

Ablation Technology Regulatory Process

Jennifer Opila

Colorado Radiation Program Manager

Jennifer.opila@state.co.us / 303-692-3403



COLORADO

Department of Public
Health & Environment

Overview

- ▶ Colorado Radiation Program Authorities
- ▶ Types of Radioactive Materials Licenses
- ▶ Ablation Regulatory Question
- ▶ Possible Regulatory Options
- ▶ Decision Process



COLORADO
Department of Public
Health & Environment

Colorado Radiation Authority



- ▶ Agreement State
- ▶ Authority over radioactive materials ceded from the U.S. Nuclear Regulatory Commission (NRC)
- ▶ Laws and Regulations must be compatible with NRC



COLORADO
Department of Public
Health & Environment

How do we regulate?

- ▶ Law: Colorado Radiation Control Act
- ▶ Regulations: Colorado Rules and Regulations Pertaining to Radiation Control
- ▶ Issue licenses authorize use
 - Location of use
 - Authorized materials
 - Authorized users
 - Conditions of use
- ▶ Conduct Inspections
 - Every 1–5 years
- ▶ Enforcement



Types of Radioactive Materials Licenses

- ▶ **General Licenses**
 - Low risk
 - No application, but registration required
 - Automatically granted
- ▶ **Specific Licenses**
 - High risk
 - Application required
 - Approval required prior to work beginning
 - Regulations and fees specific to different categories



Ablation Regulatory Question

- ▶ New technology
- ▶ How does the regulatory structure apply?
- ▶ Is this a licensed process?
 - Mining not subject to radioactive materials license
- ▶ If so, how should it be licensed?
 - Type of license
 - Application requirements



Applicable Regulatory Parts

- ▶ Colorado Rules and Regulations Pertaining to Radiation Control

<https://www.colorado.gov/pacific/cdphe/radregs>

- ▶ Part 1: General Provisions
- ▶ Part 3: Licensing of Radioactive Material
- ▶ Part 18: Licensing Requirements for Uranium and Thorium Processing



COLORADO
Department of Public
Health & Environment

Possible Regulatory Options

- ▶ No license
- ▶ General license
- ▶ Source material specific license
- ▶ Uranium processing specific license (not milling)
- ▶ Source material (uranium) milling specific license
- ▶ New Regulatory Category



Source Material Definition

- ▶ “Source material” means uranium or thorium, or any combination of uranium or thorium, in any physical or chemical form, including ores that contain, by weight, one–twentieth of 1 percent (0.05 percent) or more, of uranium, thorium or any combination thereof.
(Section 1.2.2)



COLORADO
Department of Public
Health & Environment

No Radioactive Materials License

- ▶ Standard: products or byproducts of ablation fit within the source material exemption
- ▶ Exempt: “unrefined and unprocessed ore” (Section 3.2.2)
- ▶ “Unrefined and unprocessed ore” means ore in its natural form prior to any processing, such as grinding, roasting or beneficiating, or refining. (Section 1.2.2)



General Radioactive Materials License

- ▶ Standard: products or byproducts of ablation fit within the general license quantities
- ▶ General license quantities (Section 3.5):
 - Uranium and thorium in their natural isotopic concentrations
 - No more than 7 kg (15.4 lb) of uranium and thorium at one time
 - No more than 70 kg (154 lb) of uranium and thorium in one year
- ▶ Applicable requirements in Section 3.5



Source material specific license

- ▶ Standard: products or byproducts of ablation fit into the Part 3 licensing requirements (default licensing category)
- ▶ “Authorizes the proposed activity in such form and containing such conditions and limitations as (the department) deems necessary” (Section 3.14.1)
- ▶ Applicable requirements in Sections 3.8, 3.9, 3.10, 3.14 and 3.15.



Uranium processing license (not milling)

- ▶ Standard: products or byproducts of ablation are part of a uranium process, but not a milling process
- ▶ Applicable requirements in Sections 3.8, 3.9, 3.10, 3.14, 3.15 and applicable parts of Part 18.



Source material (uranium) milling

- ▶ Standard: products or byproducts of ablation are part of a uranium milling process
- ▶ “Uranium milling” means any activity that results in the production of byproduct material as defined in Part 18 (Section 18.2)
- ▶ “Byproduct Material” means the tailings or wastes produced by the extraction or concentration of uranium or thorium from any ore processed primarily for its source material content... (Section 18.2)
- ▶ Applicable requirements in Sections 3.8, 3.9 and Part 18.



New Regulatory Category

- ▶ Standard: products or byproducts of ablation do not fit into the current regulatory structure and therefore a new category should be established
- ▶ New category and requirements would need to be approved by the Board of Health



COLORADO
Department of Public
Health & Environment

Decision making process

- ▶ Public comment will be accepted through ~~July 8, 2016~~ EXTENDED to July 22, 2016 and can be sent to:

Jennifer Opila, Radiation Program Manager
Colorado Department of Public Health and
Environment

4300 Cherry Creek South Drive, Denver, CO 80260

jennifer.opila@state.co.us



COLORADO
Department of Public
Health & Environment

Decision Making Process

▶ Stakeholder Meetings

- Thursday, May 26, 2016 – Denver – 6–8 pm.
Colorado Department of Public Health & Environment
4300 Cherry Creek Drive South, Building A, Sabin–Cleere Room
- Tuesday, May 31, 2016 – Cañon City – 6–8 pm.
Quality Inns & Suites – 3075 E. US 50
- Wednesday, June 1, 2016 – Nucla/Naturita – 6–8 pm
Rimrock Hotel – 123 Main Street, Naturita
- Wednesday, June 22, 2016 – Denver – 6–8 pm
Colorado Department of Public Health & Environment
4300 Cherry Creek Drive South, Building A, Sabin–Cleere Room



COLORADO
Department of Public
Health & Environment

Decision making process

- ▶ Department will make a determination of regulatory applicability
- ▶ If license required, Black Range would need to apply for license



COLORADO
Department of Public
Health & Environment

Questions?

Jennifer Opila

Colorado Radiation Program Manager

Jennifer.opila@state.co.us / 303-692-3403



COLORADO

Department of Public
Health & Environment