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DRAFT GENERIC ENVIRONMENTAL IMPACT STATEMENT FOR IN-SITU LEACH URANIUM MILLING FACILITIES

Public Comment Meeting
Chadron, Nebraska
August 27, 2008

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United States Nuclear Regulatory Commission

Protecting People and the Environment

Keith I. McConnell, U.S. NRC

Deputy Director, Decommissioning and Uranium Recovery Licensing Directorate

Meeting Purpose

- Describe our activities to date to assess the environmental impacts of future uranium recovery operations
- Listen and gain insight on public's feedback on Draft Generic Environmental Impact Statement (GEIS)
- Second in a series of meetings for public participation

Meeting Topics

- NRC's Roles and Responsibilities – Emphasis on National Environmental Policy Act (NEPA)
- The Draft GEIS – Purpose and Approach
- NRC's Draft Findings
- GEIS Schedule
- Next Steps
- Public Comments

NRC Roles and Responsibilities

- The NRC is an independent agency
- Mission: Protect the public health and safety and the environment, and to promote common defense and security
- Has responsibility along with Agreement States for licensing commercial use of nuclear materials
- Openness and soliciting comments on our actions is one of our core values
- NRC's regulations governing the environmental review are in 10 CFR Part 51

NRC's Licensing Review Process

- License Application submitted for review
- Review conducted in two steps:
  - Acceptance Review
  - Detailed Review
- Detailed Review composed of two parts:
  - Site-specific Environmental Review
  - Site-specific Safety Review

The Environmental Review Process

- GEIS
  - Scoping
  - Draft
  - Final
- Site-specific Review

Why Are We Here Tonight?

- Continue the listening process and public dialogue
- Answer any questions about the Draft GEIS

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Alan Bjornsen, U.S. NRC
Project Manager for Generic
Environmental Impact Statement (GEIS)

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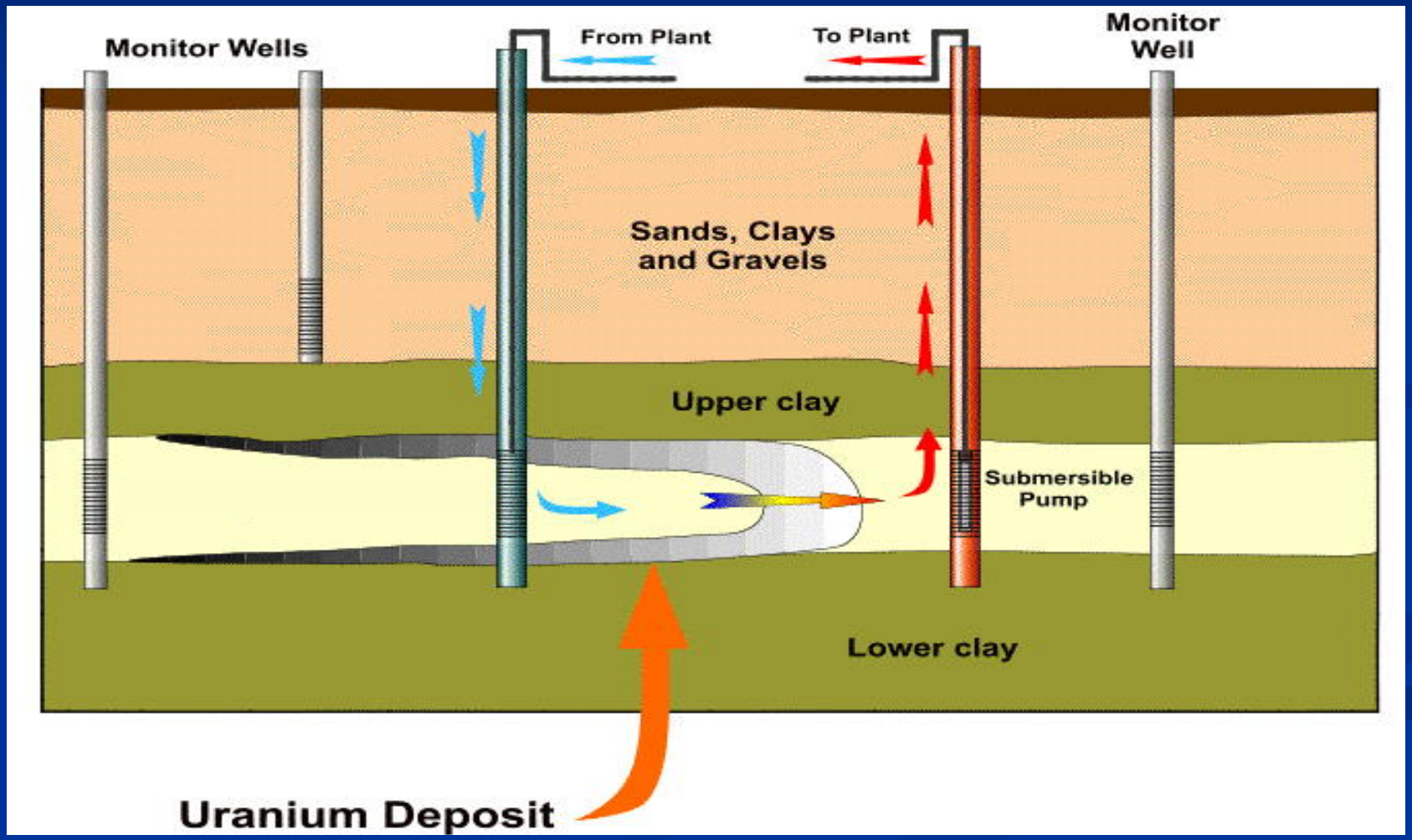
- In-Situ Leach Process
- Background on the GEIS
- Approach taken in the Draft GEIS
- Findings in the Draft GEIS
- How to submit comments

