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LOST CREEK ISR, LLC

July 2, 2009

Mr. Steven Cohen
U.S. Nuclear Regulatory Commission
Mail Stop T8F5
Two White Flint North
11545 Rockville Pike
Rockville, MD 20852-2738

**Re: Lost Creek Project Exemption Request
Docket No. 40-9068
TAC No. LU0142**

Dear Mr. Cohen,

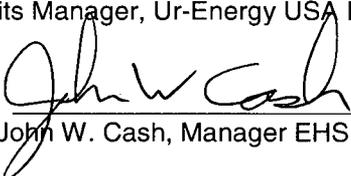
Pursuant to 10 CFR § 40.14, please find behind this cover, in duplicate, a request from Lost Creek ISR, LLC for an exemption from the provisions in 10 CFR § 40.32(e). If approved, the exemption will allow pre-license construction of limited infrastructure at the Lost Creek In-Situ Uranium Project. The exemption request specifically seeks permission to allow the following activities:

- Install roads;
- Install power lines;
- Install deep wells;
- Install fencing; and
- Construct the plant/office, maintenance, and driller's buildings and associated items

If you have any questions regarding this submittal, please feel free to contact me at the Casper office.

Regards,

Lost Creek ISR, LLC
By its Manager, Ur-Energy USA Inc.

By: 
John W. Cash, Manager EHS and Regulatory Affairs

Cc: Melissa Bautz – WDEQ-LQD Lander Field Office
Bill Boberg – Ur-Energy USA Inc., Littleton
Mark Newman – BLM Rawlins Field Office

**LOST CREEK ISR, LLC EXEMPTION REQUEST TO
ALLOW LIMITED PRE-LICENSE ACTIVITIES AT THE
LOST CREEK ISR URANIUM RECOVERY PROJECT**

**SUBMITTED TO THE NUCLEAR REGULATORY
COMMISSION**

JULY 2, 2009

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1.0 Summary

Pursuant to Title 10 Code of Federal Regulations (CFR), Section 40.14(a), Lost Creek ISR, LLC (LCI) hereby submits this request for a specific exemption from the Nuclear Regulatory Commission (NRC) requirements found at 10 CFR § 40.32(e) as applied to its proposed Lost Creek *in situ* leach uranium recovery (ISL) project. Currently, 10 CFR § 40.32(e) prohibits "commencement of construction" until such time that the Director of Nuclear Material Safety and Safeguards or his designee concludes that the action called for is the issuance of the proposed license. "Commencement of construction" is defined in the same part as, "*any clearing of land, excavation, or other substantial action that would adversely affect the environment of a site.*" LCI is requesting a specific exemption to construct the facilities described in Section 2.4 of this document on a pre-license basis.

Title 10 CFR § 51.4 also contains a definition of "construction." However, while LCI is **not** proposing an exemption from this regulation, the construction activities proposed in this specific exemption request are not "safety-related structures, systems, or components (SSCs) of a facility or onsite emergency facilities as described in 10 CFR § 51.4.

The proposed construction activities are largely described in the Technical and Environmental Reports (TR & ER) submitted as part of LCI's license application. In addition, the potential health, safety, and environmental impacts of the proposed construction activities were analyzed in the recently published *Generic Environmental Impact Statement for In-Situ Leach Uranium Extraction Facilities* (NUREG-1910) and were determined to have generally "SMALL" potential impacts. In some cases, depending on site-specific criteria, NUREG-1910 assessed the potential environmental impacts as "MODERATE to LARGE." However, as will be discussed in Section 4.0 of this document, the site-specific criteria which caused the potential impact ratings to increase from small to moderate or large are not present at LCI's proposed ISL project site. Therefore, as will be shown below, the potential impacts of the proposed activities on the environment will be non-detectable to minor.

The proposed construction activities described in this exemption request will promote the efficient recovery of uranium at the site which in turn will increase national energy security and independence. As this specific exemption request is being filed, the United States imports approximately 92% of the uranium needed to fuel domestic commercial reactors. The increase in production resulting from the proposed LCI project will increase annual domestic uranium production by approximately 25%. Production from the proposed LCI project will supply approximately 2% of the domestic demand for uranium over the next six years. This added production will promote the common defense and security of our nation by reducing dependence on foreign sources of energy. Finally, since no source or byproduct material will be generated during the proposed construction activities at the proposed LCI project site, there are no potential adverse implications to radiological health and safety or the common defense and security of the nation.

The Wyoming Department of Environmental Quality (WDEQ) and the Bureau of Land Management (BLM) must also approve the construction activities requested in this exemption request and will oversee the construction. WDEQ will regulate the activities through a Drill Notification or through a Permit to Mine while BLM will regulate activities through a Plan of Operations and associated NEPA process. LCI is currently working with both agencies to determine a path forward.

Finally, LCI requests that NRC Staff conduct this review as expeditiously as practicable, including informing LCI via telephone conference or other verbal communication of any potential RAIs as they arise rather than wait for written documentation of such requests.

2.0 Introduction

2.1 Corporate Organization

Ur-Energy Inc. is a corporation continued under the *Canada Business Corporations Act* on August 8, 2006. The registered office of the Corporation is located at 40 Elgin Street, Suite 1400, Ottawa, Ontario, K1P 5K6. The Corporation's head office and United States headquarters is located at 10758 West Centennial Road, Suite 200, Littleton, Colorado, 80127. The Corporation also has offices at 5880 Enterprise Drive, Suite 200, Casper, Wyoming 82609 and 341 Main Street North, Suite 206, Brampton, Ontario L6X 3C7. The Corporation's Littleton telephone number is (720) 981-4588 and its facsimile number is (720) 981-5643.

Incorporated on March 22, 2004, Ur-Energy is a development-stage junior mining company engaged in the identification, acquisition, evaluation, exploration and development of uranium mineral properties in Canada and the United States. The Corporation's current land portfolio includes 14 properties in Wyoming Ten of the properties are in the Great Divide Basin, two of which (the Lost Creek property and the Lost Soldier property) contain defined resources that the Corporation expects to advance to production. The Corporation's other Wyoming projects include two properties in the Shirley Basin, one of which is the Bootheel property. The final Wyoming property, the Kaycee property, is located in the Powder River Basin.

The Corporation, through its wholly-owned subsidiary, Ur-Energy USA, acquired certain of the Wyoming properties comprising the Great Divide Basin and the Shirley Basin projects, effective June 30, 2005, when Ur-Energy USA entered into the Membership Interest Purchase Agreement ("MIPA") with New Frontiers Uranium, LLC ("New Frontiers"). Under the terms of the MIPA, the Corporation purchased from New Frontiers all of the issued and outstanding membership interests (the "Membership Interests") in the project. Assets acquired from New Frontiers include the extensively explored and drilled Lost Creek and Lost Soldier Projects and development database including more than 10,000 electric well logs, over 100 geologic reports and over 1,000 geologic and uranium maps covering large areas of Wyoming, Montana and South Dakota.

Ur-Energy USA formed Lost Creek ISR, LLC as a wholly-owned subsidiary on July 17, 2007 to permit and operate the Lost Creek Project. Ur-Energy USA Inc. maintains an office in Casper, Wyoming whose staff's general responsibility is the design, licensing, permitting and operation of the Lost Creek Project.

The Lost Creek Project in Sweetwater County, Wyoming is 100% controlled by LCI through BLM mineral claims and one state of Wyoming lease.

2.2 Lost Creek License Application Timeline

LCI performed two and one-half (2.5) years of background environmental, geology, hydrology and engineering studies prior to submitting a site specific Uranium Recovery (i.e., combined

source and 11e.(2) byproduct material) license application to NRC on October 30, 2007 (Docket No. 40-9068). The content of the application adheres to the guidance provided in NRC NUREG 1569 entitled *Standard Review Plan for In Situ Leach Uranium Extraction License Applications* and numerous other NRC guidance documents. The application was subsequently withdrawn from consideration by LCI on February 29, 2008 in order to address technical concerns and was resubmitted to NRC on March 20, 2008 after adjustments were made to the application. The NRC deemed the TR and ER acceptable for detailed technical and environmental review on June 10, 2008. Requests for Additional Information (RAIs) were issued for the TR and ER on November 6, 2008 and March 16, 2009 respectively. LCI subsequently provided responses to both the TR and ER RAIs.

Under NRC's environmental protection regulations in the Code of Federal Regulations, Title 10, Part 51, which implement the National Environmental Policy Act (NEPA), issuance of a license to possess and use source material for uranium milling requires an environmental impact statement (EIS) or a supplemental EIS (SEIS). As the price of uranium began to rise in 2005 it became apparent that NRC would receive numerous license applications for review and the subsequent development of EISs. In response to the growing demand for new ISL projects, NRC considered ways to make the review process more efficient and cost-effective while assuring adequate protection of public health and safety and fulfilling the requirements of NEPA. On July 24, 2007, NRC published a Federal Register notice signifying its intent to prepare a Generic Environmental Impact Statement (GEIS) specific to ISL facilities. NRC's goal for the GEIS was to provide additional efficiencies in the license application review process by performing a generic or programmatic review of issues that are common to all such facilities.

