Department of Environmental Quality
Land Quality Division

Presentation on Agreement State Program

Environmental Quality Council

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Ryan Schierman, Program Manager WYDEQ/LQD

Wyoming Limited Agreement

- Wyoming is seeking an NRC agreement for primacy over
  - Source material from recovery or milling
    - Uranium Recovery Operations
  - 11e.(2) byproduct material

Wyoming Limited Agreement

Table 1. U.S. Forward-Cost Uranium Reserves by State, Year-End 2008						
State	$50/lb			$100/lb		
	Ore (million tons)	Grade[a] (%)	U_3O_8 (million lbs)	Ore (million tons)	Grade[a] (%)	U_3O_8 (million lbs)
Wyoming	145	0.076%	220	398	0.056%	446
New Mexico	64	0.140%	179	186	0.105%	390
Arizona, Colorado, Utah	22	0.145%	63	117	0.084%	198
Texas	15	0.089%	27	32	0.062%	40
Other[b]	28	0.090%	50	95	0.081%	154
Total	275	0.098%	539	828	0.074%	1,227

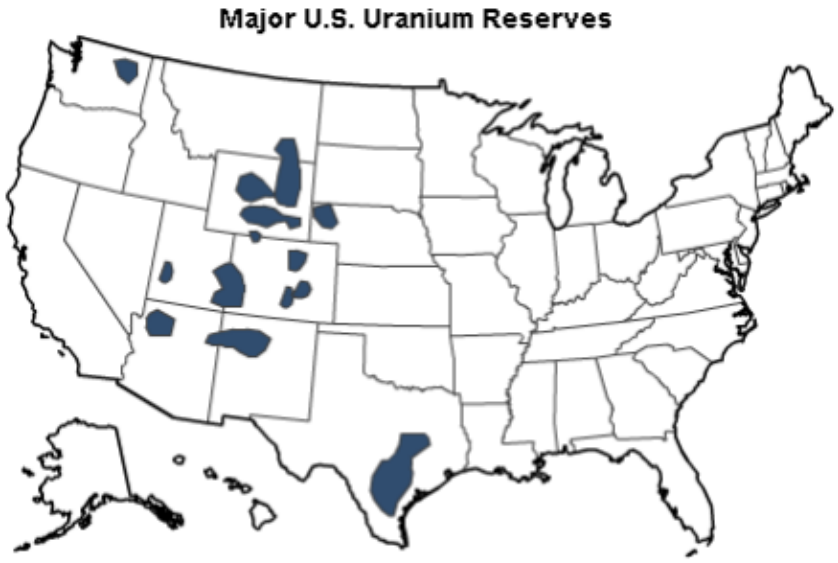
[a] Average percent U_3O_8 per ton of ore.

[b] Includes Alaska, California, Idaho, Montana, Nebraska, Nevada, North Dakota, Oregon, South Dakota, Virginia and Washington.

Notes: Uranium reserves that could be recovered as a byproduct of phosphate and copper mining are not included in this table. Reserves values in forward-cost categories are cumulative; that is, the quantity at $100 per pound U_3O_8 includes all reserves available up to and including that cost. Totals may not equal sum of components because of independent rounding.See EIA Glossary for definition of reserves."Reserves," as reported here, do not necessarily imply compliance with U.S. or Canadian government definitions for purposes of investment disclosure.

Sources: Estimated by Energy Information Administration, Office of Coal, Nuclear, Electric and Alternate Fuels, based on company reports, industry conferences, and U.S. Department of Energy, Grand Junction Office, files.

US ENERGY Administration, estimates for year end -2008; released July 2010



Sources: Based on U.S. Department of Energy, Grand Junction Project Office (GJPO). National Uranium Resources evaluation. Interim report (June 1979) Figure 3.2; and GJPO data files.

Background and Overview Of the Agreement State Program

- Atomic Energy Act of 1954 Section 274
  - Recognizes peaceful uses of atomic energy by the States
  - Empowers the (NRC) Commission to “Discontinue” Regulatory Authority
  - Agreement can be reached to any one or more of the following materials within the State:
    1. Byproduct Material
    2. Byproduct Material as defined in section 11e.(2)
    3. Source Materials
    4. Special Nuclear Materials in quantities not sufficient to form critical mass

Background and Overview Of the Agreement State Program

- Atomic Energy Act of 1954 Section 274
  - Under the Act the NRC retains authority over
    - Federal Facilities
    - Commercial Nuclear Reactor Facilities
    - Research Reactors
    - Exports and Imports
    - Disposal in Ocean
    - High-level waste handling and disposal
    - Offshore waters
    - Final “sign-off” on license termination and final site closure of 11e.(2) byproduct material facilities.

