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November 7, 2008

SENT VIA U.S. & ELETCRONIC MAIL
Mr. Dale Klein, Chairman
Nuclear Regulatory Commission
Chief, Rulemaking, Directives, and Editing Branch
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Re: Draft Generic Environmental Impact Statement for In-Situ Leach Uranium Milling Facilities

Dear Mr. Klein:

The Center for Biological Diversity ("Center") respectfully submits these comments on the Nuclear Regulatory Commission's Generic Environmental Impact Statement for In-Situ Leach Uranium Milling Facilities ("GEIS"). According to NRC, the GEIS is designed to "efficiently" accommodate and streamline environmental review for the licensing of an estimated 20 new mining facilities that will incorporate methods of in situ leaching ("ISL") technology. *See* GEIS at xxxiii, 1-4. NRC has determined, "based on discussions [with] uranium mining companies," *id*., that applications for these facilities "would be submitted over a relatively short period of time, *id*. at 5-4 (Table 5-2-1), giving rise to the need (in NRC's view) for a more "efficient" method of environmental review than the traditional and wholly individualized site-specific environmental impacts analysis that has been the usual method of NRC's uranium mine licensing procedures.[1]

As explained below, the proposed action would improperly elevate the objective of efficiently processing of ISL mine license applications above what should be the equally if not more important objectives of the agency when considering such applications—*e.g.*, to protect the health and safety of the public—as such licenses involve highly hazardous materials that are uniquely "affected with the public interest." *See* Atomic Energy Act ("AEA"), 40 U.S.C. § 2012(e); *id*. at§ 2012(d) ("[t]he processing and utilization of source, byproduct, and special nuclear material must be regulated in the national interest and in order to provide for the common defense and security and to protect the health and safety of the public"); *id*. at § 2014 (NRC must regulate byproduct materials so as to "protect the public health, safety, and the environment"); 42 U.S.C. § 5801(a) (NRC must advance the goals of "restoring, protecting, and enhancing environmental quality, and to assure public health and safety"); Uranium Mill Tailings Radiation Control Act ("UMTRCA"), 42 U.S.C. § 7901(b)(2) (NRC must "regulate mill

[1] NRC uses the term "generic" instead of "programmatic," but all of the legal requirements that attach to a "programmatic" environmental impact statement apply equally to a "generic" environmental impact statement.

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tailings during uranium or thorium ore processing at active mill operations and after termination of such operations in order to stabilize and control such tailings in a safe and environmentally sound manner and to minimize or eliminate radiation health hazards to the public."). Elevating efficiency over protection is not only fundamentally inconsistent with NRC's equally important priority of protection under the AEA, UMTRCA, but because NRC fails to analyze this fact in the draft GEIS, it also constitutes a NEPA violation as well. *See* 40 C.F.R. §1508.27(10) (preparing agency must evaluate "[w]hether the action threatens a violation of Federal, State, or local law or requirements imposed for the protection of the environment").

This flaws permeates NRC's responsibilities under NEPA to consider the environmental consequences of expediting ISL license applications. For instance, because of NRC's undue focus on efficiency, the stated purpose and need for the GEIS is unreasonable and ill-defined, and the draft GEIS fails to formulate any reasonable policy alternatives for evaluating ISL license applications rather than an accelerated ISL licensing regime. Also, the draft GEIS glosses over important aspects of the impacts to critical national environmental resources that will result from scores of new ISL mining facilities being brought online over "a short period of time," both collectively across as well as beyond the several prescribed mining districts.

Moreover, as explained below, NEPA requires that where agencies develop new environmental review regimes such as the licensing process, they must examine the effects of their new policy at a broad and appropriately comprehensive national and ecological level, identify and consider the reasonable alternatives to that policy, and present the relative impacts of all reasonable alternatives to the public, but NRC has unlawfully attempted to defer and cabin significant aspects of these requisite programmatic analyses to the context of future individual licenses, avoiding their meaningful discussion in the GEIS. At a basic level, these omissions conveniently avoid presenting the new regime's potential environmental costs in their appropriate aggregate context and are especially improper in light of NRC's special statutory duty to "advance the goals of restoring, protecting, and enhancing environmental quality, and to assure public health and safety." See, e.g., 42 U.S.C. § 5801(a).