Scoping for the GEIS was originally scheduled to last until September 4, 2007. NRC subsequently extended the scoping to October 8, 2007, then to October 31, 2007, and finally to November 30, 2007. At the completion of the scoping process, several interested stakeholders, including the National Mining Association (NMA), submitted comments to NRC. NMA's comments took the form of a Generic Environmental Report (GER) that evaluated, in substantial detail, all aspects of generic and site-specific ISL processing and operational histories, potential legal issues, and ISL technologies to assist NRC in development of the proposed GEIS. As a member of NMA, Ur-Energy USA Inc. participated extensively in the preparation of the GER. In May 2009, after being delayed from January 2009, NRC published its final version of *Generic Environmental Impact Statement for In-Situ Leach Uranium Milling Facilities* (NUREG-1910).

When the GEIS was originally proposed, it was NRC's intent to "tier" environmental assessments (EAs) off the GEIS to make the license application review process more efficient. However, in May of 2009 and prior to publication of the final version of NUREG-1910, NRC publicly announced that it abandoned its original intent of preparing site-specific EAs and, instead, proposed to prepare site-specific SEISs that would be tiered off the GEIS. Currently, NRC Staff estimates that, for the proposed Lost Creek ISL project, the SEIS will be completed by April of 2010 with the Uranium Recovery license issued in approximately June.

2.3 Process Leading to Exemption Request

LCI and other members of the ISL uranium recovery industry decided to approach NRC Staff regarding authorization to engage in certain construction activities prior to the issuance of a uranium recovery license due to the licensing delays resulting from NRC's determination that all recovery applications would be bound to the GEIS schedule. To further this goal, Lost Creek and

other industry members prepared and submitted a White Paper to NRC Staff entitled *Recommendations on Pre-Licensing Site Construction Requirements for In Situ Uranium Recovery Facilities Pursuant to 10 CFR § 40.32(e)*. This White Paper provided NRC Staff with an overview of the historical development of NRC regulations at 10 CFR § 40.32(e) that govern pre-licensing site construction, including the legal basis for the promulgation of such regulations, and a proposed “three-tiered” approach modeled after 10 CFR Part 50 limited work authorization (LWA) requirements, for determining what level of NRC authorization, if any, would be required for the suite of ISL site-specific pre-licensing construction activities. The legal focus of the White Paper was that Part 40.32(e), as currently constituted, does not directly apply to ISL uranium recovery sites because the administrative rulemaking record demonstrates that this regulation was intended to apply to conventional uranium recovery facilities. Further, in light of this legal interpretation, NRC Staff should adopt an LWA-like “three-tiered” approach to pre-licensing site construction activities at ISL sites including: (1) activities that do not require NRC authorization; (2) activities that require NRC authorization but no NRC license; and (3) activities that cannot be conducted without an NRC uranium recovery license.

In late 2008, industry members and NRC Staff met to discuss the White Paper’s legal analysis and the viability of a policy modeled on its proposed “LWA-like” approach. While it appreciated the practical applications of industry’s proposed approach, NRC Staff expressly disagreed during the meeting with the White Paper’s legal analysis and stated that 10 CFR Part 51 LWA requirements could not be applied to Part 40 licensees, including ISL sites, because there are no such requirements in Part 40. More specifically, NRC Staff stated that the 10 CFR § 40.4 definition of “milling” applies equally to ISL facilities and conventional uranium mills and, thus, Part 40.32(e) requirements were equally applicable to ISL sites. As a result, NRC Staff determined that the only available administrative mechanism by which ISL pre-licensing site construction activities could be authorized was a 10 CFR § 40.14(a) specific exemption. In addition, during these discussions, NRC Staff stated that they were preparing a policy initiative to address industry’s requests regarding pre-licensing site construction. This policy initiative was to be published for public comment shortly after these discussions and would provide industry members seeking authorization to conduct pre-licensing site construction activities with guidance as to how a specific exemption application should be prepared.

After offering this opinion to industry, both the NMA, on behalf of industry, and NRC Staff were directed to provide testimony to the Commission on uranium recovery industry issues, including the feasibility of pre-licensing site construction under existing NRC regulations. During this testimony, NRC Staff reiterated its position regarding the direct applicability of Part 40.32(e) to ISL sites and its legal opinion that Part 40.14(a) specific exemptions are the only regulatory pathway available for authorizing pre-licensing site construction activities outside the scope of Part 40.32(e). In response, the Commission noted in several instances that authorization of certain pre-licensing site construction activities at ISL sites would be feasible and should be permitted¹.

¹ See United States Nuclear Regulatory Commission, 12/11/08 *Commission Meeting: Briefing on Uranium Recovery*, December 17, 2008. For example, during the briefing, Chairman Klein stated, “I think exemptions have a place in our policies and that is we shouldn’t...rule by exemptions. But on the other hand, we should not rule them out because we’re not so robotic that we can’t think and can’t take actions on specific requests.” In addition, Commissioner Lyons stated that, “[r]ecognizing that rulemaking will take a long time, however, I don’t object to doing it on an exemption basis until rulemaking could be accomplished.”

After it received testimony from relevant parties, the Commission issued a Staff Requirements Memorandum (SRM) in which it directed NRC Staff to budget resources for a rulemaking to determine whether an approach similar to that proposed by industry which incorporates the 10 CFR Part 50 LWA licensing approach for nuclear power reactors is feasible. At the same time, NRC Staff continued its development of the aforementioned policy initiative and, on March 27, 2009, released for public comment Regulatory Issue Summary (RIS) 2009-xx entitled *Proposed Generic Communication; Pre-Licensing Construction Activities at Proposed Uranium Recovery Facilities*. This draft RIS provided discussion regarding NRC Staff's legal position on the applicability of Part 40.32(e) to ISL sites, its disagreement with industry's position, and a brief description of the criteria for Part 40.14(a) specific exemption applications for pre-licensing site construction. In response to this RIS, NMA, with Ur-Energy USA Inc. as one of its members, submitted detailed comments on the RIS, including: that NRC Staff's legal basis for requiring specific exemptions is incorrect; that the RIS did not provide any guidance to industry members as to how specific exemption license applications should be prepared; and that NRC Staff's concerns that any guidance provided would pre-judge the proposed rulemaking on the subject were without any sustainable legal or policy basis.

In May of 2009, and following the issuance of the draft RIS, NRC Staff contacted industry members that had submitted applications for newly proposed ISL sites and informed them that NRC's proposed 10 CFR Part 51 environmental review process for such sites would be altered to incorporate the "tiering" of SEISs off the soon-to-be (and now) released NUREG-1910 rather than site-specific environmental assessments (EAs). Due to this change in approach, NRC Staff informed these industry members that several months would be added to the license review timeline and would result in issuance of the aforementioned SEISs in the April/May, 2009 timeframe. Due to this new development and in light of the low-risk aspects of construction and development of the ISL process, pursuant to Part 40.14(a), Lost Creek is submitting this request for a specific exemption application for certain pre-licensing site construction activities that have no direct (and only, at best, tangential, indirect) potential impacts on radiological health and safety or the common defense and security of the United States. In addition, other state and federal agencies will have requirements providing for mitigation against potential adverse impacts.

2.4 Exemption Request

LCI is requesting with this application that the following items be exempted from the pre-license construction restrictions described in 10 CFR §40.32(e):

1. Leveling and surfacing of the area around the Plant and Maintenance building;
2. Construction of the Plant and Maintenance buildings with associated berms and sumps as described in the proposed Lost Creek license application. This includes the entire office section with its electrical, plumbing and HVAC systems;
3. Install household septic systems for the Plant and Maintenance buildings;
4. Install fence around the Plant and Maintenance building area;
5. Upgrade existing road access from the western edge of the project area to the Plant;
6. Upgrade existing road access from the eastern edge of the project area to the Plant;
7. Install fence for early wellfield area;
8. Install power line to the Plant and Maintenance buildings and Driller's Shed;
9. Drill and case up to four (4) deep wells for potential conversion post-license to UIC disposal wells; and

10. Construct a Driller's Shed and staging area

The following items are not requested for inclusion in this exemption request and will therefore be constructed after issuance of an NRC Uranium Recovery License and, if necessary, other relevant licenses or permits. This list is not intended to be comprehensive but is provided to clarify the distinction between those activities proposed for a specific exemption and those that are not:

1. Plant HVAC system used for control of radon or other source or byproduct material;
2. Installation of equipment and piping in the plant that will process, convey, or otherwise be in routine contact with source or byproduct material;
3. Construction of roads or upgrades to existing roads leading to wellfield areas;
4. Completion of deep wells (perforations, packer, downhole tubing, pump house, surface plumbing);
5. UIC Class III injection wells or associated production wells;
6. Trenches and pipelines for the conveyance of source or byproduct material or chemicals;
7. Holding ponds; and
8. Wellfield header houses

It is LCI's interpretation of 10 CFR §40.32(e) that the following items are not restricted or prohibited pre-license and therefore may be carried out regardless of the result of this exemption request or status of the license:

1. Exploration and delineation drilling;
2. Preconstruction monitoring or testing to establish background information related to the suitability of the site or the protection of environmental values;
3. Installation of erosion control structures as needed;
4. Geotechnical borings; and
5. Installation of roads for the purpose of site exploration

2.5 NRC Process for Reviewing Exemption Requests

As a general matter, all of the proposed activities under LCI's specific exemption application have been listed and thoroughly assessed in its March 20, 2008 license application and accompanying TR and ER. In addition, subsequent information has been provided to NRC Staff in response to specific RAIs (responses from LCI dated December 12, 2008, January 16, 2009, February 27, 2009 and June 11, 2009 respectively). Moreover, for the past several months, NRC Staff has been preparing its technical and environmental review of the Lost Creek license application in conjunction with the preparation and finalization of NUREG-1910, which is intended to allow NRC to "tier" site-specific NEPA reviews off its analyses and conclusions, where possible, to satisfy NRC's NEPA requirements at 10 CFR Part 51. Further, NRC Staff has created a draft RIS that was supposed to provide applicants and NRC Staff with guidance on how to review specific exemption applications.