In-Situ Leach (ISL) Process

1. Distinct from conventional mining
2. Three general components:
   * Mobilize
   * Process
   * Restore

Uranium Mobilization – Well Field

Uranium Mobilization – Injection/Recovery



Uranium Processing and Restoration

NRC License for an In-Situ Leach Facility

- Construction
- Operation
- Aquifer Restoration
- Decommissioning

Other Permits & Approvals

- Aquifer exemption (EPA/State)
- Permit to operate injection wells (EPA/State)
- Waste discharge permits (including storm water) (EPA/State)
- Federal/State land use (BLM, NE/SD/WY)

Need for the GEIS

1. Volume of expected license applications
2. Thorough and consistent approach to NRC's environmental reviews

Purpose of the GEIS

- Evaluates environmental issues common to the ISL process
- Provides a starting point in NRC's site-specific environmental reviews

Scope of the GEIS

What does the GEIS include?

1. Addresses the construction, operation, aquifer restoration, and decommissioning of ISL facilities

2. Evaluates potential environmental impacts to specific resource categories (for example: air quality, water resources, land use)

Approach Taken in the Draft GEIS

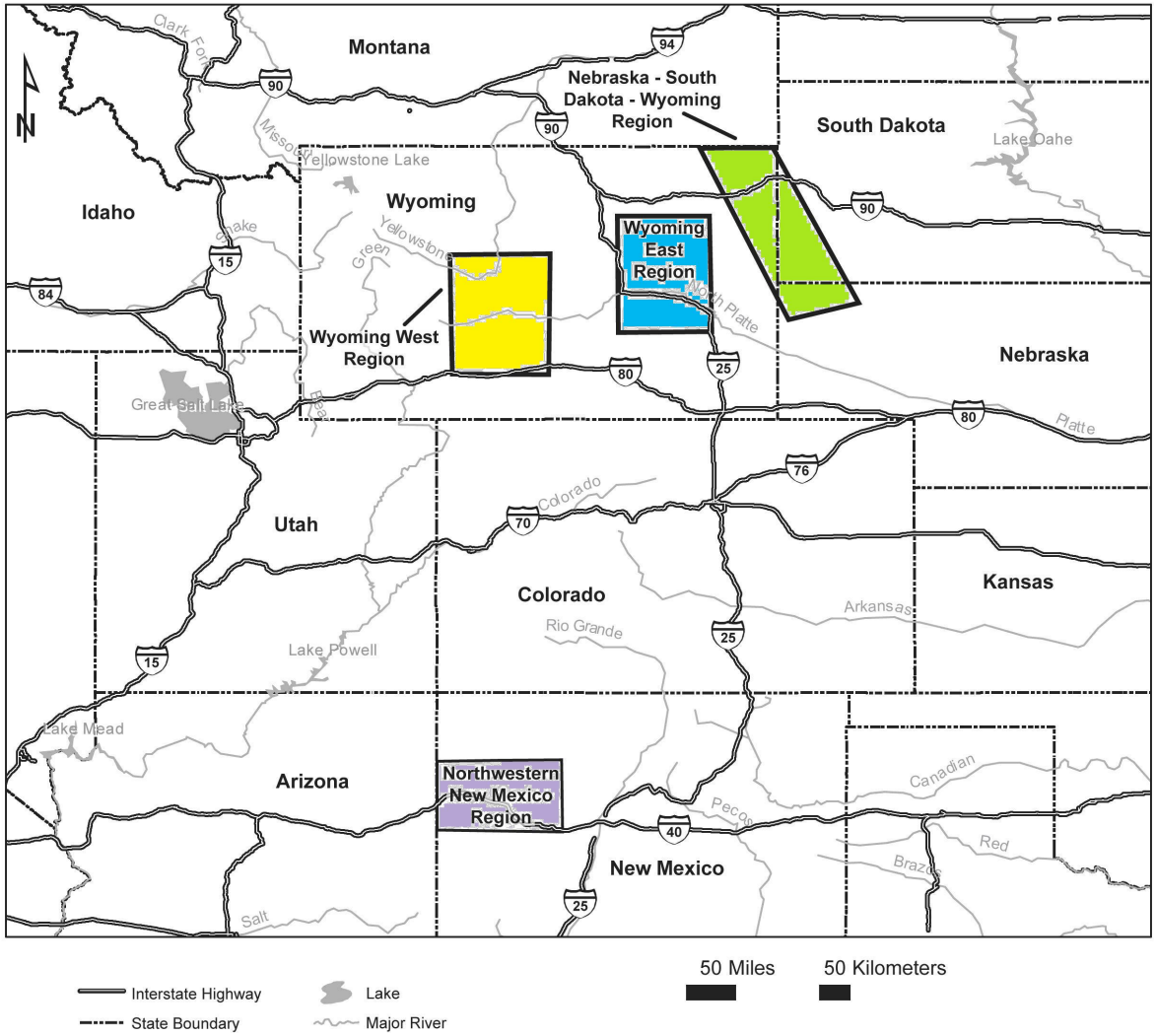
1. Identify uranium milling regions
2. Describe the ISL process
3. Describe the environment in each of the milling regions
4. Evaluate potential environmental impacts in each milling region from the ISL process

