliance with the regulations, and the conclusions that are sought regarding the applicable sections in 10 CFR Part 40, Appendix A. NUREG–1569 is also intended to improve the understanding of the staff review process by interested members of the public and the uranium recovery industry. The review plan provides general guidance on acceptable methods for compliance with the existing regulatory framework. As described in an NRC white paper on risk-informed, performance-based regulation (SECY–98–144), however, the applicant has the flexibility to propose other methods as long as it demonstrates how it will meet regulatory requirements.

A draft of NUREG–1569 was issued in October 1997 and subsequently revised to reflect responses to public comments and the results of Commission policy decisions affecting uranium recovery issues described in NRC Regulatory Issue Summary (RIS) 2000–23, dated November 30, 2000. RIS 2000-23 addressed two issues related to *in situ* leach facilities. In the first, the NRC took the position that all waste water generated during or after the uranium extraction phase of operations at an *in situ* leach facility, and all evaporation pond sludges derived from such waste waters, are 11e.(2) byproduct material. In the second, the NRC reaffirmed its authority to regulate ground water at *in situ* leach facilities, but expressed its intent to continue discussions with the U.S. Environmental Protection Agency (EPA) and appropriate States to try to minimize duplicative ground-water reviews. On February 5, 2002 (FR5347), the NRC made the revised second draft of NUREG–1569 available for a 75-day public comment.

In preparing the final version of NUREG–1569, the NRC staff reviewed and considered more than 750 written comments received by the close of the public comment period on April 22, 2002. To simplify the analysis, the NRC staff grouped all comments into the following major topic areas:

(1) Editorial and Organizational Comments (322 comments);

(2) Policy Issues (including administrative, quality assurance, and surety/financial issues) (103 comments);

(3) Ground water (123 comments);

(4) Operational (47 comments);

(5) Health Physics (78 comments);

(6) Monitoring (55 comments); and

(7) Environmental aspects related to NRC responsibilities under NEPA (40 comments).

ADDRESSES: Electronic copies of this document are available for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html (The Public Electronic Reading Room). NUREG-1569 is under Adams Accession Number ML031550302. The document is also available for

inspection or copying for a fee at the NRC's Public Document Room, 11555 Rockville Pike, Room O1-F21, Rockville, Maryland, 20852. This guidance document is not copyrighted, and Commission approval is not required to reproduce it.

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SUPPLEMENTARY INFORMATION: The following provides a more detailed discussion of the NRC evaluation of the major topic areas and the NRC responses to comments.

1. Editorial and Organizational Comments

Issue: The standard review plan has a number of redundancies and editorial errors.

Comment. Several commenters identified editorial concerns, text omissions, or areas where the organization of the standard review plan could be improved. Most of the organizational comments addressed perceived redundancies in the standard review plan or opportunities to streamline the style. Most editorial comments addressed inconsistent terminology, identified typographical and grammatical mistakes, or questioned the accuracy of reference documents.

Response. NUREG–1569 is structured consistent with NRC practice for standard review plan style and format. While this style and format may be considered complex or redundant by

some commenters, no substantive changes have been made. This will preserve consistency with other NRC standard review plans. The commenters have provided numerous suggestions for improving the readability and clarity of the review plan. Editorial comments on inconsistent terminology, typographical and grammatical mistakes, or the accuracy of reference documents were accepted and incorporated in preparing the final standard review plan, as appropriate. The individual editorial comments are not addressed in this comment summary document.

An appendix (Effluent Disposal at Licensed *In Situ* Leach Uranium Extraction Facilities) was deleted since the guidance therein was superseded by the Staff Requirements Memorandum for SECY–99–013 which provided staff with direction on classification of liquid wastes at these facilities.

Issue: There is sometimes a lack of agreement between the topics to be reviewed and the corresponding acceptance criteria.

Comment: Commenters stated that in several review plan sections, the areas of review identified at the beginning of the section did not correspond well to the acceptance criteria that would be used to make the evaluation findings.

Response: The staff concurs with this comment. NUREG–1569 was edited to provide correspondence among areas of review, review methods, acceptance criteria, and evaluation findings in each section.

Issue: Chapter 5 (Operations) of the standard review plan has many editorial and technical discrepancies.

Comment: Several commenters identified editorial and technical concerns with Chapter 5 of the draft standard review plan. In some cases, the editorial problems may have made the regulatory guidance difficult to implement.