With that said and given that LCI is not requesting permission to conduct any activities that have not already been requested in its Lost Creek license application, LCI proposes that NRC utilize the following process to review this specific exemption request. First, since the vast majority of its technical and environmental review is likely complete, NRC Staff should use its review of the Lost Creek license application, to the extent applicable, when reviewing this specific exemption

request. Second, NRC Staff should utilize, to the extent practicable, the analyses and conclusions in NUREG-1910 that apply to the proposed construction activities under this specific exemption request. Third, and most importantly, NRC Staff should use the additional data and analyses provided herein to further supplement its already-existing technical and environmental review of the Lost Creek license application. LCI believes that this approach will add additional efficiencies to the process so that certain proposed activities can be completed prior to the winter season in the State of Wyoming. As NRC Staff is well-aware, the State of Wyoming's winter season does not allow for any site construction activities, including specific facility construction. As a result, LCI requests that NRC Staff conduct this review as expeditiously as practicable, including informing LCI via telephone conference or other verbal communication of any potential RAIs as they arise rather than wait for written documentation of such requests.

3.0 Legal Standard for Exemptions

Pursuant to NRC regulations at 10 CFR § 40.14(a) and as will be shown below, LCI's specific exemption request may be granted if it is "authorized by law and will not endanger life or property or the common defense and security and are otherwise in the public interest."² In addition, LCI's specific exemption application is required to comply with the terms and conditions of NRC Staff's RIS on ISL specific exemptions. The draft RIS' requires that the applicant specify (1) the particular activity, (2) the purpose and need for the activity, (3) the duration of the activity, and (4) the potential impacts to human health and the environment.³ As is shown below, LCI's application satisfies each of these requirements.

3.1 Lost Creek's Specific Exemption Request is Authorized by Law

LCI's specific exemption application is authorized by law. 10 CFR § 40.14(a) specifically authorizes exemptions from 10 CFR Part 40 requirements, including Appendix A Criteria, pursuant to the standard delineated above. Further, NRC Staff's draft RIS specifically recognizes that specific exemptions pursuant to Part 40.14(a) requirements can be granted for certain construction activities at proposed ISL project sites. As a result, since its specific exemption application does not request activities that have not already been requested pursuant to NRC regulations and guidance for ISL facilities, LCI's specific exemption application is authorized by law.

3.2 Lost Creek's Specific Exemption Request Does Not Endanger Public Health and Safety or the Common Defense and Security

LCI's specific exemption request does not endanger public health and safety or the common defense or security. As a preliminary matter, LCI's specific exemption request does not request NRC approval of any site activities that have not been requested in its Lost Creek license application, each of which is no different from activities previously approved by NRC in the context of prior uranium recovery license applications or assessed in the draft or final NUREG-1910. However, pursuant to discussions with NRC Staff and its draft RIS on ISL specific

² See 10 CFR § 40.14(a).

³ The draft RIS also states that, "[t]he request should include drawings that provide construction details and the location of the proposed activity."

exemptions, an application for such an exemption should include additional data and analyses regarding the specific aspects of and potential impacts from proposed site construction activities. Thus, to determine whether the specific exemption request complies with this aspect of NRC's Part 40.14(a) requirements, NRC Staff can address such requests in the context of previously approved ISL license applications, the ISR GEIS, the Lost Creek license application's TR and ER, and additional data and analyses provided herein.

Generally, ISL operations have been authorized in the past by NRC and its Agreement States without any significant potential risk to public health and safety or the common defense or security. LCI's proposed Lost Creek project and all proposed construction activities under this specific exemption request have been evaluated by NRC in the past and under its ISR GEIS have been determined to be adequately protective of public health and safety and not to be a threat to the common defense or security. For example, the ISR GEIS has determined that both the surface and subsurface aspects of ISR project sites are largely standardized and are, thus, appropriate for a generic/programmatic assessment⁴. This assessment, as well as the prior approvals for existing or otherwise decommissioned ISL projects, demonstrates that the LCI specific exemption request should be permitted.

Further, the proposed activities for which LCI is requesting a specific exemption do not pose any potential risk to public health and safety or the common defense and security as none of the proposed activities involves the production, possession, and use of Atomic Energy Act (AEA) materials (source material). As a result, the proposed specific exemption satisfies 10 CFR § 40.14(a).

3.3 Lost Creek's Specific Exemption Request is in the Public Interest

LCI's specific exemption request is in the public interest. By permitting LCI to conduct certain pre-licensing site construction activities, NRC will be allowing a uranium recovery company to proceed with development of non-radiological capabilities at a domestic ISL project site, so that when the anticipated license is issued, active production operations can be commenced as quickly and efficiently as practicable. Enabling cost-efficient production of uranium to commence is in the public interest. In a July 17, 2001, NRC Staff letter to Kennecott Uranium Company regarding postponing of the Timeliness in Decommissioning requirements at the Sweetwater Uranium Project, NRC Staff stated that, "[t]he continued existence of the mill is in the public interest..." and "maintaining the domestic capacity to provide the raw material for nuclear power is in the public interest."⁵ The international nuclear power market is experiencing a "renaissance" and several countries, including the United States, have indicated that new nuclear power reactors will be constructed to meet domestic electricity production requirements. As a result, these newly proposed reactors will require an increase in world-wide primary uranium production. Given NRC Staff's determination that maintaining a domestic uranium production facility during a depressed uranium market is in the public interest, it follows enabling a properly evaluated domestic uranium recovery company to proceed to production in a quick and efficient manner is in the public interest.

⁴ U.S. Nuclear Regulatory Commission "Generic Environmental Impact Statement for In-Situ Leach Uranium Milling Facilities NUREG-1910," May 2009 at pages xxxv and 1-1.

⁵ See Staff Letter to Oscar Paulson, Kennecott Uranium Company (July 17, 2001).

3.4 LCI's Specific Exemption Request Complies with all Aspects of NRC's Regulatory Issue Summary Criteria for Exemptions from 10 CFR § 40.32(e)

Finally, LCI's specific exemption request complies with all aspects of NRC's RIS for specific exemptions from 10 CFR § 40.32(e). As stated above, NRC Staff's draft RIS notes several requirements in terms of the contents of a specific exemption application for ISL project sites. LCI has prepared its specific exemption application to include information that complies with the requirements in the draft RIS. This information will take the form of additional data and analyses of each of the proposed construction activities and, where necessary, maps and/or drawings of construction plans and activity locations. As a result, LCI's specific exemption application complies with the draft RIS requirements.

4.0 Generic Overview of Potential Public, Health, and Environmental Impacts

The recently published GEIS reviewed various environmental, health, and safety aspects of in-situ facilities from site construction to closure. Section 4.2 of the GEIS specifically addresses the various impacts of constructing an in-situ facility in the Wyoming West Region with the following results:

Impact of Construction in the Wyoming West Region As Assessed in the NUREG-1910 "GEIS for In-Situ Leach Uranium Milling Facilities"

Resource Area	Specific Area	Significance Level	Cross Reference in Tech. Rept. ⁶
Land Use	Changes and Disturbance in Land Uses	Small	Sec. 2, 3 and 7.1
	Access Restrictions	Small	Sec. 7.1.1
	Mineral Rights	Small	Sec. 1.3 & 2.6.2.4
	Livestock Grazing and Agriculture Restrictions	Small	Sec. 2.2.1 & 7.1.1
	Restriction on Recreational Activities	Small	Sec. 7.1.1
	Altering Ecological/Historical/Cultural Resources	Small - Large ⁷	Sec. 2.4 & 7.1.9
Transportation	Transportation	Small - Mod.	Sec. 2.1 & 7.1.2
Geology/Soils	Geology and Soils	Small	Sec. 2.6, 7.1.3 & 7.1.4
Water Resources	Surface Water	Small	Sec. 2.7.1 & 7.1.5.1
	Groundwater	Small	Sec. 2.7.2 & 7.1.5.2
Ecology	Vegetation	Small - Mod.	Sec. 2.8.1 & 7.1.6.1
	Wildlife	Small - Mod.	Sec. 2.8.3 & 7.1.6.2
	Aquatic	Small	Sec. 2.8.2 & 7.1.6
	Threatened/ Endangered Species	Small - Large	Sec. 2.8.1.3, 2.8.3, & 7.1.6
Air Quality	Air Quality	Small	Sec. 2.5.5 & 7.1.7
Noise	Noise	Small - Mod.	Sec. 7.1.8
Historical/Cultural Resources	Historical/Cultural Resources	Small - Large	Sec. 2.4 & 7.1.9
Visual and Scenic	Visual and Scenic	Small	Sec. 2.4.2 & 7.1.10
Socioeconomic	Socioeconomic	Small - Mod.	Sec. 2.3.2 & 7.1.11
Public/Occupational Health/Safety	Public/Occupational Health/Safety	Small	Sec 5, 6, & 7.1.13
Waste Management	Waste Management	Small	Sec. 4 & 7.1.14

Significance levels are defined as follows in the GEIS for In-Situ Leach Uranium Milling Facilities:

SMALL Impact: The environmental effects are not detectable or are so minor that they will neither destabilize nor noticeably alter any important attribute of the resource considered.