Background and Overview Of the Agreement State Program

- Currently 37 Agreement states
- Agreement States regulate upwards of 85% of all the nations material licenses
- 2 States have sent a letter of intent
  - Wyoming
  - Vermont
- Currently Utah, Colorado, Washington, and Texas have authority over 11e(2) byproduct material

Wyoming's Agreement

- Original language "source material from recovery and milling and the associated 11e.(2) byproduct material."
  - Historically referred to as Source Material Milling

- SECY 16-0084 July 05, 2016
  - "Wyoming would only assume regulatory authority over the possession and use of source material involved in the extraction and concentration of uranium and thorium in source material and ores at milling facilities, and the management and disposal of byproduct material as defined in Section 11e.(2) of the AEA

Critical Items for Agreement

- Statutes and regulations
  - Radiation protection standards
  - Orderly pattern of regulation or health for health and safety significances
- Staffing and qualifications
  - Staff Organization
  - Formal Qualification Plan
  - Current Technical Staff Qualifications
- Licensing, inspections, and enforcement
  - Licensing/inspection procedures
  - Licensing/inspection quality
  - Enforcement procedures
- Administrative procedures
- Event and allegation response

Wyoming's Progress

- House Bill HB0027 (2015) Provided funding and the ability for Wyoming to pursue Agreement State status
- February 27th 2015 Governor Mead sent letter to NRC to pursue an agreement with the NRC
- Amended statute language W.S. 35-11-2001 through 35-11-2004 (March 2016) giving WYDEQ the authority to regulate source material from recovery or milling with the associated 11e.(2) byproduct material. *Future amendment 1Q17*

Wyoming's Progress: Regulations

- Development of Rules and Regulations
  - Goal is to have draft regulation before
    - Land Quality Advisory (LQA) Board 3Q16
    - Environmental Quality Council 1Q17(EQC)
  - Currently drafting regulations (~10 chapters)
    - Chapter 1 General Provisions (LQA 02-09-16)
    - Chapter 2 Enforcement (LQA ~ 08-02-16)
    - Chapter 3 Standards for Radiation Protection (LQA 02-09-16)
    - Chapter 4 Licensing of Source Material Recovery (LQA ~ 08-02-16)
    - Chapter 5 Notice, Instructions, and Reports to Workers (LQA 05-02-16)
    - Chapter 6 Requirements for Financial Assurance (LQA ~ 9-27-16)
    - Chapter 7 Uranium Recovery Fees (LQA ~ 08-02-16)
    - Chapter 8 Risk Informed/Performance Based (LQA 05-02-16)
    - Chapter 9 Transportation of Radioactive Materials (LQA 05-02-16)
    - Chapter 10 General Licenses (LQA ~ 09-27-16)

Wyoming's Progress Regulations

- NRC evaluation of regulations
  - Adequate- regulations ensure that public health and safety are adequately protected from the potential hazards associated with the use of radioactive materials
  - Compatible with NRC programs
    - Category A- Basic radiation protection standards or related definitions, signs, labels, or terms necessary for common understanding of radiation protection principles. The State program element should be essentially identical to that of NRC
    - Category B- Program element with significant direct transboundary implications. The State program element should be essentially identical to that of the NRC
    - Category C- Program element, the essential objectives of what should be adopted by the State to avoid conflicts, duplications, or gaps. The manner in which the essential objectives are addressed need not be the same as NRC, provided the essential objectives are met.
    - Category D- Not required for purposes of compatibility
    - Category NRC- Not required for compatibility reserved for activities that NRC retains.
    - Category H&S- Not required for compatibility but the State should adopt the essential program elements to be adequate.

Incorporation by Reference

- Section 4. **Incorporation by Reference (IBR) of 10 CFR Part 20; Standards for Protection Against Radiation.**
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- (a) Any reference in these rules to requirements, procedures, or specific forms contained in the Code of Federal Regulations (CFR), Title 10, Part 20, sections 20.1001 through 20.2402 shall constitute the full adoption by reference of that part and subparts as they appear in 10 CFR, revised as of January 1, 2016 including any notes and appendices therein, unless expressly provided otherwise in these rules. These rules do not include any later amendments or editions of the incorporated matter.
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- (b) The following 10 CFR portions as of January 01, 2016 are excluded from these rules: 20.1001, 20.1002, 20.1003, 20.1004, 20.1005, 20.1006, 20.1007, 20.1008, 20.1009, 20.1206, 20.1301(c), 20.1406(b), 20.1601(f), 20.1903(b), 20.1903(d), 20.1905(g), 20.2003(b), 20.2104 (b), 20.2105, 20.2203(c), 20.2204, 20.2206(a)(1), 20.2206(a)(3), 20.2206(a)(4), 20.2206(a)(5), 20.2401, 20.2402, and Appendix D are not incorporated by reference.

How Compatibility will be presented

(bm) "Individual Monitoring Devices" means devices designed to be worn by a single individual for the assessment of dose equivalent. For purposes of these rules, individual monitoring equipment and personnel monitoring equipment are equivalent terms. Examples of individual monitoring devices are film badges, thermoluminescence dosimeters (TLD's), pocket ionization chambers, and personal air sampling devices.

→ 10 CFR Part 20.1003 Compatibility C

(bn) "Internal Dose" means that portion of the dose equivalent received from radioactive material taken into the body.

→ 10 CFR Part 20.1003 Compatibility A

(bo) "Lens Dose Equivalent (LDE)" means the external exposure of the lens of the eye and is taken as the dose equivalent at a tissue depth of 0.3 centimeter (300 mg/cm^2).

→ 10 CFR Part 20.1003 Compatibility A

(bp) "License" means a form of permission given by the Department to an applicant who has met the requirements for licensing set out in the Act and the programs regulations.

→ 10 CFR Part 20.1003 Compatibility D

Ambitious Timeline