

# STATE OF COLORADO

Bill Owens, Governor  
Douglas H. Benevento, Executive Director

Dedicated to protecting and improving the health and environment of the people of Colorado

4300 Cherry Creek Dr. S.      Laboratory Services Division  
Denver, Colorado 80246-1530      8100 Lowry Blvd.  
Phone (303) 692-2000      Denver, Colorado 80230-6928  
TDD Line (303) 691-7700      (303) 692-3090  
Located in Glendale, Colorado  
<http://www.cdphe.state.co.us>



Colorado Department  
of Public Health  
and Environment

April 19, 2005

Leonard C. Slosky, Executive Director  
Rocky Mountain Low-Level Radioactive Waste Compact  
1675 Broadway, Suite 1400  
Denver, CO 80202-4614

Draft 3/04/05 Application For Rocky Mountain Low-Level Radioactive Waste  
Compact Approval of a Low Level Waste Disposal Facility  
Response to Comments

Dear Mr. Slosky:

The Colorado Department of Public Health and Environment (Department) appreciates receiving your comments on the draft application cited above. We have incorporated your comments into our application, where appropriate. We are providing specific responses to each comment, below:

#### Draft Regional Facility Application

1. It is unclear from the Draft Regional Facility Application if the State is seeking approval for the disposal of *all* wastes from the mining, milling, smelting, or similar processing of ores or mineral-bearing materials primarily for radium ("Radium Processing Wastes") that fall below the described thresholds or Radium Processing Wastes solely from the Denver Radium Site that fall below the described thresholds (Sections D and H).

Article III(b) of the Rocky Mountain Low-Level Radioactive Waste Compact ("Compact") requires that any Regional Facility accept waste generated within the region without discrimination among the party states. Thus, for whatever type of radioactive waste (e.g., Radium Processing Wastes) that the State wants to authorize the Clean Harbors facility to dispose, the Clean Harbors facility will be obligated to dispose that waste, without discrimination, from Colorado, Nevada, and New Mexico.

Response: The State is applying for designation as a Regional Facility that would receive "Radium Processing Wastes" from throughout the Compact. The application has been modified for clarification.

2. Section E of the Draft Regional Facility Application states that Clean Harbors believes that the capacity of the facility will last a minimum of 30 years at current disposal rates. Is the 30 year minimum life of the facility for radioactive waste or non-radioactive waste, or both?

Response: The capacity approved in the hazardous waste permit would accommodate thirty years of hazardous waste at the original generation rate. Since the hazardous waste generation rate is currently expected to be significantly lower than originally estimated, Clean Harbors expects that waste received under the license and waste received under the hazardous waste permit could be accommodated for thirty years. No decision has yet been made as to the acceptable capacity of the permitted cells for radioactive wastes; however, it is clearly sufficient for the initial five-year license period.

3. Regarding Section H, please provide the volume of radioactive waste (naturally occurring radioactive material (NORM)/ technologically enhanced natural occurring radioactive material (TNORM) projected to be disposed at the facility in years 1 (2005) through 30 (2034). Please provide the volume of the Denver Radium Site waste and other NORM/TNORM waste from the State of Colorado projected to be disposed at the facility in years 1 (2005) through 30 (2034). Please provide the total projected disposal capacity at the proposed facility for radioactive waste (NORM/TNORM) in years 1 (2005) through 30 (2034).

Response: The state has no estimates of NORM/TENORM generation within the Compact. To the State's knowledge, Denver Radium wastes are the only currently-identified "Radium Processing Wastes" within the Compact. An estimated 20,000 cyd of that material is expected to be disposed at the Clean Harbors facility, if approved, within the first five years of operation. That amount is significantly less than the capacity available. However, we would appreciate any assistance the Compact can provide in estimating future volumes of this material.

4. We look forward to receiving the quantity of radioactive waste that the State intends to authorize for the proposed facility for the first five-year license period (Section H). Please be aware that in order to comply with Article III(b) of the Compact, the annual (or five-year) volume authorization for radioactive waste must be greater than the volume of radioactive waste projected to be disposed from the State of Colorado at the proposed facility.

Response: See response to item 3.

5. We look forward to receiving the initial charges that the operator intends to impose on radioactive waste managed at the proposed facility (Section G). What methodology will the State employ to establish the initial charges that Clean Harbors will impose on waste managed at the proposed facility.

Response: Initial rates were included in the draft application that you reviewed, demonstrating that fees at the Clean harbors facility were reasonable and did not conflict with other designated Regional Facilities. The Colorado Radiation Control Act specifies that the facility rate schedule is to be approved by the Colorado Board of Health. Clean Harbors is expected to apply to the Board of Health soon. Once the Board of Health approves the rate schedule, it is to be forwarded to the Compact Board for concurrence.

6. Does Colorado intend to impose a Host State Surcharge pursuant to Article V(b) of the Compact and Board Rule 4.3?

Response: We do expect to implement a Host State Surcharge at the facility consistent with CRS 24-60-2208.

7. We look forward to receiving documentation that the State has complied with Article 3 Section D of the Compact, along with copies of all such comments and any written responses thereto (Section J).

Response: The draft application was sent to New Mexico and Nevada, as well as to Board staff, in early March, but comments have not been received from either state.

8. Please attach to the application a map showing the location of the property on which the proposed facility will be located (Section B)

Response: The location map was included in the attached materials; however, in the final application will be improved and placed in a more easily accessible part of the submittal.