⁶ The Technical Report submitted to the NRC by LCI on March 20, 2008 as part of the license application.

⁷ Rankings of Moderate to Large in NUREG 1910 are based on site specific characteristics that may be found at a generic in situ facility. These specific characteristics are generally not found at the Lost Creek Project. See below for additional discussion.

MODERATE Impact: The environmental effects are sufficient to alter noticeably, but not destabilize, important attributes of the resource considered.

LARGE Impact: The environmental effects are clearly noticeable and are sufficient to destabilize important attributes of the resource considered.

NUREG-1910 provides a total of eight (8) scenarios where the impact due to construction of an in-situ leach facility in the Wyoming West Region could have a "significance level" greater than Small. In each case NUREG-1910 provides an explanation of the circumstances that caused the significance level to be elevated. The following paragraphs assess the applicability of those circumstances at the Lost Creek Project.

Resource Area "Land Use - Altering Ecological, Historical, and Cultural Resources," Small to Large Significance Level

The rating of Small to Large was justified in Section 4.2.1.1 Pg 4.2-4 of NUREG-1910 by stating in pertinent part,

"Depending on the specific locations of a proposed ISL facility and characteristics of the land and environment, the construction of a new ISL facility could potentially impact portions of managed lands that contain localized ecological, historical, and cultural resources (see details in Sections 4.2.5 and 4.2.8, respectively). These resources could be altered destroyed, restricted, or made inaccessible....Impacts would be expected to be mitigated by consultations with appropriate federal, tribal, and state agencies to identify and delineate those site-specific resources. Such planning could help to avoid or mitigate the degree and intensity of impacts from construction activities. However, surveying and due diligence activities might not be sufficient to identify historical and cultural resources."

The ecological, historical and cultural resources of the Lost Creek Project have been studied in depth with results presented in the TR and ER. The studies show there are no known "localized" ecological, historical or cultural resources in the areas proposed to be impacted by this exemption request. Therefore, a significance level of Small is appropriate. With specific regard to historical and cultural resources, despite highly detailed surveys by qualified archeologists it is always possible that unknown resources will be discovered during construction. This possibility exists regardless if certain construction activities are approved in the exemption request or by license. In other words, additional review at this point is not likely to further minimize the risk of accidentally disturbing unknown historical or cultural resources. If previously unknown cultural resources are discovered while performing construction activities approved under this exemption request, work will immediately be halted in the area and BLM will be contacted as per BLM requirements. BLM currently has regulatory oversight of cultural resource issues at the site and has staff and regulations in place to support their efforts.

Resource Area "Transportation – Transportation," Small to Moderate Significance Level

The potential for up to a Moderate impact is based on two concerns: increases in traffic loads and associated infrastructure impacts, and dust and noise impacts to residents living in the vicinity of unpaved roads. At this time a contract has not been awarded for the construction of the facility so

it is not known where the workers will come from. Therefore, each of the three possible routes will be considered.

The most likely access route for construction workers will be through the Interstate 80 exit at Wamsutter and then up the Sweetwater County Wamsutter-Crooks Gap Road to the western site access road. In this case the road surface is graveled the entire length. The section of the road near Wamsutter is used heavily by the oil and gas industry and the few additional construction vehicles will not be noticed. There are no dwellings visible along this entire route that could be impacted by noise or dust generated by construction traffic travelling to and from Lost Creek.

Sweetwater County has plans to resurface the southernmost ten miles of the Wamsutter-Crooks Gap Road with crushed asphalt during the summer of 2009. The asphalt material will substantially reduce the amount of dust generated.

The second most likely route to the site is County Rd 22 to BLM's Sooner Road to the site's eastern access road. The entire route is surfaced with gravel. County Rd. 22 passes south of the community of Bairoil with a strictly enforced speed limit of 30 miles per hour. The nearest residence to the county road is approximately 300 yards away. The community of Bairoil is within an active oil field so the additional traffic associated with the Lost Creek Project will likely not be noticed.

The final, and least likely to be used, access route is the paved Mineral X road to the graveled Sooner road to the site's eastern access road. A total of four dwellings can be seen from the Mineral X road. The dwellings range from approximately 0.3 to 0.9 miles from the paved road. The Mineral X road can only be used for light duty vehicles so heavy construction equipment will have to use one of the two routes described above.

In summary, the sparse population and the distance of residences off of the road will result in a Small impact from dust and noise. Other than the weight restrictions on Mineral X road, each of the existing access roads is designed and constructed to be able to withstand the limited vehicle traffic that will be associated with construction. The existing eastern and western site access roads will be upgraded, as part of this exemption request, to be able to handle truck traffic associated with both construction and operations.

Resource Area "Ecology – Vegetation," Small to Moderate Significance Level

The possibility of a Moderate ranking is based on construction within a "wooded area." The Lost Creek Project is in a prairie area and therefore the ranking of Small is warranted.

Resource Area "Ecology – Wildlife," Small to Moderate Significance Level

The Moderate impact rating is merited in circumstances where "habitat fragmentation, temporary displacement of animal species and direct or indirect mortalities is possible." By its very nature construction will result in some disturbance of wildlife. If approved, this exemption request will result in the surface disturbance of approximately 35 acres. The analysis of construction impacts in NUREG-1910 is based on a total disturbance of 120 to 1,860 acres (Section 4.2.1 Pg 4.2-1). Therefore, the proposed disturbance is at most only 1/3 the size of that analyzed in NUREG-1910. An impact rating of Small is warranted.

It is also noteworthy that approval of this exemption request will provide LCI greater flexibility in construction timing. This flexibility will enable LCI to more easily schedule construction in a manner that complies with sage grouse timing stipulations outlined by the State of Wyoming.

Resource Area "Ecology - Threatened/ Endangered Species," Small to Large Significance Level

The significance level is rated Small to Large "depending on site-specific characteristics." In the case of the Lost Creek Project a detailed raptor survey found only one active nest which is located greater than 1 mile from any of the activities proposed in this exemption request. The area was also surveyed for Mountain Plovers with no birds observed. The vegetation within the proposed license area is considered unsuitable for Mountain Plovers. The bald eagle and black-footed ferret are the only federally listed or candidate species that may occur in the vicinity of the Permit Area as documented in section 3.6.3.3 of the Environmental Report. Neither species has been observed at the site. Finally, none of the species listed in section 4.2.5.1 Threatened and Endangered Species of NUREG-1910 have been observed at the site. Given the site-specific characteristics and the lack of threatened or endangered species a ranking of Small is appropriate.

Resource Area "Noise - Noise," Small to Moderate Significance Level

Noise has a potential impact on three receptors: wildlife, construction workers, and members of the public. In the case of wildlife it should be noted that the plant site is, by design, greater than two miles from the nearest sage grouse lek or active raptor nest. The proposed roads and deep wells are generally within two miles of sage grouse leks, however, construction of these facilities within two miles of active leks will occur between July 15 and March 1 to avoid the breeding and nesting season. Construction noise potentially resulting from this exemption request will be limited in duration; approximately 7 months.

Occupational noise exposure will be mitigated by compliance with OSHA regulations.

The nearest residence to the proposed facility is approximately 12 air miles away. The Kennecott Sweetwater Mill is approximately four miles away. Recreational use in the immediate vicinity of the proposed facility is rare given the remote location, harsh climate, and lack of scenery. Area ranchers occasionally pass through the area to check on cattle but do not linger in the area. Therefore, there will be very limited noise exposure to members of the public. See also the potential noise impacts from transportation discussed above.

Given the lack of receptors, an impact rating of small is warranted.