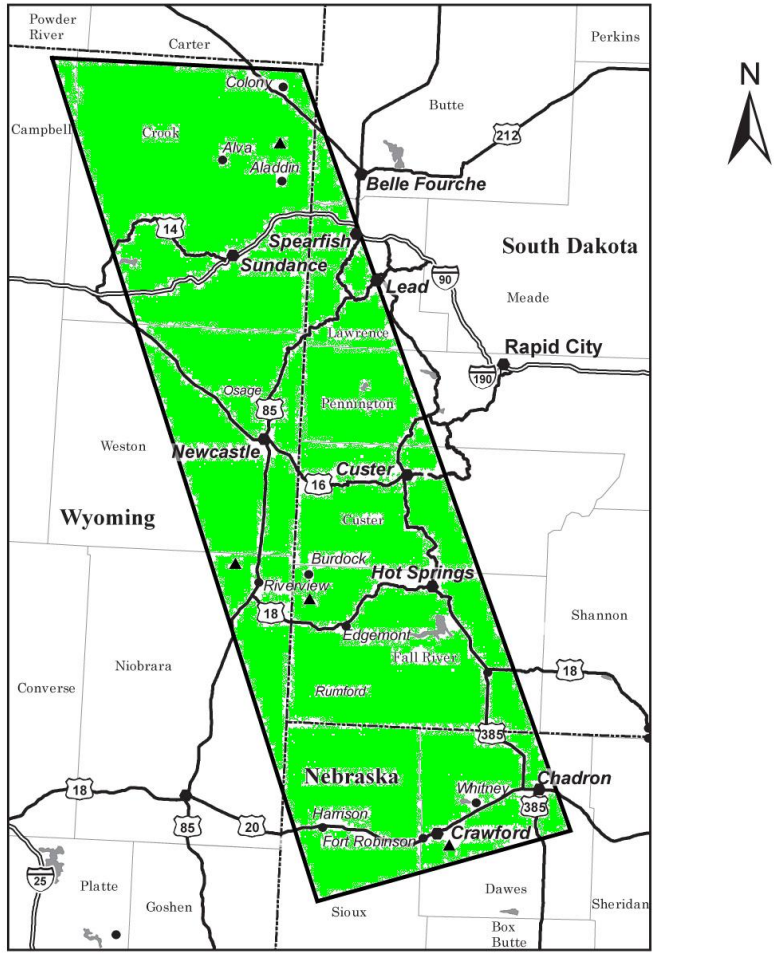
Approach Taken in the Draft GEIS

1. Identify uranium milling regions

1. Identify Uranium Milling Regions

- Considerations:
  - In States where NRC has regulatory authority for licensing ISL facilities
  - Locations of current and past milling activities
  - Industry plans for new sites using the ISL process
  - Historical uranium deposits WY, NE, SD, and NM
- Four uranium milling regions identified


Montana
Nebraska - South Dakota - Wyoming Region
South Dakota
Lake Oahe
Yellowstone Lake
Wyoming
Idaho
Wyoming East Region
Wyoming West Region
Nebraska
Great Salt Lake
Utah
Colorado
Kansas
Lake Powell
Lake Mead
Arizona
Northwestern New Mexico Region
New Mexico
Interstate Highway
State Boundary
Lake
Major River
50 Miles
50 Kilometers



NEBRASKA - SOUTH DAKOTA - WYOMING REGION

10 5 0 10 Miles

10 5 0 10 Kilometers

Ur milling Sites (NRC)

South Dakota - Nebraska Milling Region

Interstate Highway

US Highway

Water bodies (Lakes, Bays, ...)

State Boundary

Counties

Approach Taken in the Draft GEIS

1. Identify uranium milling regions
2. Describe the ISL process

2. Describe the ISL Process

- Construction, operation, aquifer restoration, and decommissioning of ISL facilities
- Radiological health and safety, waste management, transportation, and financial assurance
- Experience of NRC-licensed ISL facilities

Approach Taken in the Draft GEIS

1. Identify uranium milling regions
2. Describe the ISL process
3. Describe the environment in each of the milling regions

3. Describe the Environment

- Describe for each of the four uranium milling regions
- Describe in terms of the environmental resource categories identified in NUREG-1748

Environmental Resource Categories

- Air Quality
- Ecological Resources
- Geology & Soils
- Historic & Cultural Resources
- Land Use
- Noise
- Public & Occupational Health
- Socioeconomics
- Threatened & Endangered Species
- Transportation
- Visual & Scenic Resources
- Waste Management
- Water Resources

Approach Taken in the Draft GEIS

1. Identify uranium milling regions
2. Describe the ISL process
3. Describe the environment in each of the milling regions
4. Evaluate potential environmental impacts in each milling region from the ISL process