Discussion

I. The draft GEIS's stated purpose and need is unreasonable and inadequately defined, in violation of NEPA.

The starting point for an environmental impact analysis under NEPA is the agency's statement of purpose and need. *See* 40 C.F.R. §§ 1502.10(d), 1502.13 (agency must prepare a statement that identifies the "underlying purpose and need to which the agency is responding in proposing the alternatives including the proposed action"). The stated goal of a project "necessarily dictates the range of 'reasonable' alternatives" that an agency must consider in the course of its NEPA review. *City of Carmel-By-The-Sea v. Dept. of Transportation.,* 123 F.3d 1142, 1155 (9th Cir. 1997). While agencies have discretion to identify policy priorities and areas requiring agency attention, that discretion has been limited by the courts, and statements of purpose and need must be reasonable within the context of the actual project or policy proposed. *Northwest Ecosystem Alliance v. Rey*, 380 F. Supp. 2d 1175, 1185 (W.D. Wash. 2005). Courts have been particularly

wary of narrowly- or ill-defined statements of purpose and needs that by their nature and construction avoid meaningful discussion of reasonable alternatives to the preferred action as required by NEPA. *See*, *e.g.*, *Citizens Against Burlington, Inc. v. Busey,* 938 F.2d 190, 196 (D.C. Cir. 1991) ("an agency may not define the objectives of its action in terms so unreasonably narrow that only one alternative from among the environmentally benign ones in the agency's power would accomplish the goals of the agency's action, and the EIS would become a foreordained formality").

Here, expecting many applications for ISL licenses over a "short period of time," NRC stated a purpose and need of fostering "an efficient and consistent approach to reviewing" them. *See* Draft GEIS at xxxiii (stating that the GEIS "does not address the purpose and need of the primary Federal action of issuing licenses for ISL facilities" and that "it is not appropriate for NRC to determine in the Draft GEIS the purpose and need for individual ISL applications"; the "purpose and need for each ISL application will be addressed in the site-specific environmental review that NRC will conduct"). Yet, by defining the purported need for efficiency and consistency across all such applications—which may involve uniquely different and varied consequences to the public health and safety and environment—NRC takes an "unreasonably narrow" approach that foreordains the chosen outcome before any analysis at the programmatic level has even begun. This is a violation of NEPA.[2]

In addition, NRC fails to provide any justification whatsoever for an approach valuing efficiency and consistency—as opposed to protection—in responding to an expected up-tick in the number of ISL license applications, and indeed, defers any consideration of this important question to the site-specific level. *See*, *e.g.*, GEIS at 1-4 This is a prime example of the sort of self-justifying substance avoidance foreseen by the court in *Ilio'ulaokalani*, wherein an agency utilizes the vehicle of a programmatic EIS to defer justifying and analyzing the underlying activity or policy to the context of a future site-specific action, at which time the need for substantive programmatic analysis will have been purportedly and conveniently satisfied by the preexistence of the GEIS; a document that just happens to be substantively void of critical NEPA analyses and elaboration.

Thus, nowhere does the agency identify the need, purpose, value or relevance of the fundamental underlying activity being "efficiently" fostered by NRC; namely, a dramatic increase in the amount of ISL uranium mining overseen the consequences of which must be borne by Western