Resource Area "Historical/Cultural Resources - Historical/Cultural Resources," Small to Large Significance Level

The historical and cultural resources of the Lost Creek Project have been studied in depth with results presented in the Technical and Environmental Reports. The studies show there are no known historical or cultural resources of concern in the areas proposed to be impacted by this exemption request. Therefore, a significance level of Small is appropriate. Despite highly detailed surveys by qualified archeologists it is always possible that unknown resources will be discovered during construction. This possibility exists regardless if construction activities are approved in the exemption request or by license. In other words, additional review at this point is

not likely to further minimize the risk of accidentally disturbing unknown historical or cultural resources.

Resource Area "Socioeconomic – Socioeconomic," Small to Moderate Significance Level

In the case of the Lost Creek Project there are no local communities within 20 miles to house construction crews. The nearest town of any size is Rawlins which is about 40 miles from the project. It is likely that construction crews will either travel to the site from their home base each day or will stay in a hotel in Rawlins or Wamsutter. Currently, due to low natural gas prices, hotel rooms are readily available in Rawlins. A new hotel is also being built in Wamsutter. Given the short duration of construction, approximately 7 months, it is unlikely that work crews will bring their families with them. LCI expects between 20 and 50 contractors will be utilized to complete the construction requested in this exemption while the analysis in NUREG-1910 is based on a peak of 200 contractors. A ranking of Small is appropriate given the limited number of workers and the short duration of the project.

5.0 Specific Items Proposed for Exemption

When developing the list of items to be included in this exemption request, LCI was careful to avoid including process equipment and conveyances involved in processing or storage of source or byproduct material. In fact, most of the activities proposed in this exemption request are not unique to uranium recovery (i.e., road upgrades, power line installation, site leveling and surfacing around buildings, and construction of steel frame buildings).

The only proposed activity which is not routine construction is the drilling and casing of deep wells. In the case of the deep wells, only the casing will be installed. The down hole packer assembly and injection tubing string will not be installed until post-licensure since they will contain byproduct material and serve to prevent releases of the material into unapproved aquifers. Surface facilities such as pumping stations and piping will not be installed either. During operations the annulus between the casing and the injection tubing string will be filled with a corrosion inhibiting fluid and pressurized with a gas such as nitrogen. The continuously monitored pressure in the annulus will be maintained at a level greater than the injection pressure. Therefore, if the tubing develops a leak, the annulus pressure will fall resulting in an alarm and the automatic shut down of the well. The casing itself is simply the pathway for the injection tubing to reach the injection horizon. The casing is neither designed nor intended to contain the injection fluid.

The construction of the plant stem wall and sump systems are routine aspects of construction at many facilities including in situ recovery. However, additional discussion is provided in this exemption request due to their tangential relationship to spill mitigation. Based on the following discussion, LCI believes that NRC will be able to make a risk informed decision regarding the pre-license construction of these two items.

The plant's stem wall will serve as spill containment. If NRC allows construction of the stem wall as part of this exemption request and later determines during the license application review that the wall height is insufficient, LCI will raise the height to the necessary level. Adjustment of the wall height is technically feasible at relatively minimal cost and with no additional environmental impact.

The plant sump system is not intended to contain the entire volume of a potential spill of chemicals or licensed material. Instead, the plant stem wall is designed to contain spills. The purpose of the sump system is to create a low spot in the floor which will allow a pump to recover fluids. The size of the sumps planned for the plant are approximately 20" deep by at least 26" square which is more than adequate to hold a pump capable of recovering spilled solutions. The most important aspect of the sump review is not the size of the sump but that a sump is in fact installed. The ability to recover spilled solutions is controlled largely by the size of the pump placed in the sump and the sumps in question are sufficiently large to handle the necessary pumps.

Figure EX-4 of this application presents the order of activities and time requirements; assuming each of the activities is approved by the NRC and other involved agencies. The time requirements presented below for each task are based on actual work time and do not include MOB/DEMOB.

5.1 Leveling and Surfacing of the Area Around the Plant and Maintenance Buildings

The proposed area of leveling and surfacing for the Plant and Maintenance building encompasses an area that is approximately 550 feet by 300 feet (3.8 acres). Figure EX-1 of this application shows the area of interest. This work will take approximately 2 weeks.

Specifically, LCI is requesting the following construction steps:

- A. The removal of topsoil (approximately one foot deep) over the proposed pad. The topsoil will be stockpiled northeast of the plant pad per BLM and WDEQ specifications. This includes installation of a toe-ditch, fencing, appropriate signage and revegetation.
- B. As the existing contours at the site indicate (Fig. EX-1), the area of interest is generally flat to rolling topography with elevations ranging from 6970 ft amsl to 6980 ft amsl. All suitable material removed from the excavations shall be used, in so far as is practicable, in the leveling of the site and in the construction of the pad. All placed materials shall be prepared and compacted as per the design engineer's specifications. Drainage for the area will be installed as indicated on Figure EX-1.
- C. Surfacing for the area will be compacted gravel at least 3 inches thick.

5.2 Construction of the Plant and Maintenance Buildings

The Plant and Maintenance buildings proposed for construction are shown in Figure EX-1. Design and engineering of the foundations and buildings are based on detailed soils analyses performed. This work will take approximately 5 months. Construction is planned in the following manner:

PLANT

- A. Plant Foundation:
 1. Excavation and recompaction of the pad/subgrade in preparation for concrete foundation components.

2. Install perimeter and footing concrete and rebar in compliance with "Specifications for Structural Concrete for Buildings" ACI 301, Latest Edition. Included in this phase of construction will be the installation of concrete sumps (exclusive of pumps). These will be installed per the designing engineer's specifications and will incorporate high density polyethylene (HDPE) attachment points to allow for the later installation of an HDPE liner under the foundation.
3. Install an HDPE liner on the compacted subgrade and attach to the perimeter and footing connection points. The liner will then be covered with a graded fill material and compacted.
4. The primary slab and rebar support system will be installed next at varying thicknesses depending upon the area of use. For instance, vehicle traffic areas versus tank locations versus walkways. Also included in this step is the proper sloping of the slab to ensure drainage to the drain valleys and sumps.
5. As the primary slab is sloped to allow for proper drainage, level foundations will also be installed for tanks and equipment to rest on. These will be rebar pinned and epoxied to the existing foundation to insure the appropriate support for each mechanical installation.
6. Finally, the concrete truck aprons with rebar support will be installed outside the building to allow for clean entrance points into the facility.
7. No further foundation work is requested for the Plant under this Exemption.

B. Plant Building:

1. Once the perimeter beams and foundation have properly cured (structural shall have a 28 day minimum cure), the installation of the plant building can begin.
2. The general building description is a pre-engineered steel building 160' x 260' inside dimension x 22' outside wall height metal building, as well as interior column supports.
3. The proposed building will include the following: insulated exterior walls, insulated roof, electrical (non process related), lighting, fire detection, guttering, downspouts, interior partitions, interior paneling, ceiling, doors, windows, overhead doors, anchor bolts, fasteners, canopies, etc.
4. Within the building, there are two primary areas proposed for construction activities: offices and process. Both are enclosed in the insulated metal shell of the steel building.
 - a. Offices:
 - i. The offices are physically separated from the process area (while still within the main building shell) and will consist of two floors.
 - ii. The construction will be typical to that of most offices with either wood or metal framing with sheetrock covering.
 - iii. Office construction will include a central air conditioning system for the interior office area complete with central cooling unit, thermostats, duct work, air registers and other accessories required for installation.
 - iv. Offices will also include heating and ventilation systems complete with heating unit, thermostat, insulation, fans, duct work, and other accessories required for installation.
 - v. All additional electrical, lighting, phone, plumbing, data, and HVAC not detailed above will be incorporated into the construction.
 - b. Plant:
 - i. Construction in the plant portion of the main building will be limited to the installation of the dividing walls between the functional areas of the plant.

These walls will be metal framed and skinned with steel siding similar to that used on the outside of the building. In particular, the dividing walls will separate the offices, chemical storage, precipitation, ion exchange/elution, restoration, and future drying operations.

- ii. No process electrical, piping, instrumentation, tank or equipment installations are proposed for this exemption request.
5. No further building installation is requested for the Plant under this exemption.

MAINTENANCE BUILDING

A. Foundation:

1. Excavation and recompaction of the pad/subgrade in preparation for concrete foundation components.
2. Install perimeter and footing concrete and rebar in compliance with "Specifications for Structural Concrete for Buildings" ACI 301, Latest Edition. Included in this phase of construction will be the installation of concrete sumps (exclusive of pumps). These will be installed per the designing engineer's specifications. The purpose for these sumps is primarily to catch snow and ice melt during the winter months when vehicles and equipment are brought inside.
3. The primary slab and rebar support system will be installed next. Included in this step is the proper sloping of the slab to insure drainage to the sumps.
4. Finally, the concrete vehicle aprons with rebar support will be installed outside the building to allow for clean entrance points into the building.
5. No further foundation work is requested for the Maintenance Building under this Exemption.