Resolution: The staff concurs with the commenters. Chapter 5 was rewritten to incorporate editorial and regulatory guidance improvements. The separate section on record keeping and reporting was combined with the section on the management control program to more closely match Regulatory Guide 3.46.1 (Standard Format and Content of License Applications, Including Environmental Reports, for *In Situ* Uranium Solution Mining). Editorial comments are not addressed individually in this comment summary document except where they have particular impact on the standard review plan.

Issue: Additional clarifying or background information should be included in NUREG–1569.

Comment: Several commenters suggested that specific additional information related to proceedings for a given site or that would provide general background information on *in situ* uranium extraction techniques and hazards be included.

Resolution: The NRC has elected not to include the suggested information in NUREG–1569 because the standard review plan is not written for application to a specific site, and general information is available in other references on *in situ* uranium extraction operations.

2. Policy Issues (Including Administrative, Quality Assurance, and Surety/Financial Issues)

Issue: NUREG–1569 attempts to apply a risk-informed, performance-based regulatory philosophy without a regulatory basis for doing so.

Comment: Commenters, while noting that risk-informed, performance-based regulatory philosophies could be applied to *in situ* leach uranium extraction facilities, argued that no regulatory basis exists for implementing such philosophies. The commenters stated that 10 CFR Part 40 should be modified to incorporate risk-informed, performance-based regulatory concepts before the associated standard review plan is modified in that way, because standard review plans are not to be used to promulgate regulatory policy. Commenters also stated that the NRC should not expect license applicants to conduct the accident analyses, consequence evaluations, and probability determinations associated with risk-informed, performance-based regulation. Finally, the commenters argued that the risk-informed, performance-based approach presented in NUREG–1569 was too cursory, contained undefined terms, assumed the existence of a facility change mechanism, and that the review plan contained highly prescriptive acceptance criteria.

Response: The NRC agrees that standard review plans cannot be used to promulgate regulatory requirements, and has no intent to do so using NUREG–1569. In related action, the Commission considered promulgating a new regulation (10 CFR Part 41) that would specifically address regulatory requirements for *in situ* leach uranium extraction facilities and that would formally incorporate risk-informed, performance-based regulatory philosophies. However,

considering feedback from the uranium extraction industry and other stakeholders, and taking into account the economic status of the uranium extraction industry which would have to bear the cost of the rulemaking, the Commission determined that rulemaking was not an appropriate action at this time. Instead, in making this decision, the Commission directed the staff to update its regulatory guidance related to *in situ* leach uranium extraction facilities. NUREG - 1569 incorporates this direction from the Commission. It outlines risk-informed, performance-based approaches that staff reviewers may apply to *in situ* leach uranium extraction facilities that are also consistent with existing NRC regulations at 10 CFR Part 40.

In NUREG/CR–6733 (A Baseline Risk-Informed, Performance-Based Approach for *In Situ* Leach Uranium Extraction Licensees) staff analyses of *in situ* leach uranium extraction facility operations and accidents that consider both likelihood of occurrence and consequence (and therefore, risk) are presented. The analyses in NUREG–6733 are conservative and demonstrate that *in situ* leach uranium extraction facilities operated with properly trained workers and effective emergency response procedures generally pose low levels of radiologic risk. The staff considers analyses similar to, or based on, those in NUREG–6733 to be an appropriate basis for licensee safety analyses. NUREG–1569 is not intended to require applicants to prepare complex accident analyses, consequence evaluations, and probability determinations. However, site-specific conditions and circumstances must be addressed in any application.

For several years, the NRC staff has been approving *in situ* leach uranium extraction facility license renewals that incorporate a performance-based license condition that provides a facility change mechanism using a Safety and Environmental Review Panel. This accepted practice is continued in NUREG–1569.

Finally, the staff has not attempted to implement overly prescriptive acceptance criteria in NUREG–1569. Rather, standard practices that have been found acceptable in demonstrating compliance at *in situ* leach uranium extraction facilities have been placed in the standard review plan as one approach that the staff may use in determining compliance. Other approaches may be found acceptable as long as the staff can determine that such approaches comply with applicable regulations. In addition, the introduction to 10 CFR Part 40, Appendix A, allows applicants to propose alternative standards to the specific requirements in the Appendix A to demonstrate compliance, and the staff will review any such alternative standards that are submitted.

NUREG–1569 has been edited to remove inconsistent use of terms or undefined terms. Where useful, acceptance criteria have been modified to be less prescriptive. However, risk-informed, performance-based approaches to determining compliance have been incorporated in the standard review plan to the extent consistent with existing regulations.