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[2] Indeed, in matters involving programmatic agency action to which future site-specific activities will tier, such as here, it is particularly important that an agency prepare an adequate NEPA analysis at the programmatic stage. As the Ninth Circuit has observed, "[a]n agency c[annot] avoid consideration of reasonable alternatives by making a binding site-specific decision at the programmatic stage without analysis, deferring consideration of site-specific issues to SEIS." *Ilio'ulaokalani Coalition v. Rumsfeld,* 464 F.3d 108, 111-12 (9th Cir. 2006). If it did, "[t]hen at the SEIS stage, the agency simply could point back to the analysis-free decision at the programmatic stage . . . and find that the scope of its site-specific analysis is constrained by the PEIS." *Id*. In such a scenario, "[t]he SEIS would merely operate to justify a decision made analysis-free at a previous stage." *Id.*

ecosystems. Nor does NRC explain why an increase in efficiency is needed, what is inefficient about the status quo regime or what if any costs will be fostered by the new regime." *Friends of Yosemite Valley v. Norton,* 348 F.3d 789, 800 (9th Cir. 2003). The fact that the GEIS is designed to precipitate the regulatory device of tiering does not allow the agency to avoid discussion of why there is a purported need to efficiently accommodate the activity at issue in the first place. On the contrary, the formulation of new policy necessitates a full-bodied discussion of the policy's need—at the programmatic level itself—that evinces "sufficient detail to foster informed decision-making." *Id.*

It may be axiomatic that NEPA's environmental review requirements are not outcome determinative per se, but NEPA does require that NRC cogently and forthrightly explain itself in its statement of purpose and needs; a task the GEIS has unreservedly failed to achieve.

II. The GEIS's disclosure and analysis of the environmental consequences of streamlined processing of ISL mining licenses is fatally inadequate under NEPA.

The draft GEIS's disclosure and analysis of the environmental consequences of streamlined ISL mining licensing fails on several levels. First, the draft GEIS fails to consider the cumulative, aggregate environmental impacts of the new policy as well as the underlying activity it sanctions. Second, the draft GEIS fails to consider the indirect impacts of the accelerated licensing of ISL facilities in conjunction with the past, present, and future federal actions and preexisting physical conditions that will impact ecosystems in common.

A. The spatial bounds of the impacts analysis fails to consider the ecological impacts that may result beyond the four milling regions identified.

In the draft GEIS, NRC fails to adequately consider the indirect or cumulative impacts of expediting licenses for the ISL mining facilities over "a short period of time" in the aggregate, beyond and between the four "districts" described in the GEIS. These four separate but proximate regions are derived largely from where industry has informed NRC that it would like to ramp up ISL mining activities. GEIS at 3-1-1. Even assuming that the direct impacts analysis within the borders of these artificial confines is adequate, the analysis nevertheless improperly and abruptly ends at the straight, black lines placed on a map by industrial representatives. The ecological interests between these regions' borders and immediately outside them do not adhere to the requirements of NEPA and the CEQ regulations.

Ecological communities and watersheds do not obey the convenient edges of management "districts." Hundreds of species of migratory animals, waterways and geological systems permeate and transcend the areas that will be subjected to increased mining activities. These environmental interests will quickly pass over, through and beyond the confines described in the draft GEIS, carrying with them the aggregate harmful effects of intensified mining. Many of these creatures and ecological communities, by the draft GEIS' admission, are endangered, and in some instances critically so. The failure to acknowledge and address the cumulative impacts that will follow these biological and physical continuities, beyond the contrived boundaries of planning documents, potentially wreaking havoc on endangered flora and fauna of national

concern, is a fatal defect. That a future licensed ISL facility may adversely impact a particular population of endangered species within an ISL management district says nothing with regard to the collective effects upon an entire species that may be present across and beyond all districts, once 20 new ISL facilities are licensed. By chopping up the impacts analysis in this piecemeal fashion, NRC avoids the critical holistic component of NEPA.[3]

NEPA forecloses the kind of unduly narrow impacts analysis that is contained in the draft GEIS. The Ninth Circuit has made clear that NEPA requires a federal agency to "consider *every significant aspect* of the environmental impact of a proposed action" and "inform the public that it has indeed considered environmental concerns in its decision making process." *Earth Island Inst. v. U.S. Forest Serv.,* 351 F.3d 1291, 1300 (9th Cir. 2003) (emphasis added). These requirements simply cannot be satisfied by considering impacts at a single site or within a single district, when they will extend beyond the district's borders, impacting entire ecosystems and ecological functions. The impacts analysis of a new program like the GEIS must reflect the collective impacts of *all* its future applications, across the board on a scale commensurate with the scope of the new program. See *LaFlamme v. Fed. Energy Regulatory Comm.* 852 F.2d 389, 401-02 (9th Cir. 1988) (agency's impacts analysis insufficient "where the agency had examined single projects in isolation" but where several foreseeable "similar projects in a geographical region … added to the cumulative impacts" and were ignored by the agency).