B. Maintenance Building:

1. Once the perimeter beams and foundation have properly cured (structural shall have a 28 day minimum cure), the installation of the plant building can begin.
2. The general building description is a pre-engineered steel building 55' x 135' inside dimension x 15' outside wall height metal building.
3. The proposed building will include the following: insulated exterior walls, insulated roof, electrical, fire detection and suppression, guttering, downspouts, power roof vents, interior partitions, interior paneling, ceiling, doors, windows, overhead doors, anchor bolts, fasteners, canopies, etc.
4. Central air conditioning system for the office areas complete with central cooling unit, thermostats, duct work, air registers and other accessories required for installation. Intake air source shall be exterior to the metal building and interior office area i.e. outdoor air.
5. Heating and ventilation systems complete with heating unit, thermostat, insulation, fans, duct work, and other accessories required for installation.
6. All additional electrical, lighting, phone, data, and HVAC not detailed above will be incorporated into the construction as well as bathrooms.
7. No further building installation is requested for the Maintenance Building under this Exemption.

5.3 Install Household Septic Systems for the Plant and Maintenance Buildings

The proposed Plant and Maintenance buildings will each require septic systems. The tank locations as well as the leach fields are as indicated on the Figure EX-1, one near the shop and one located southwest of the plant. The septic tank shall consist of one or more chambers providing primary treatment. All wastewater treatment systems will provide at least primary treatment prior to disposal in the absorption system. All residential strength wastewater will be discharged into a septic tank. Roof, footing, garage and surface water drainage water will be excluded. No process fluids of any type will be allowed or piped into the septic system.

Both septic systems have been designed according to data obtained during percolation tests from the site and applications have been submitted to Sweetwater County for consideration. The work will take approximately 2 weeks to complete.

5.4 Install Fence Around the Plant and Maintenance Building Area

The proposed fence will enclose the plant and maintenance building compound and will measure approximately 750' x 850' (as shown in Fig. EX-1). The purpose of the fence is to restrict vehicular and livestock access as well as minimize access to larger regional wildlife. It will take approximately 1 week to complete this work.

There are three (3) components to the fence:

- A. **Gates:** Two (2) gates will be included in the fence around the Plant. The first is a remotely operated gate that can be opened from the office/plant or externally by pass code or remote opener. The gate is planned to have audio and video to the internal operator to limit access as required. This gate will be located on the main access road to the plant and is the normal access point. The second will be an alternate access point in the event the normal access is not available. It will be located in the northwest corner of the compound and will be either a sheep-fence gap or aluminum rail gate.
- B. **Chain Link Fence:** Immediately to the east and west of the main gate will be approximately 100' of 8' high chain link fence to reinforce that the access is through the main road gate.
- C. **Livestock Fence:** The remaining fence for the Plant compound will be standard livestock fence per BLM specifications. The purpose for this fencing is to stop access to the area for vehicular traffic as well as livestock and most of the regional large game.

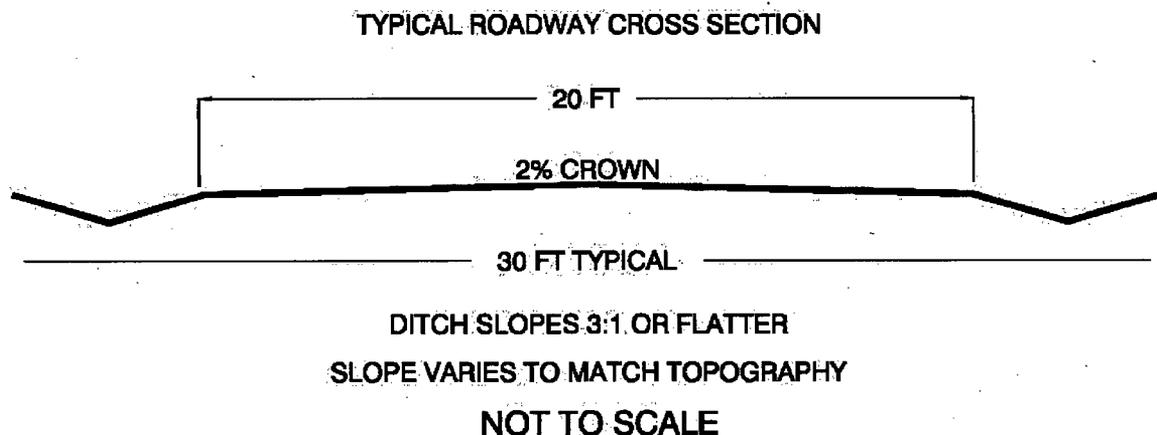
5.5 Upgrade Existing Road Access from the West to the Plant

The project area has two potential access routes; from the east and from the west. The current access from the west is a two-track road that connects the project to the Wamsutter-Crooks Gap Road and eventually the interstate system. The proposed road (see Fig. EX-2) is critical for the construction exemption as it will likely be the main access point for all heavy truck traffic associated with construction and operations. The Wamsutter-Crooks Gap Road is a moderate traffic gravel road that is well maintained and connects to Interstate 80. The proposed upgrade of the site road will cover approximately 4.6 miles and will allow access to the Plant Gate, Drill Shed and Staging Area.

The 2-track roads used to access the site from the west will be upgraded to allow year-round access to the project both during construction and operation. As the Lost Creek Project is on BLM property, as is the extension of access roads to the main Wamsutter-Crooks Gap Road, it will be upgraded to BLM Road Standards as detailed in the BLM Manual, Section 9113. Particularly, the main western access 2-track road will be upgraded to the BLM Functional Classification of "Local" for "Level and Rolling" terrain. This design standard has a minimum travel way width of 20 feet (see drawing below) and a maximum grade of 10%. The preferred design speed for this specification is 40 miles per hour. In addition, the upgrades will adhere to the 2009 International Fire Code accessibility restrictions as required by Sweetwater County, Wyoming. The work is expected to take 1 month to complete.

Improvements will be in the following order:

- A. Strip the topsoil from the road and borrow area and stockpile according to site standards;
- B. Grade and install culverts per BLM standards as specified by licensed design engineer;
- C. Construct final road using 6" compacted road base on the 20 feet wide travel section;
- D. Install BLM approved cattleguards where roads cross existing or proposed fences;
- E. Install delineator posts, signage and reseed as necessary.



5.6 Upgrade Existing Road Access from the East to the Plant

The current project access from the east is a two-track road that connects the project to the BLM Road 3215, more commonly referred to as the Sooner Road, and access routes to Bairoil, Wyoming and Rawlins, Wyoming. The proposed road (see Fig. EX-2) is the preferred route to the site from Casper, Wyoming which is the home base for LCI's Wyoming operations. The proposed upgrade will cover approximately 4.8 miles and will allow access to the Plant Gate, Drill Shed and Staging Area.

The 2-track roads used to access the site from the east will be upgraded to allow year-round access to the project both during construction and operation. As the Lost Creek Project is on BLM property (with a minor portion on a State School section) as is the extension of access roads to the Sooner Road, it will be upgraded to BLM Road Standards as detailed in the BLM Manual, Section 9113. Particularly, the eastern access 2-track road will be upgraded to the BLM Functional Classification of "Local" for "Level and Rolling" terrain. This design standard has a

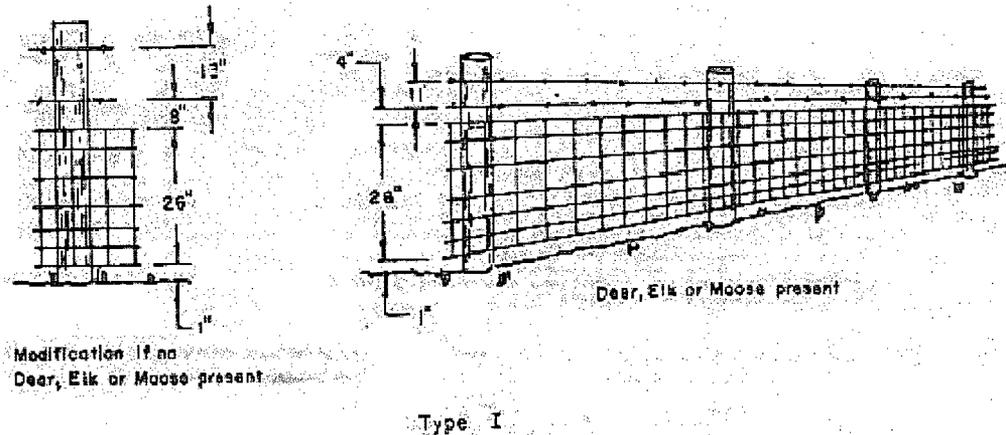
minimum travel way width of 20 feet (see drawing above) and a maximum grade of 10%. The preferred design speed for this specification is 40 miles per hour. In addition, the upgrades will adhere to the 2009 International Fire Code accessibility restrictions as required by Sweetwater County, Wyoming. The work is expected to take approximately 1 month to complete.

Improvements will be in the following order:

- A. Strip the topsoil from the road and borrow area and stockpile according to site standards;
- B. Grade and install culverts per BLM standards as specified by licensed design engineer;
- C. Construct final road using 6" compacted road base on the 20 feet wide travel section;
- D. Install BLM approved cattleguards where roads cross existing or proposed fences;
- E. Install delineator posts, signage and reseed as necessary.