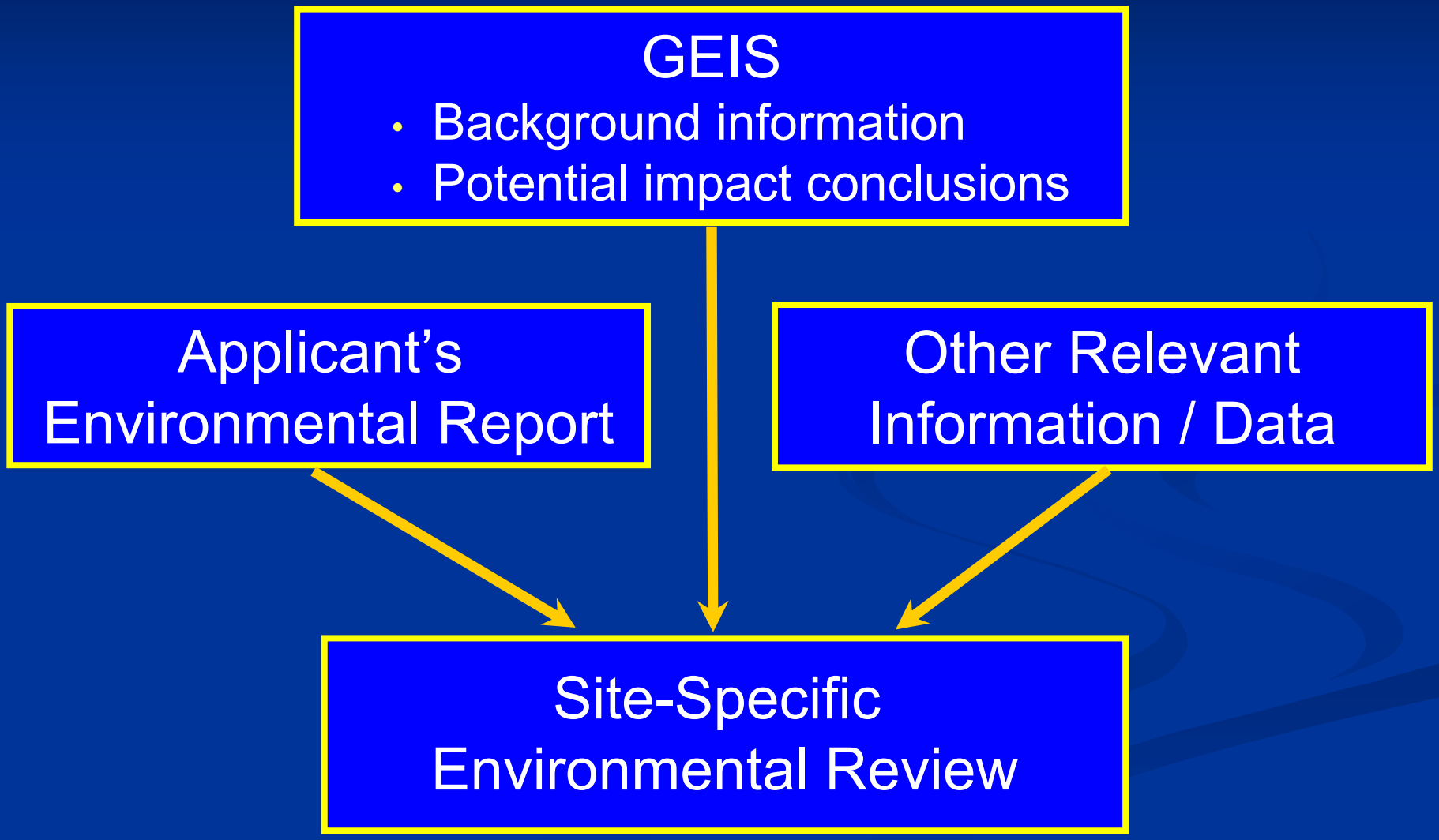
4. Evaluate Potential Environmental Impacts

- Evaluates potential impacts
  - in each uranium milling region
  - for each phase of the ISL process
  - to each of the environmental resource areas
- Characterizes the significance of the potential impacts
- Describes possible mitigation measures

Significance Categories of Environmental Impacts

- SMALL – not detectable, or are so minor that they would not noticeably alter nor destabilize any important attribute of the resource
- MODERATE – sufficient to noticeably alter, but not destabilize, important attributes of the resource
- LARGE – clearly noticeable and sufficient to destabilize important attributes of the resource