Issue: Standard review plan guidance with respect to overlapping jurisdiction is not adequate.

Comment: Commenters were concerned that NUREG–1569 did not provide sufficiently clear guidance on coordinating license application reviews with federal and state agencies. Commenters also stated that the NRC should accept state guidelines in conducting reviews.

Response: NUREG–1569 implements Commission direction in SECY–99–013 regarding ground-water issues at *in situ* leach uranium extraction facilities. While this direction requires the staff to determine the extent to which it can rely on the U.S. Environmental Protection Agency's (EPA) Underground Injection Control program and to work to implement agreements

with appropriate states on these issues, it does not suggest that the NRC broadly accept state guidelines. As appropriate, minimizing dual regulation and implementing agreements with affected states remains an objective of the NRC, and interactions with the EPA and the states continue on these issues. The review plan has been revised to clarify this intent.

Issue: The standard review plan directs the staff to inappropriately seek disclosure of an applicant's primary corporate internal costs.

Comment: Commenters argued that corporate internal costs such as capital costs of land acquisition and improvement, capital costs of facility construction, and other operating and maintenance costs addressed in the draft standard review plan were not appropriate for staff review. The commenters suggested that only the forecast costs for plant decommissioning and site reclamation should be examined by the staff.

Resolution: The staff agrees with the commenters. The standard review plan has been revised to remove guidance that the staff examine costs outside of those associated with plant decommissioning and site reclamation.

Issue: The NRC is exceeding its legal authority by requiring that a determination be made that a proposed licensing action is appropriate prior to allowing construction to proceed.

Comment: The Executive Summary to NUREG–1569 states that "beginning construction of process facilities, well fields, or other substantial actions that would adversely affect the environment of the site, before the staff has concluded that the appropriate action is to issue the proposed license, is grounds for denial of the application." The commenter disagrees with

the “sweeping nature” of this statement and asserts that the NRC has no jurisdiction over wells in an exempted aquifer until lixiviant injection begins.

Response: The NRC considers this statement to be consistent with the requirements of 10 CFR 40.32(e) and believes it to be appropriate for the agency’s responsibilities to protect public health and safety and the environment. The license applicant shall not commence construction activities with a potential for adverse impacts prior to the NRC completing its environmental assessment in accordance with 10 CFR Part 51.

3. Ground Water

Issue: Some acceptance criteria for ground-water protection seem overly prescriptive or inconsistent with current practices at specific *In situ* leach uranium extraction facilities.

Comment: Several comments pertained to the use of examples of acceptable methods and approaches cited in the various acceptance criteria for ground-water protection. These comments expressed concern that the examples cited were not consistent with current practices at some *in situ* leach uranium extraction facilities. For example, several comments stated that the examples of acceptable methods for conducting mechanical integrity tests on injection wells are not consistent with methods currently employed or with state-approved practices.

Response: Examples of acceptable practices cited in the review plan acceptance criteria for ground-water protection were obtained from operations plans of currently operating *in situ* leach

uranium extraction facilities. These examples refer to methods used to implement ground-water protection requirements that have been considered acceptable in past NRC licensing reviews. The NRC recognizes that an optimal approach to ground-water protection at one facility is not necessarily applicable or appropriate at all *in situ* leach uranium extraction facilities. As stated in the introduction to NUREG–1569, applicants may take approaches to demonstrating compliance that are different from the acceptance criteria in the standard review plan so long as the staff can make the requisite decisions concerning environmental acceptability and compliance with applicable regulations. Where appropriate, these comments were addressed by modifying text to clarify that the given examples are not prescriptive requirements.

Comment: Several comments recommended deletion of constituents from the list of typical baseline water quality indicators in Table 2.7.3-1 of NUREG–1569. In a specific example, a rationale was provided for eliminating radium-228 from the list of baseline water quality indicators to be sampled in each new well field.

Response: The rationales provided by the commenters for elimination of certain chemical constituents from the list of typical baseline water quality indicators are not necessarily applicable for all *in situ* leach uranium extraction facilities. A licensee may provide the rationale for the exclusion of water quality indicators in a license application or amendment request if operational experience or site-specific data demonstrate that concentrations of constituents such as radium-228 are not significantly affected by *in situ* leach operations. NRC reviewers will determine whether proposed exclusions are justified by the information provided. No changes to Table 2.7.3-1 were made for the final standard review plan.