5.7 Install Fence for Early Wellfield Area

The proposed fence will include the first production unit and will enclose approximately 95 acres (as shown in Fig. EX-2). The purpose of the fence is to restrict vehicular traffic, restrict livestock access, and minimize access to larger regional wildlife. Activities to occur in the fenced area will be drilling, construction and operational activities. The proposed fence will consist of woven wire and 2 strands of barbed wire as shown in the figure below. Access points to the area will be in the form of BLM approved cattle guards, flexible wire "gaps" compatible with the fence construction or rail gates. The work is expected to take approximately 2 weeks.



5.8 Install Power Line to the Plant and Maintenance Buildings and Driller's Shed

The proposed powerline construction (Fig. EX-2) will include a metering point at the existing Rocky Mountain Power line on the western edge of the permit boundary, 10,800' of overhead power and end use points at the Plant, Maintenance Building and the Drill Shed. Installation of the powerline will allow for construction of the above mentioned areas without the use of portable power units.

The powerline will be rated for 34,500 volts (same as the feed) and construction will be consistent with all local requirements for raptor protection as well as protection of other local species of interest. The line will run parallel to the proposed western access to allow for easy maintenance as well as routine surveillance. At each of the service points, the voltage will be

transformed to 480 volts or less for ease of use. It will take approximately 6 weeks to install the power lines.

5.9 Drill and Case up to Four Deep Wells

One of the long lead time items required for operation at the site is the deep disposal wells. LCI has submitted an application to the WDEQ for a series (5) of Class I Disposal Wells. Prior to submittal of the disposal application, a test well was drilled in the southwest corner of the project area and water quality as well as formation characteristics were obtained from the proposed injection interval. The well was cased, cemented and sealed off for completion at a later date.

The Construction Exemption requests the drilling, casing and cementing of the remaining 4 wells. Locations are shown in Figure EX-2 and a proposed installation diagram is shown in Figure EX-3. The proposal includes only the installation of the well, but not the completion. Detailed steps for each well are as follows:

- A. Strip topsoil and stockpile from approximately 3 acres and level. Excavate and line reserve pits;
- B. Drill and set 16" steel conductor pipe to approximately 100' depth and 60" galvanized steel cellar to approximately 5' depth;
- C. Drill 12 1/4" surface hole to 2,000'. Run 8 5/8" steel casing to bottom and cement to surface;
- D. Drill 7 7/8" hole to approximately 8,400' and run geophysical logs;
- E. Run a cement bond log on surface casing to determine quality of cement;
- F. Run 5 1/2" casing to bottom and cement to surface. Release drilling rig;
- G. Install wellhead and shut in well until ready to complete and install injection assembly; and
- H. Reclaim reserve pits and drill pad.

It is important to note that the proposed exemption does not allow for the installation of any of the assemblies or materials that will allow the injection of waste material. Nor does the request allow for installation of injection perforations into the zone of interest. The request is only for the secondary and tertiary conduits that will allow the later installation of injection assemblies. The wells will be drilled over approximately 4 months. Data collected during well installation will verify waste water disposal capacity for the project without significant impact.

5.10 Construct a Driller's Shed and Staging Area

The Driller's Shed and Staging Area proposed for construction are shown in Fig. EX-1. Construction of the building and associated fenced area will allow for an on-site workshop, a place to store and control equipment and tools as well as a place to control material inventories. The building dimensions are 40' x 40' with 14' walls and the staging area is approximately 1.2 acres. This work will require approximately 1 month to complete. Construction is planned in the following manner:

DRILLER'S SHED

- A. The removal of topsoil (approximately one foot deep) over the proposed area. The topsoil will be stockpiled east of the area per BLM and WDEQ specifications. This includes installation of a toe-ditch, fencing, appropriate signage and revegetation.

- B. As the existing contours at the site indicate (Fig. EX-1), the area of interest is generally flat to rolling topography. All suitable material removed from the excavations shall be used, in so far as is practicable, in the leveling of the site.
- C. Footers for the pole barn will be excavated and concrete pads poured in each excavation.
- D. Once the footers have properly cured, the installation of the plant building can begin.
- E. The general building description is a pole barn with steel siding 40' x 40' inside dimension x 14' outside wall height. Framing will utilize standard dimensional lumber.
- F. The proposed building will include the following: insulated exterior walls, insulated roof, electrical, doors, windows, overhead doors, etc. No ventilation systems are planned for the structure.
- G. Electrical outlets and lighting will be included in the construction to allow for building functionality.
- H. The current floor plan is for gravel but may be upgraded to concrete after licensure.

STAGING AREA

- A. The removal of topsoil (approximately one foot deep) over the proposed area. The topsoil will be stockpiled east of the area per BLM and WDEQ specifications. This includes installation of a toe-ditch, fencing, appropriate signage and revegetation.
- B. As the existing contours at the site indicate (Fig. EX-1), the area of interest is generally flat to rolling topography. All suitable material removed from the excavations shall be used, in so far as is practicable, in the leveling of the site.
- C. Surfacing for the area will be gravel of approximately 3 inches thick.
- D. The staging area will be security fenced with 6' chain link fence to prohibit access and control inventory.

6.0 Oversight by Other State and Federal Agencies

Several regulatory agencies will be directly involved with the review and approval of pre-license construction activities at the proposed Lost Creek project, as well as the actual construction.

The BLM will require that a Plan of Operations and associated Environmental Assessment be submitted and approved before allowing any disturbance greater than five (5) acres. Part of this process entails a bond estimate to be submitted to BLM for approval. LCI is in discussions with BLM to determine a path forward. Given the significant amount of baseline data already collected it will likely only take a few weeks to a few months to write and submit the Plan of Operations and Environmental Assessment. LCI has already recommended to BLM that AATA International, Inc. be used as the third party contractor to complete the Environmental Assessment since they are already familiar with the site and its baseline characteristics. The BLM currently oversees the protection of cultural resources and will continue to do so under all future construction and operation activities.

The WDEQ-Water Quality Division (WDEQ-WQD) will have primary oversight of the drilling and casing of the deep wells through the state's UIC Program. A Class I UIC Permit Application has already been drafted and submitted to the agency for review. The WDEQ-WQD will supply EPA Region 8 with a copy of the application as a courtesy. However, since the proposed receiving horizon has a total dissolved solids concentration of greater than 10,000 mg/l an aquifer

exemption will not be required and EPA will not play a rule in the review or approval of the application.

The WDEQ-LQD will also have significant oversight of the construction activities. The permit to mine application submitted to LQD in December 2007 describes the facility as it is intended to be constructed. The pre-license construction activities described in this exemption request will not commence until the Permit to Mine is issued by LQD or unless they are approved as part of a Drill Notification or other authorization. LQD has accepted the permit to mine application as complete and has issued technical comments. LCI has already responded to many of the technical comments and plans on submitting the balance of the responses in July 2009. LCI expects the Permit to Mine to be issued by November of 2009

7.0 Financial Assurance

Financial assurance for the pre-license construction activities will be reviewed and approved by two agencies: WDEQ-LQD and BLM. WDEQ-LQD is already in the process of reviewing the bond as part of the Permit to Mine application. BLM will review the proposed bond as part of the Plan of Operations and associated Environmental Assessment. BLM will require a minimum of a 21% contingency factor on the calculated financial assurance. The WDEQ-LQD and BLM staffs already are working together to review and approve financial assurance cost estimates for pre-licensing site construction activities such as exploration drilling and installation of baseline wells. The financial assurance mechanism will be held in a financial instrument as described in Chapter 6 or 12 of LQD Rules and Regulations.

During operations, when the bond calculation must consider disposal or other disposition of contaminated items, it is critical that NRC, as the technical experts in this matter, also review the bond estimate. However, during pre-license construction there will be no licensed material to deal with. Therefore, both WDEQ-LQD and BLM are qualified to consider the various aspects of the bond calculation. By accepting the financial assurance mechanisms approved by agencies such as WDEQ-LQD and BLM, NRC Staff will be acting in accordance with 10 CFR Part 40, Appendix A, Criterion 9 which states:

“In order to avoid unnecessary duplication and expense, the Commission may accept financial sureties that have been consolidated with financial or surety arrangements established to meet requirements of other Federal or state agencies and/or local governing bodies for such decommissioning, decontamination, reclamation, and long-term site surveillance and control, provided such arrangements are considered adequate to satisfy these requirements and that the portion of the surety which covers the decommissioning and reclamation of the mill, mill tailings site and associated areas, and the long-term funding charge is clearly identified and committed for use in accomplishing these activities.”

8.0 Conclusion

In conclusion, approval of this exemption request will allow LCI to expedite the construction of the facilities described herein while remaining highly protective of the environment. The resulting flexibility in construction scheduling will make it easier to comply with sage grouse lek stipulations and may minimize the need to expose construction workers to harsh winter conditions. The findings of the GEIS support the conclusions of this request by indicating that the proposed construction activities generally have Small environmental impacts. None of the site specific issues discussed in the GEIS which may cause a ranking greater than Small are present at the Lost Creek site. Both the WDEQ and BLM will have regulatory oversight of the proposed activities and both agencies have regulations and staff in place to support their mandates to protect the environment. Further, the activities presented in this exemption request do not endanger the public and will promote the common defense and security of the nation by promoting a clean, reliable source of domestic energy.