9. Please explain the meaning and relevance of the underlined phrase in the following sentence from Section J of the Draft Regional Facility Application:

"Although the prior RCRA permitting process was largely identical to the State's current requirements to license certain low-level radioactive wastes, some of the waste considered for disposal in this application may be licensed at the source (emphasis added)."

Response: That sentence was deleted in the final application.

10. Section J of the Draft Regional Facility Application makes reference to the Adams County site and the Central Plains Candidate Area identified by the Colorado Geologic Survey. Please explain the relationship of the Clean Harbors facility to the Adams County site and the Central Plains Candidate Area.

Response: The application has been revised to discuss this relationship. While in the immediate vicinity of the state-owned sites identified in the CGS study, as a privately owned site, Deer Trail was not identified specifically, although it exhibits at an optimal level the characteristics of the nearby best state-owned sites (e.g. near-surface outcropping of 4,000 ft of Pierre Shale underlying the site, ability to bottom cells into unweathered Pierre shale, and clayey surficial material of high density/low porosity). Indeed, the site was included in an optimal area for hazardous waste disposal in a previous study co-authored by an author (Jeff Hynes) of the 1986 CGS report, as well.

#### Radioactive Materials License Application

11. The existing Clean Harbors Deer Trail hazardous waste facility is subject to an Adams County special use permit and certificate of designation. What County approvals, if any, will be required before the facility can begin to accept NORM/TNORM radioactive waste? Has Adams County expressed any position regarding Radioactive Materials License Application or the Draft Regional Facility Application to dispose of radioactive waste?

Response: County approval is sought, but not required, for a Colorado Radioactive Materials License for a disposal facility. Adams County has expressed concern about the disposal of radioactive materials at the facility as documented in their letter dated March 23, 2005 and provided to Board staff on March 30, 2005.

12. It appears from the Radioactive Materials License Application that the radioactive wastes are intended to be co-disposed with non-radioactive wastes in the same disposal cell. Please confirm if this is correct.

Response: Clean Harbors intends to commingle suitable wastes in the landfill. We are evaluating this issue as part of the license review.

13. Page 1-13 of the Radioactive Materials License Application discusses waste treatment for wastes that contain liquids or sludge that would not be acceptable for direct bulk disposal. What type of NORM/TNORM wastes are projected to contain liquids or sludge?

Response: "Radium Processing Wastes" are not expected to contain sludges or liquids.

14. Page 1-14 of the Radioactive Materials License Application refers to storage of NORM/TNORM waste in the Container Management Building prior to ". . . treatment, storage, disposal or transfer to another facility." Is it anticipated that Clean Harbors will be transferring radioactive waste to another facility?

Response: Not at this time. Clean Harbors had included that language to demonstrate that if something was inadvertently received that was not suitable for disposal at the facility, they could send it to another Clean Harbors facility.

15. Section 1.2.11 of the Radioactive Materials License Application refers to storage in the transport vehicle or in a designated storage area. The length of time for such storage is described as dependent upon a variety of factors. Does the State intend to impose a time limit on such storage?

Response: It is likely that the State will impose a limit on such storage in the license.

16. Section 2.4.2.3 of the Radioactive Materials License Application describes ground water monitoring requirements in 6 CCR 1007-3 for hazardous waste disposal facilities. Will the state impose any additional ground water monitoring requirements relating to the radioactive constituents of NORM/TNORM waste?

Response: The state is requiring Clean Harbors to perform additional groundwater monitoring for radioactive materials concurrent with the license review in order to expand the available background data. In addition, revisions to the environmental monitoring plan are currently underway to address radioactive materials concerns.

17. The Radioactive Materials License Application describes the waste stream Preacceptance Review and Approval Process (Section 4.1.1) and the Inspection and Evaluation of Waste upon receipt at the facility (Section 4.1.2). What processes will Clean Harbors implement to ensure that the radioactive wastes received at the proposed facility comply with Compact requirements such as import authorization

for waste generated outside the Compact Region? It is recommended that Clean Harbors adopt procedures to ensure that no radioactive wastes other than those approved by the Board receive preacceptance approval by Clean Harbors or are accepted at the proposed facility. We would be happy to work with the State and Clean Harbors in developing such procedures.

Response: It is anticipated that Compact requirements for receipt of Compact wastes will be included in the license. We accept your offer to assist us in developing such procedures, and ask that any existing procedures be provided for our consideration.

18. In addition, the State should provide a draft of the waste acceptance criteria portion of the draft/proposed radioactive materials license for the Board's review.

Response: Based on discussions with the department, Clean Harbors is currently modifying various operational procedures, including waste acceptance. When the new versions are received, they will be posted on the web site noted below for easy access.

The Department is currently reviewing the Clean Harbors license application and may choose to adjust the requested authorization amounts and place certain conditions on the license prior to approval. We have addressed several requests for information (RFI's) and expect that additional RFI's are likely. The Department's questions and Clean Harbors' responses and other correspondence is documented on our web site at <http://www.cdphe.state.co.us/hm/hwy36.htm>.

If you have additional questions or comments, please contact me at 303-692-3423 ([steve.tarlton@state.co.us](mailto:steve.tarlton@state.co.us)) or to Jennifer Opila at 303-692-3403 ([Jennifer.opila@state.co.us](mailto:Jennifer.opila@state.co.us)).

Sincerely,

Steve Tarlton, Unit Leader  
Radiation Management Unit