The Piñon Ridge Mill Facility

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Introduction

• 20-minute presentation introducing the Piñon Ridge Mill Facility:
  • Introduction to Energy Fuels and the Mill
  • Project Location
  • Regulatory Requirements
  • Facility Design and Operation
  • Environmental Protection
  • Worker and Public Safety
  • Closure and Reclamation
  • Project Benefits
Who is Energy Fuels?

• A public company specializing in the mineral exploration, development, and mining of uranium and vanadium properties
  • Please visit www.energyfuels.com

• A local company with strong ties to Colorado and Western Montrose County
  • All Energy Fuels operations and employees are based in Colorado & Utah
  • Offices in Nucla and Lakewood, Colorado and Kanab, Utah
  • Most members of the management team are long-time Colorado residents

• Energy Fuels is committed to ensuring that the Piñon Ridge Mill Facility:
  • Is an economic asset to Western Montrose County
  • Protects Colorado’s environment for future generations
What is the purpose of the Piñon Ridge Mill?

• Receive uranium and vanadium ore from local mines
• Process 500 tons of ore per day into concentrates of uranium oxide (“yellowcake”) and vanadium oxide
• The concentrates are sealed in 55-gallon, steel drums and transported off site for further processing at other facilities
• Proposed operating life – 40 years (2012 through 2052)
What are the uses of uranium and vanadium?

- Uses of uranium - fuel for nuclear power reactors that generate electricity, medical and industrial applications
  - The Mill will produce 770,000 pounds of uranium (U₃O₈) per year
  - Equivalent to 1,500 megawatts per year or 1½ times Denver Metropolitan consumption

- Uses of vanadium - manufacturing of industrial chemicals, surgical instruments, batteries for renewable energy systems, and formation of high-strength alloy steels
  - The Mill will produce 2,700,000 pounds of vanadium (V₂O₅) per year
Regulation of Uranium Mills

- Colorado Department of Public Health and Environment (CDPHE) – Radiation Management Unit
  - CDPHE is sole regulator of radioactive materials in Colorado, per agreement between U.S. Nuclear Regulatory Commission (“NRC”) and the State
  - NRC reviews the Statutes and Regulations for compatibility

- County input critical to evaluation of land use, social, economic and other local impacts

- Numerous Local, State and Federal agencies have regulatory authority over all aspects of the Facility
Radioactive Material
License Application
Radioactive Material License Application

Available at: www.cdphe.state.co.us/hm/rad/rml/energyfuels, the Montrose County Land Use Department and the Nucla Library

**Environmental Report** - Summarizes the proposed project and impacts

### Mill License Application

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<th>Subject Matter</th>
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<td>Security Plan &amp; Archeological Reports (confidential)</td>
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Where is the Piñon Ridge Mill site?

- Western Montrose County, Colorado
- Approximately 7 miles east of Bedrock and 12 miles west of Naturita via Highway 90 (at milepost 23)
- Portions of Sections 5 and 17, and all of Section 8, T46N, R17W, New Mexico P.M.
The proposed mill location is:

- On an 880-acre private parcel owned by Energy Fuels
- In an area that has historically produced significant quantities of uranium ore
- Near existing mines to reduce ore haul distances
Milling Process Schematic

Four Primary Milling Stages:
• Ore Receiving/Grinding
• Thickening/Leaching
• Uranium Recovery
• Vanadium Recovery

Waste Management Facilities:
• Tailings Cells
• Evaporation Ponds
Site Plan

Primary Components:
- Evaporation Ponds
- Tailings Cells
- Mill Facility
- Ore Pad Facility

* Facility footprint assumes milling rate of 500 tons per day over 40 years
 Environmental Protection

Key Components:

• Site selection
• Baseline data collection
• Locating the facilities to minimize impacts
• Environmental controls (i.e., Facility Design)
• Ongoing monitoring
• Minimize water consumption
Site Selection

Considerations:

- Energy Fuels considered 7 potential sites
- Depth to groundwater is 450 feet (or more) beneath mill and waste disposal facilities
- No rivers or perennial streams nearby
- Seismically Stable
- Relatively remote location
- Nearest downwind resident is located 3 miles east of the site
- Close proximity to uranium mines
- Easy and safe access to Highway 90
Baseline Data Collection