Fundamentally, the spatial context of a analysis of environmental consequences must be a product of ecological reality. If activities fostered by a policy may impact land utilized by wildlife, impacts to populations, subspecies, and even whole species must be considered, wherever appropriate. If activities will reduce the amount of safe, available water available to far-reaching aquatic systems, those impacts must be considered and described through the natural contours and diffusions of water and terrain. *See* Charles H. Eccleston, *NEPA and Environmental Planning* (2008) at 242 ("For a [cumulative impacts analysis], the geographic bounds typically have to be expanded beyond that which is deemed sufficient for evaluating either the direct or indirect effects. A cumulative boundary may involve considering an entire human community, groundwater system, air shed, water shed, ecosystem or basin."). The necessity for this broad scope of analysis is because "the capability to consider seriously any realistic alternatives for mitigating the cumulative impacts of numerous… actions tends to improve with a corresponding increase in the programmatic scope at which the planning analysis is performed." *Id*. at 222.

Applying these principles here, both the greater tall and shortgrass prairie ecosystems along with the whole of the North Platte, Yellowstone, and Powder River systems may be impacted by the activities contemplated by the GEIS—yet, NRC's analysis is confined only to a few piecemeal and contrived "districts" within the greater eco-regions. This is grossly insufficient under NEPA. Time again courts have held that agencies must consider cumulative impacts holistically,

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[3] For example, the fact that several of the regions subject to the GEIS within Wyoming fall in close proximity to one another will intensify the impacts to common ecological interests in the broader geographic regions surrounding the districts, underscoring the need for broad-based CIA.

with an eye toward all the possible synergistic effects from implementation of the Plan as a whole. *See*, *e.g.*, *Blue Mountains Biodiversity Project v. Blackwood,* 161 F.3d 1208 (9th Cir. 1998). NRC has failed to satisfy this requirement here.

B. <u>The GEIS fails to consider the aggregate indirect effects of the new policy in conjunction with past, present, and future federal and industrial actions ongoing in the ecosystems affected by the draft GEIS.</u>

The draft GEIS also fails to consider the proposed ISL facilities' impacts on ecological resources that are brought to bear in conjunction with past, present, future, and reasonably foreseeable activities impacting common resources, beyond the four districts. The federal NEPA regulations are clear that cumulative impacts to the environment that an agency must address include those that "result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions . . .." 40 C.F.R. § 1508.7. Impacts may result from "individually minor but collectively significant actions taking place over a period of time." *Id*. Given that the collective pressures placed upon aquatic or terrestrial ecosystems from coal, uranium, natural gas, and oil development will be augmented by the activities contemplated in the GEIS, NRC has a legal obligation to say as much, regardless of whether those potential impacts fall within the designated zones of administration.

NRC does acknowledge that dozens of coal mining, oil and gas facilities, and existing uranium mining may have cumulative—and indeed, negative—environmental impacts in accumulation with new ISL facilities, but only in the narrow context of the four administrative districts. For example, the draft GEIS acknowledges that "[o]il and gas production facilities, coal mines and coal bed methane (CBM) facilities have been, and continue to be, developed throughout the federal and private rangeland of the Powder River basin." GEIS at 3.3-4. Indeed, in the Powder Basin alone, 84 million metric tons of coal were extracted from the Black Thunder Coal Mine in 2006, http://en.wikipedia.org/wiki/Powder_River_Basin. and it is just one of the dozens of industrial energy developments that are already impacting the same ecological communities that will bear the brunt of activities contemplated by the GEIS. Despite this, the draft GEIS never considers the synergistic, aggregate consequences of adding up to 20 new ISL facilities to an already-hammered landscape.