In order to realize the full benefits of a pre-license construction exemption, LCI respectfully requests that the NRC perform a judicious but timely review of this application.

**THIS PAGE IS AN
OVERSIZED DRAWING OR
FIGURE,
THAT CAN BE VIEWED
AT THE RECORD TITLED:
FIGURE EX-1
“Plant and Shop Layout,
Lost Creek Permit Area.”
Dwg No. NRC EX 1.0 FIG EX-1
6.26.09 SNH**

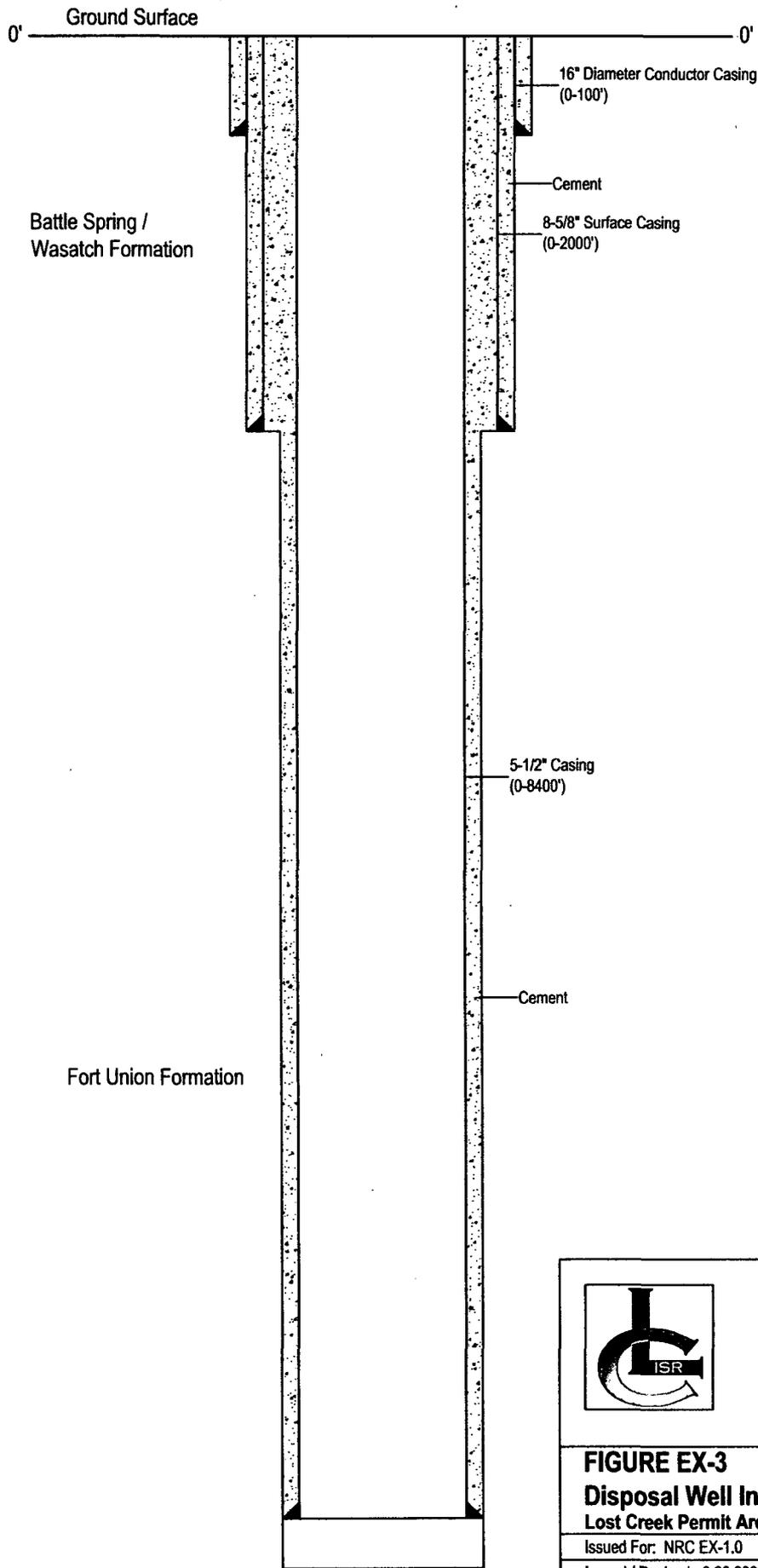
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D-01

**THIS PAGE IS AN
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FIGURE,
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RECORD TITLED:
FIGURE EX-2
“Project Layout,
Lost Creek Permit Area.”
Dwg No. NRC EX 1.0 FIG EX-2
6.26.09 SMH**

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D-02X



Battle Spring /
Wasatch Formation

Fort Union Formation

16" Diameter Conductor Casing
(0-100')

Cement

8-5/8" Surface Casing
(0-2000')

5-1/2" Casing
(0-8400')

Cement

0' Ground Surface

0'

TD = 8400'



Lost Creek ISR, LLC
Littleton, Colorado USA

FIGURE EX-3
Disposal Well Installation Diagram
Lost Creek Permit Area

Issued For: NRC EX-1.0

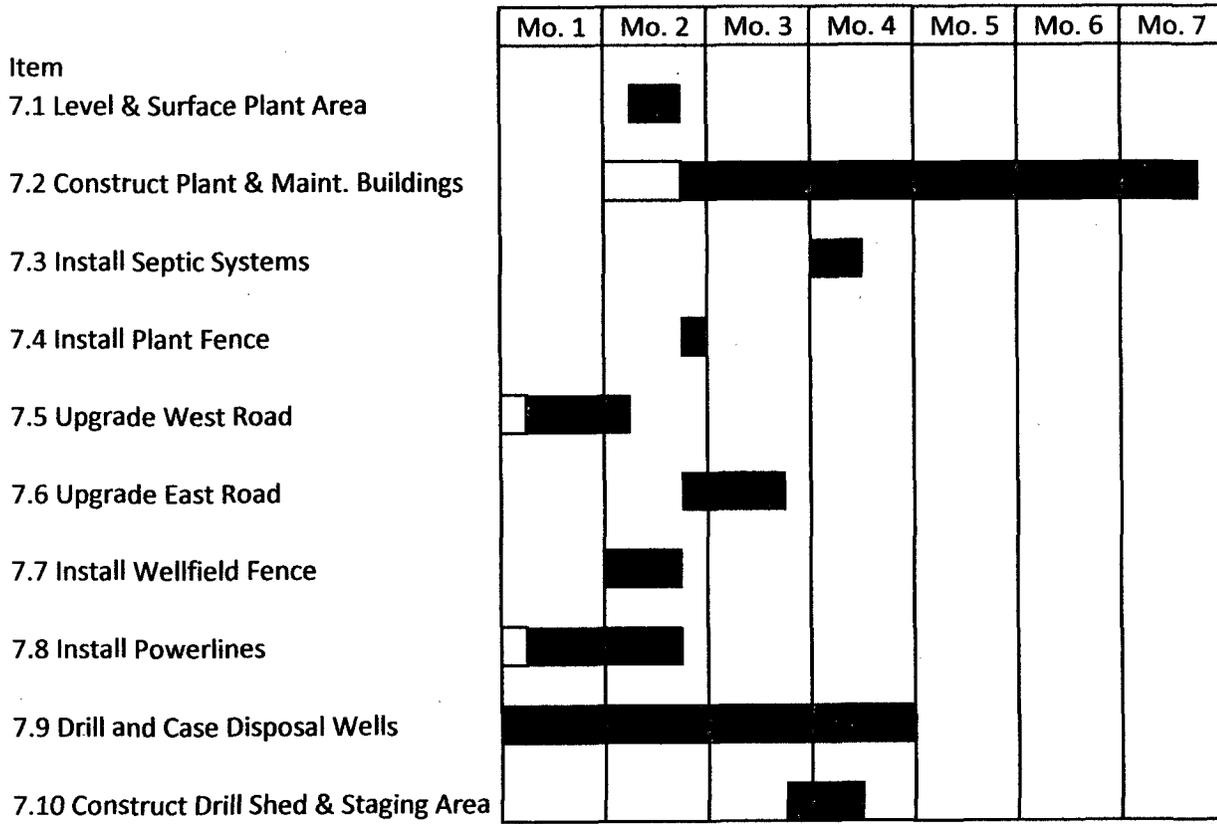
Drawn By: SMH

Issued / Revised: 6.26.2009

Dwg No. NRC EX 1.0 FIG EX-3 6.26.2009 SMH

Not To Scale

**FIGURE EX-4
PRECONSTRUCTION EXEMPTION REQUEST**



Work will commence as soon as possible after approval date
Empty boxes denote mobilization time