Environmental Resources:

- Groundwater
- Surface water
- Air
- Meteorology
- Geology
- Soils
- Vegetation
- Wildlife
- Cultural resources
- Seismology
- Background radiation
- Socioeconomics

These baseline reports are provided in the License Application and summarized in the Environmental Report.
Siting of Facilities

Noise & Visual Considerations:

- Primary mill facilities enclosed within metal buildings
- Mill buildings are ¾-mile from highway
- Evaporation ponds and tailings cells are low-profile facilities
- Shielded outdoor lighting
- No offensive odors
- Loudest noise is equipment backup alarms
## Environmental Controls

### Water Quality:
- Concrete secondary containment for tanks and process areas
- Chemically resistant piping with secondary containment
- Engineered liner systems at the tailings cells, evaporation ponds and ore pad
- Leak collection and recovery systems
- Stormwater controls

### Air Quality:
- Water sprays at ore dumping platform, stockpiles & hopper
- Spray tailings beaches
- Magnesium chloride on roads
- Truck wash
- Dust scrubber at SAG Mill
- Gas scrubbers at all process emission points
- Automated equipment within hermetically sealed rooms for packaging concentrates

### Wildlife Protection:
- Netting over evaporation ponds
- Bird balls on tailings pond areas
- Security fencing to prevent access to tailings and pond areas
<table>
<thead>
<tr>
<th>Source</th>
<th>U.S. Average&lt;sup&gt;1&lt;/sup&gt;</th>
<th>Colorado Average&lt;sup&gt;2&lt;/sup&gt;</th>
<th>Leadville&lt;sup&gt;2&lt;/sup&gt;</th>
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</thead>
<tbody>
<tr>
<td>Cosmic radiation (from space)</td>
<td>34</td>
<td>50</td>
<td>85</td>
</tr>
<tr>
<td>Terrestrial radiation (from the ground)</td>
<td>22</td>
<td>49</td>
<td>97</td>
</tr>
<tr>
<td>Internal: Ingested from food and water and inhaled naturally occurring radon and its decay products</td>
<td>254</td>
<td>301</td>
<td>344</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>310</strong></td>
<td><strong>400</strong></td>
<td><strong>526</strong></td>
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Worker and Public Safety

• CDPHE regulates radiation levels based on State and Federal* rules
  • Background Levels in Area
    Estimated: 450 millirems per year (mrem/year)
  • Mill worker
    Regulatory Limit: 5,000 mrem/year
    Target: 100 mrem/year or less (“ALARA”)
  • Public
    Regulatory Limit: 100 mrem/year above background
    Target: 10 mrem/year or less (ALARA at property line)

• Strict controls and verification of levels through monitoring
  *CDPHE enforces Nuclear Regulatory Commission (“NRC”) rules for uranium milling
Closure/Financial Assurance

Primary Requirements:

- Plans are required up front
  - How the Mill will be decommissioned and removed
  - How the site will be reclaimed
  - Detailed design of the tailings cover
- Money is committed up front
  - Assumes Government administers completion of work by third-party contractor
  - Bond amount is based on worse case scenario
  - Bond amount is revised on a periodic basis to reflect current conditions and plans
Economic Benefits

- Create up to 85 new jobs at full capacity
- 80% of workforce will come from local population
- Wages averaging $40,000 to $75,000 per year, plus benefits
- Support 200 mining and trucking jobs at nearby mines to supply ore
- Generate tax revenues for public services and infrastructure
- Produce uranium and vanadium needed for power generation and manufacturing
Why Uranium?

- The United States consumes 60 million pounds per year and produces only 5 million pounds per year.
- 20% of US electricity today comes from 104 nuclear power plants.

Nuclear energy is:
- **Domestically Abundant** — One solution to curing our dependence on foreign energy sources.
- **Clean** — Nuclear energy does not produce carbon emissions.
- **Safe** — Despite some early (well-publicized) accidents, it has built an extremely impressive safety record.
- **Inexpensive** — Even when compared to coal and natural gas.
- **Currently Viable** — Has the capability to produce the large-scale, “base-load” electricity our economy needs.