Comment: Two commenters pointed out an apparently new policy that an excursion of lixiviant solutions will be deemed to have occurred if any single excursion indicator exceeds its upper control limit by 20 percent, where previous guidance considered an excursion to have occurred only when two or more excursion indicators exceed their upper control limits by any amount.

Response: Acceptance criterion (5) in Section 5.7.8.3 in the draft NUREG–1569 was revised by deleting the statement regarding a single excursion indicator exceeding its upper control limit by 20 percent for determination of when an excursion has occurred. However, the same acceptance criterion retains the requirement that corrective action for an excursion is deemed complete when all excursion indicators are below their respective upper control limits, or when no single indicator exceeds its control limit by more than 20 percent. Ideally, corrective action for an excursion would be to restore all indicators to below their upper control limits. However, in the past, corrective action has been considered acceptable when a monitor well no longer meets the criteria for being on excursion status. Excursion status criteria allow one indicator to be above the respective upper control limit. However, once an excursion has occurred, the reduction in concentrations of indicator constituents by corrective action may not occur at the same rate. Therefore, corrective action may be terminated prematurely if one of two indicators are brought below upper control limits while another remains substantially above its control limit.

Issue: The NRC is unduly concerned with protection of ground water in aquifers where exemptions have been obtained from the requirements of the Safe Drinking Water Act.

Comment: Several commenters took exception to Acceptance Criterion (4) in Section 6.1.3 of the draft standard review plan, which states that the primary goal for restoration of well fields, following uranium extraction, is to return each well field to its pre-operational baseline water

quality conditions. The commenters correctly pointed out that EPA requirements for the Underground Injection Control program result in the uranium production zones being classified as "Exempted Aquifers." This means they are not considered a potential source of drinking water and, therefore, are not subject to requirements of the Safe Drinking Water Act.

Response: Acceptance Criterion (4) of Section 6.1.3 in the draft standard review plan was revised to clarify that the goal of ground-water restoration at *in situ* leach uranium extraction facilities is to protect present or potential future sources of drinking water outside of the exempted production zone. Generally, if water quality within the production zone is restored to the pre-operational baseline water quality, then protection of water resources outside the exempted zone is assured. Hence, restoration of water quality within the production zone to pre-operational conditions is considered a primary goal whenever degradation of water outside of the exempted zone is a possibility. It is recognized, however, that restoration to pre-operational baseline conditions may not be practicable or feasible, owing to geochemical changes in the production zone during operations. Hence, applicants may propose secondary standards for monitored constituents that are protective of water resources outside of the exempted zone. This has also been clarified in the final standard review plan.

4. Operations

Issue: It is unclear which hazardous chemicals have the potential to impact safety at *in situ* leach uranium extraction facilities.

Comment: Some commenters expressed concern that the standard review plan addressed hazardous chemicals that were not realistic concerns at *in situ* leach uranium extraction facilities.

Response: In 10 CFR Part 40, Appendix A, regulations implement EPA Standards at 40 CFR Part 192, as required by law. Specifically, 10 CFR Part 40, Appendix A, Criterion 13 identifies those hazardous constituents for which standards must be set and complied with if the specific constituent is reasonably expected to be in, or derived from, the byproduct material, and has been detected in ground water. At the same time, the introduction to 10 CFR Part 40, Appendix A, allows applicants to submit alternative proposals for meeting the requirements that take into account local or regional conditions. 10 CFR Part 40, Appendix A, Criterion 13 also notes that the Commission does not consider the subsequent list of hazardous constituents to be exhaustive. In summary, NUREG–1569 reflects the regulatory requirements but also allows the reviewer to consider any demonstration presented by an applicant that addresses the potential hazardous constituents at a specific site.

Issue: The responsibilities of the Safety and Environmental Review Panel are not well defined.

Comment: Various commenters stated that the responsibilities of the Safety and Environmental Review Panel, and their authority to authorize changes without a license amendment were either not clear or had no regulatory basis.

Resolution: The staff agrees that clarification of Safety and Environmental Review Panel responsibilities and authorities would facilitate use of the standard review plan. These portions of the draft plan were rewritten for clarity. However, consistent with a risk-informed, performance-based licensing approach, use of Safety and Environmental Review Panels has been accepted by NRC staff, and an evaluation of their use was left in NUREG–1569.