In addition, ecosystems that will be affected by the contemplated ISL mining are also already experiencing the dramatic effects of climactic volatility, typically manifesting as increased aridity in the Rocky Mountain West. *See*, *e.g.*, Barnett (2008). In June of this year, at a climate change symposium hosted by the Wyoming Department of Game and Fish, scientists for the U.S. Forest Service described all of the following as climactic conditions reducing the amount of water available to western aquatic systems and species: earlier snowmelt, more winter rains and floods, reduced summer flows, increased evaporation, decreased soil moisture, recession of glaciers, longer dry season, etc. *See* Hayes (2008). Given the accelerating impacts of climate change, the GEIS must disclose and consider the cumulative impacts of ISL licensing against the backdrop of the region's growing aridity. Any lawful inquiry into cumulative affects must at least acknowledge and report these realities and their potential interaction with the additional extractive activities that will accrue as a result of the increased ISL activities.

As an additional example, and to highlight the importance and relevance of such analyses, the Center would remind the NRC of its own observation that the Eastern Wyoming ISL district alone contains the following tributaries: Middle North Platte-Casper, Lightning Creek, Dry Fork of the Cheyenne River, Antelope Creek, Salt Creek, Upper Cheyenne River, Upper Belle Fourche and Upper Powder River. The Lightning Creek, Antelope Creek, Dry Fork of the Cheyenne River and Upper Cheyenne River watersheds contain ephemeral and intermittent streams that flow to the Cheyenne River east of the uranium districts in the Powder River Basin." GEIS at 3.3-12. These water bodies flow out of the uranium districts and interact with broader terrestrial and aquatic ecosystems throughout the West. Analyzing impacts to stretches of stream within the borders of mining districts as if they were static does not fulfill NRC's obligation under NEPA to take a hard look at the cumulative and indirect effects of its policies.

The additional fact that an abundance of threatened species are present throughout the greater eco-regions containing the management districts further demands impacts analysis be as broad as the threats involved.

III. The draft GEIS fails to articulate sufficient alternatives to the efficient expedition of ISL mining license applications, in violation of NEPA.

NEPA places an unequivocal duty on agencies to consider multiple alternatives to a proposed activity in the scope of an environmental impact statement. Agencies have a duty to:

> Rigorously explore and objectively evaluate all reasonable alternatives and for alternatives which were eliminated from detailed study, briefly discuss the reasons for their having been eliminated. (b) Devote substantial treatment to each alternative considered in detail including the proposed action so that reviewers may evaluate their comparative merits. (c) Include reasonable alternatives not within the jurisdiction of the lead agency . . ..

40 CFR 1502.14. NRC has failed to satisfy these obligations in the draft GEIS.

A. The GEIS does not consider a "range" of alternatives as required by NEPA.

Probing and comprehensive alternatives analysis is indispensible to responsible planning and a basic tenet of NEPA. In order to discern whether the potential environmental costs of a federal action are necessary or avoidable, NEPA resolutely demands agencies present a reasonable range of alternatives to the public. This requirement is no less relevant or binding in the context of programmatic federal decisions like the GEIS. *See* Eccleston at 222 ("The capability to consider any realistic alternatives for mitigating the cumulative impacts of numerous and relatively diffuse actions tends to improve with a corresponding increase in the programmatic scope at which the planning analysis is performed."). Indeed, in a programmatic document, as the scope of the analysis grows, both the breadth and detail of alternatives analysis must grow as well. *See*, *e.g.*, *National Resources Defense Council v. Morton*, 458 F.2d 827, 834 (D.C. Cir. 1972) (the upper limit for the breadth of alternatives is especially high in the context of a coordinated plan

to deal with a broader problem, as in the case of a programmatic federal action). In such a programmatic context, the range of alternatives that must be evaluated is significantly broadened. Even if an agency does not have the authority to undertake certain alternatives it still must consider them, given that such actions fall within the purview of Congress and the president who will eventually receive the EIS. *Id.*

Indeed, the programmatic planning stage is the singular point at which agencies undertake analysis of reasonable alternatives. An EIS cannot be programmatic without undertaking an inquiry to a reasonable range of alternatives. The Ninth Circuit put it aptly when it called programmatic environmental planning level as the only level "at which the [agency] develops alternative management scenarios responsive to public concerns, analyzes the costs, benefits and consequences of each alternative in an environmental impact statement." *Ecology Ctr., Inc. v. U.S. Forest Serv.,* 192 F.3d 922, 923 FN2 (9th Cir. 1999).