Use of the GEIS



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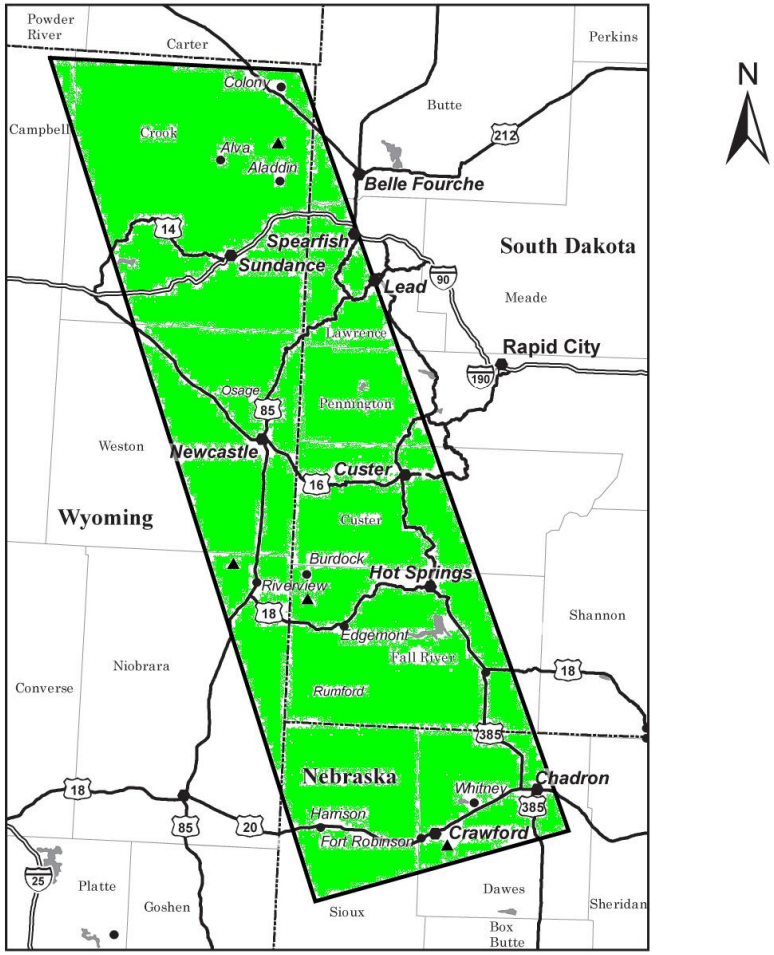
NRC's Findings Draft GEIS for the Nebraska/South Dakota/Wyoming Uranium Milling Region



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NEBRASKA - SOUTH DAKOTA - WYOMING REGION

10 5 0 10 Miles

10 5 0 10 Kilometers

Ur milling Sites (NRC)

South Dakota - Nebraska Milling Region

Interstate Highway

US Highway

Water bodies (Lakes, Bays, ...)

State Boundary

Counties

Resource Categories with SMALL* Potential Impacts

- Aquatic Ecology
- Air Quality
- Visual & Scenic Resources
- Waste Management

* SMALL – not detectable, or so minor that they would not noticeably alter nor destabilize any important attribute of a resource

Resource Categories with SMALL to MODERATE* Potential Impacts

- Transportation
- Surface Water
- Terrestrial Ecology
- Noise
- Public & Occupational Health

*MODERATE – sufficient to noticeably alter, but not destabilize, any important attribute of the resource

Resource Categories with SMALL to LARGE* Potential Impacts

- Land Use
- Geology & Soils
- Groundwater
- Threatened & Endangered Species
- Historic & Cultural Resources
- Socioeconomics

*LARGE – clearly noticeable and sufficient to destabilize important attributes of the resource

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Overall GEIS Schedule
and
How to Comment on the Draft GEIS

Overall GEIS Schedule

Notice of Intent published	July 24, 2007
Scoping Meetings	August & September 2007
Scoping Period ends	November 30, 2007
Draft GEIS issued	July 28, 2008
Draft GEIS Public Comment Meetings	August & September 2008
Draft GEIS Public Comment Period ends	October 7, 2008
Final GEIS issued	June 2009

Comments on Draft GEIS

By regular mail – postmarked by October 7, 2008

Chief, Rules Review and Directives Branch
Mail Stop T-6D59
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

By e-mail – by midnight, October 7, 2008

NRCREP.Resource@nrc.gov
with 'Uranium Recovery GEIS' in the subject line

Contact Information

Questions on Draft GEIS

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Questions on Presentations

Comments on the Draft GEIS