Issue: The NRC is placing inappropriate restrictions on use of potentially hazardous process chemicals at *in situ* leach uranium extraction facilities.

Comment: The commenter refers to NUREG/CR–6733 (A Baseline Risk-Informed, Performance-Based Approach for *In Situ* Leach Uranium Extraction Licensees) and states that the analyses in this document were conservative. The commenter concludes that chemical safety must be based on a realistic analysis of the hazards.

Resolution: The NRC staff interpreted the conclusions from the analyses presented in NUREG/CR–6733 differently from the commenter. NUREG/CR–6733 conducted deliberately conservative analyses for the purpose of evaluating whether risks at *in situ* leach uranium extraction facilities were significant. The conclusion presented in NUREG/CR–6733 for chemical hazards was that licensees should follow design and operating practices published in accepted codes and standards that govern hazardous chemical systems. This recommendation leaves licensees flexibility to establish chemical safety measures appropriate for a specific facility and consistent with good engineering and safety practice. NUREG–1569 places no specific strictures on chemical safety practices at *in situ* leach uranium extraction facilities.

5. Health Physics

Issue: The NRC is requesting information on radiation safety programs that is unnecessary, based on the operational record at *in situ* leach uranium extraction facilities, or is outside NRC licensing authority.

Comment: Some commenters expressed a concern that the NRC was requesting information that is not necessary to fulfill the agency mission of protecting the public health and safety and the environment from the effects of radiation. An example cited was information on radiation safety programs, such as the qualifications of those people proposed for the health physics staff.

Response: While the NRC agreed with many of these commenters that some of the information requested was not needed, information on qualifications is necessary. However, much of this information is identified in Regulatory Guide 8.30, "Health Physics Surveys in Uranium Recovery Facilities" (May 2002), and Regulatory Guide 8.31, "Information Relevant to Ensuring That Occupational Radiation Exposures at Uranium Recovery Facilities will be As Low As is Reasonably Achievable" (May 2002). Chapter 5 of NUREG–1569 was revised to ensure that it is consistent with NRC regulations and regulatory guidance applicable to *in situ* leach uranium extraction facilities by referring to those regulatory guides, rather than repeat the information in the SRP. In addition, the licensees are required by license condition to follow the guidance set forth in Regulatory Guide 8.30, and Regulatory Guide 8.31. This is to ensure protection of the worker, the public health and safety, and the environment.

Issue: NUREG–1569 references regulatory guides that are outdated.

Comment: A number of commenters noted that the standard review plan referenced regulatory guides that have been revised or that are in the process of revision.

Response: The commenters correctly noted that some of the references in the draft standard review plan had been superseded or were in the process of revision. The standard review plan has been edited to reference current guidance. However, NRC has a number of regulatory guides that are being updated, and revised versions may only be referenced when they have been formally approved. This has necessitated retaining reference to some draft regulatory guides.

Issue: NUREG–1569 introduces a new and undefined concept in discussing “control systems relevant to safety.”

Comment: Several commenters objected to inconsistent use of terms and a lack of definition for terms related to control systems that may affect safety.

Response: NUREG–1569 was edited to incorporate consistent use of terms, and the term “controls” was defined consistent with other NRC regulatory guidance.

6. Monitoring

Issue: *In situ* leach uranium extraction facility licensees are not subject to long-term surveillance costs.

Comment: A commenter stated that including long-term surveillance costs in financial surety requirements, as addressed in the draft standard review plan, is inappropriate.

Response: NRC staff agrees with the commenter. Reference to long-term surveillance costs has been removed from NUREG–1569.

7. Comments related to NRC Responsibilities under the National Environmental Policy Act

Issue: The NRC is requesting non-radiological information that is outside its area of regulatory authority.

Comment: Many commenters expressed concern that the NRC was requesting information that is not necessary to fulfill the agency mission of protecting the public health and safety and the environment from the effects of radiation. The areas of concern included information on water quality, air quality, and historical and cultural information.

