

# Colorado Uranium Recovery Regulations

## Summary

### August 2009



Colorado Department  
of Public Health  
and Environment

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Uranium recovery including uranium mills and in situ recovery is regulated through the Colorado Department of Public Health and Environment (CDPHE). Within the CDPHE, several different authorizations must be obtained:

- A Radioactive Materials License from the Radiation Management Unit of the Hazardous Materials and Waste Management Division is required for possession of radioactive materials and uranium recovery operations.
- A permit from the Water Quality Control Division is required for discharge to surface water or for surface runoff from disturbed areas.
- A permit from the Air Pollution Control Division is required for some emissions from the site and to control dust from construction activities.

The Radioactive Materials License approval process features extensive public involvement opportunities. The county may comment formally about perceived impacts to the community and environment. Local government or other agencies may also have land use or other regulations applicable to the project.

For more information contact:

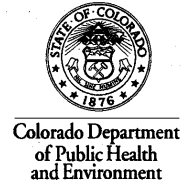
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(303) 692-3423, or 1 (888) 569-1831, ext. 3423 (toll free)  
Email: [steve.tarlton@state.co.us](mailto:steve.tarlton@state.co.us)

CDPHE Radioactive Materials web site: <http://www.cdphe.state.co.us/hm/rad/index.htm>

# Colorado Department of Public Health and Environment

## Radiation Management Unit

### Regulatory Process for Uranium Recovery



The Colorado Radiation Control Act provides for the regulation of radioactive materials by the Colorado Department of Public Health and Environment (CDPHE) in CRS 25-11-101, et seq. Through the Act and an agreement between the Governor and the U.S. Nuclear Regulatory Commission, the CDPHE is empowered to be the sole regulator of radioactive material in the state. The Rules and Regulations Pertaining to Radiation Control (6 CCR 1007-1) provides the details of how radioactive materials are regulated.

The CDPHE does not regulate un-mined minerals containing radioactive materials, nor does it regulate uranium ore prior to receipt at a processing facility. Uranium mining is regulated by the Department of Natural Resources, and transportation of ore to the mill is regulated by the Department of Transportation. Thus, traditional underground or open-pit uranium mining is not regulated by the CDPHE Radiation Management Unit (RAM). However, in situ mining (in situ recovery) is the underground processing of uranium ore, an activity subject, in part, to licensing requirements for Type II byproduct material (per Regulation 1.2, Definitions) in the same manner as uranium milling.. Another uranium recovery method, heap leaching, is considered milling and would also require a radioactive materials license. There have been two uranium heap leach mills in Colorado in the past (Maybell and Durita), both of which are now closed.

The process for licensing uranium-recovery facilities is specifically addressed in the Act (CRS 25-11-203). The process is summarized below:

- The license application, including an Environmental Report, is submitted to CDPHE RAM.
  - CDPHE must determine that the application is complete within 30 days.
  - If the application is determined to be complete, the applicant must hold a public meeting within 45 days.
  - The applicant must hold a second public meeting within 30 days of the first public meeting. (Transcripts of both meetings must be submitted to CDPHE RAM.)
  - County Commissioners' comments on the Environmental Report (submitted with the application) must be received by CDPHE RAM within 90 days of the first public meeting. (County Commissioners may request up to \$50,000 from the applicant for the review.)
  - If the County Commissioners respond, CDPHE RAM has 270 days to determine whether a license is rejected, issued as requested or issued with conditions.
  - If the County Commissioners do not respond, CDPHE RAM has 360 days after the second public meeting to determine whether a license is rejected, issued as requested or issued with conditions.
- Public comment on the Application and Environmental Report can be made at the public meetings listed above or by correspondence to the CDPHE.

CDPHE will consult with other regulatory agencies as part of the review. As described in Part 18 of the Regulations, CDPHE RAM will prepare a written analysis of the project, a justification of the decision and, if applicable, a draft license for public review. A hearing will be held, if requested, and a final decision will be reached in accordance with Part 18 of the regulations and the Administrative Procedures Act, CRS 24-4-104 and 24-4-105. The regulations also provide for decommissioning and site restoration.

Details regarding this process and the requirements can be located:  
CDPHE RAM web site <http://www.cdphe.state.co.us/hm/rad/index.htm>, or  
Contact Steve Tarlton, CDPHE RPM, at (303) 692-3423, 1 (888) 569-1831, ext. 3423 (toll free) or  
Email: [steve.tarlton@state.co.us](mailto:steve.tarlton@state.co.us).

**Requirement Summary\***  
**Colorado Radioactive Materials License Application**  
**Uranium Recovery**



Colorado Department  
of Public Health  
and Environment

The application for a Radioactive Materials License is accompanied by an environmental assessment report.

**License Application**

- Description of the project
- Site and project alternatives
- Area/site characteristics
  - Geology
  - Hydrology
  - Meteorology
  - Ecology
  - Socio-economics of the area
  - Background radiological characteristics
  - Topography
  - Seismology
  - Archaeology
  - Population distribution
  - Uses of adjacent lands and water
- Training and experience
- Materials description
  - Quantities of ore to be processed
  - Characteristics of ore to be processed
- Equipment, facilities and procedures
  - Mill circuit design and operations
  - Control of wastes and effluents
  - Inspections
  - Radiation safety
  - Security
  - Response to accidents or releases
    - Air
    - Surface water
    - Worker exposure
    - Ground
    - Groundwater
    - Public exposure
  - Effluent and environmental measurements and monitoring
    - Baseline environmental data
    - Operational environmental data
  - Waste characterization and disposal
- Contingency Plan
- Financial assurance
- Decommissioning funding plan
- Decommissioning Plan
  - Planned activities
  - Radiation safety methods
  - Radiation surveys
  - Cost estimates
  - Schedule

**Requirement Summary\*(cont'd)**  
**Environmental Assessment Report**



Colorado Department  
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Radiological and non-radiological impacts  
Short-term and long-term environmental impacts  
    Environmental  
        Surface water  
        Groundwater  
        Soils  
        Air  
        Radon  
        Flora  
        Fauna  
    Economic  
    Social  
    Technical  
    Transportation  
        Infrastructure  
        Effects of accidents  
    Other

\* Specific requirements are detailed in the *Colorado Radiation Control Act* and the *Colorado Rules and Regulations Pertaining to Radiation Control*. In addition, Section 18.3.1 specifies that the Department can require “such other information as the Department may deem necessary.