NRC's programmatic alternatives analysis in the GEIS could not be more disparate from its duty under NEPA. The entire alternatives analysis is limited to a "No Action alternative" wherein "no ISL facilities would be licensed, and therefore constructed and operated, in the four uranium milling regions considered in this Draft GEIS." GEIS at . xxxiii. Thus, under the No Action alternative, "[t]he environment in these regions would not be affected by uranium extraction, although other ongoing and future non-ISL activities would continue as planned." *Id.* This is both the beginning and end of NRC's entire alternatives analysis. Not only is this alternative questionable as a true "no action" alternative (given NRC's implication that some preexisting ISL facilities would continue to operate, *see id.* at 2-51, but needless to say, a single no action alternative cannot begin to satisfy NEPA's requirement that agencies consider a reasonable range of alternatives.

Perhaps aware of this deficiency, NRC attempts to defer more meaningful discussion of alternatives to the context of individual licenses when "[t]he NRC staff will focus on the applicant's assessment of potential environmental impacts from the proposed action and the identified alternatives." *Id.* at 5-22. This may be an appropriate starting point for alternatives discussion in the context of an individual license, but it in no way corrects NRC's failure to undertake alternatives analysis at the programmatic level. As discussed in more detail below, courts have been unwilling to allow agencies to delay and defer alternatives analysis to site-specific application of the program. For instance, in *'Ilio'ulaokalani*, the Ninth Circuit invalidated the Army's programmatic alternatives analysis for improperly using tiering as a crutch to avoid and defer considering alternatives to the core policy change at issue. *See 'Ilio'ulaokalani Coalition v. Rumsfeld*, 464 F.3d 112.

B. NRC must develop and consider a range of alternatives in light of its statutory duty to protect—and enhance and restore—the environment.

A principle source of NRC's statutory authority is the Energy Reorganization Act, which sets forth the goals of "restoring, protecting, and enhancing environmental quality, and to assure public health and safety." 42 U.S.C. § 5801(a). As set forth above, similar, protective mandates are found in the AEA and UMTRCA. This protective mandate coupled with the exhaustive

requirements of NEPA, makes NRC's failure to even mention any programmatic alternatives that emphasize protection doubly offensive of NEPA. Without a programmatic basis for comparison, neither the public nor planners have any way of knowing whether or not NRC is furthering the goals of protecting the health and safety of the public and the environment by expediting ISL mine applications. At a threshold level, NEPA requires that federal programs not offend any other bodies of federal law, especially agencies' own enabling legislation. NRC has an affirmative obligation to consider an alternative less offensive to its own statutory enabling act *and* NEPA.

Conclusion

The purpose and needs offered to justify the new programmatic regime within the GEIS is unreasonably vague and inadequately defined. The alternatives explored in the GEIS are virtually non-existent. The cumulative and indirect impacts explored by the NRC are defined not by ecological or scientific reality, but by administrative convenience. These defects cannot be conveniently cured by the postponement of their consideration to the future context of an as yet unknown instance of site-specific license review. The NRC has not taken the requisite hard look into the consequences of its action required by NEPA.

Thank you for consideration. If you have any questions or inquiries please feel free to contact us.

Sincerely,

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Attachments

Barnett, T., et al. 2008. Human-Induced Changes in the Hydrology of the Western United States. Sciencexpress.

Hays, P. 2008. Water and Climate Change. Available at *gf.state.wy.us/downloads/pdf/climatechangeworkshop/Water%20and%20Climate%20Change.pdf*