Response: As a federal agency, the NRC is subject to the NEPA. NEPA requires the NRC to consider impacts to the human environment as a part of its decision making process for licensing actions. The regulations governing NRC implementation of NEPA requirements are in 10 CFR Part 51, Environmental Protection Regulations for Domestic Licensing and Related Regulatory Functions. Guidance to the NRC staff on conducting environmental reviews is also provided in NUREG–1748 "Environmental Review Guidance for Licensing Actions Associated with NMSS Programs." In fulfilling its requirements under NEPA, the NRC routinely prepares an environmental impact assessment when evaluating applications for new materials licenses or amendments to such licenses. Areas of potential environmental impact that are investigated include water availability and quality, air quality, historical and cultural resources, ecology, aesthetic resources, and socioeconomic effects. In preparing its environmental impact assessment under NEPA, it is necessary for the NRC to establish background conditions for the affected area. This may require collection of data over a larger geographic area than the licensed area, as well as collection of data in technical and sociological areas that are beyond the traditional scope of radiation safety assessments. The commenters noted that detailed environmental impact assessments may not be necessary for all licensing actions, such as license amendment requests that may be minor in scope or short in duration. The text of the review plan has been modified to clarify those situations where NRC has traditionally performed a detailed environmental impact assessment, but the NRC necessarily reserves the right to determine the nature of the assessment on a site-specific basis in accordance with the requirements of 10 CFR Part 51.

Issue: The standard review plan inappropriately examines corporate financial information in evaluating the socioeconomic effects in cost-benefit analyses.

Comment: A number of commenters noted that the standard review plan examines detailed internal corporate financial data as part of the review of cost-benefit analyses for a licensing action. The commenters expressed concern that this information was proprietary and beyond the scope of information necessary for an evaluation of the socioeconomic impact of a facility.

Response: The commenters correctly noted that some of the information identified in the draft standard review plan was beyond the scope of information typically required for cost-benefit analyses. The text of the standard review plan has been revised to eliminate requests for proprietary corporate financial information and to clarify the purpose and use of the financial information that is addressed in the standard review plan.

Issue: Commenters questioned whether the standard review plan applies to facilities planned for private land as well as those on public land.

Comment: Several commenters expressed uncertainty as to whether the review methods and acceptance criteria developed in the standard review plan were also applicable to *in situ* leach facilities wholly located on private lands.

Response: The NRC must consider the environmental impacts of activities on both private and public lands to meet its responsibilities under NEPA, particularly with regard to assessment of direct, indirect, and cumulative impacts of proposed actions. The specific information to be provided by a licensee, and the level of the NRC staff review, will be determined on a site-specific basis considering the nature of the proposed action. The standard review plan is general guidance to the staff on the type of information that is commonly acceptable for evaluating the environmental impact of a proposed licensing action. Consistent with the NRC risk-informed, performance-based licensing philosophy, licensees may use compliance demonstration methods different from those presented in the standard review plan so long as the staff can determine whether public health and safety and the environment are protected. The standard review plan text has been revised for clarity, but it has not been changed to reflect different approaches for facilities operating on private and public lands.

Issue: Licensees should not be required to choose the alternative that has the least impact on the environment.

Comment: Several commenters expressed concern that the standard review plan requires a licensee or applicant to select the alternative that has the least impact on the environment, or requires that the NRC use license conditions to mitigate adverse environmental impacts that are deemed outside the scope of NRC responsibilities.

Response: The NRC agrees that while NEPA requires the agency to identify a preferred alternative, it does not require that the alternative with the least impact on the environment be selected. However, if an environmental impact statement (EIS) is necessary for a proposed action, NEPA requires that all reasonable alternatives be evaluated and that the environmentally preferable alternative be identified in the final EIS. NUREG–1569 does not require the applicant or licensee to select the most environmentally benign alternative. As guidance to the NRC staff, the standard review plan asks the reviewers to determine whether the choice of a particular uranium recovery method has been adequately justified and whether different techniques and processes were evaluated as part of this justification. The standard review plan also directs the staff to evaluate the bases and rationales used by an applicant in evaluating and ranking alternatives.

As stated in Council on Environmental Quality regulations (40 CFR 1502.16), in preparing an EIS, federal agencies are to identify all reasonable mitigation measures that can offset the environmental impacts of a proposed action, even if they are outside the jurisdiction of the lead agency. These mitigation measures are intended to avoid, minimize, rectify, reduce, or compensate for significant impacts of a proposed action. If an environmental assessment identifies potentially significant impacts that can be reduced to less-than-significant levels by mitigation, an agency may issue a mitigated finding of no significant impact (FONSI). In the case of a mitigated FONSI, the mitigation measures should be specific and tangible, such as

may be stated as license conditions. The standard review plan states that the NRC has responsibilities under NEPA to identify and implement measures to mitigate adverse environmental impacts of the proposed action.

Dated at Rockville, Maryland this 5th day of June, 2003.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

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