Colorado Department of Public Health and Environment

Hazardous Materials and Waste Management Division Policies

Policy Title: **Ending Post-Closure Care**

Program(s) Initiating the Policy: **Hazardous Waste Program**

Program(s) Subject to the Policy: **Hazardous Waste Program**

Statutory and Regulatory Citations: **6 CCR 1007-3, §264.117(a) and §265.117(a)**

I. Policy Purpose:

Since the inception of the federal Resource Conservation and Recovery Act (RCRA) and its state equivalent, the Colorado Hazardous Waste Act (CHWA), one focus of the regulatory program has been to require facilities that treat, store or dispose of hazardous waste to either obtain a permit to continue operating or to close their regulated units. Closures that result in leaving waste and/or contamination behind, thereby creating a landfill, require the facility to perform long-term post-closure care of the hazardous waste management unit. The purpose of this policy is to define the criteria by which the Department will determine that the regulatory requirements for closure have been satisfied and post-closure care of the regulated unit may cease.

II. Policy:

6 CCR 1007-3, §264.111 and §265.111 of the Colorado Hazardous Waste Regulations establish performance standards for regulated units at closing facilities, consisting primarily of activities that a) minimize the need for further maintenance and controls, and b) minimize or eliminate future releases of hazardous waste and constituents to the degree necessary to protect human health and the environment. Although a facility may have successfully achieved these standards, the fact that not all hazardous waste and constituents have been removed from the facility triggers the need for long-term maintenance and monitoring of the hazardous waste management unit during the post-closure care period. 6 CCR 1007-3, §264.117(a) and §265.117(a) state "Post-closure care for each hazardous waste management unit…must begin after completion of closure of the unit and continue for 30 years after that date." These sections go on to state that the Department may at any time during the post-closure care period either shorten or lengthen the post-closure care period applicable to the hazardous waste management unit and the wastes managed therein.

Accordingly, the Department may decide that post-closure care is no longer required at a hazardous waste management unit if human health and the environment are sufficiently protected. Although these sections do not require evaluation of specific criteria, they do suggest factors that may be considered in making the decision to end, shorten or lengthen the post-closure care period. These factors include environmental monitoring results, characteristics of the waste and characteristics of the unit that might suggest the facility is secure, stable and predictable in its present and anticipated future state.

A. CDPHE Criteria for Ending Post-Closure Care and Maintenance

Post-closure care under the CHWA may end at regulated units when one of the following conditions is satisfied:

1) The regulated unit is clean closed, either by removing the waste and any associated contamination, or by delisting the waste, rendering it non-hazardous for management as a solid waste either within the existing unit or at some other solid waste facility; or

2) The Department approves, in accordance with 6 CCR 1007-3, §264.117(a)(2)(i) or §265.117(a)(2)(i), a proposal to end post-closure care after completing a performance-based evaluation that considers all relevant unit design and environmental factors to determine that the hazardous waste unit is secure and protective of human health and the environment. The data and site information to be evaluated include, but are not limited to:

- Leachate monitoring results (quality and quantity)
- Ground water monitoring results
- Characteristics of the hazardous waste remaining in the unit – toxicity, mobility, bioavailability, etc.
- Hydrogeologic characteristics of the formation beneath and around the unit
- Overall design of the unit to minimize long-term maintenance, resist the generation of leachate and contain the waste in perpetuity
- The potential for waste or constituents to migrate from the regulated unit
- Management and maintenance history of the unit (including cap and liner)
- End-use strategy and the enforceable mechanism ensuring continued use control and care of the property

The Department will review the information provided, and will consider releasing the unit from long-term post-closure care only if all of the following conditions are met:

- The waste in the regulated unit is, and will continue to be, stable;
- There have been no releases from the unit in the past, or if a release did occur, corrective measures were implemented successfully and subsequent monitoring shows no evidence of a reoccurrence;
- The unit configuration and design, the unit location, and the local geology and hydrology, ensure that a release or exposure to the waste is unlikely;
- No maintenance is required to prevent the migration of or exposure to the waste;
- The institutional controls in the environmental covenant would ensure the preceding conditions would continue in perpetuity;
- Even if a release were to occur from the unit in the future, the anticipated impact to human health and the environment would be minimal and may not justify an active response.

Any proposal to shorten the post-closure care period must be accompanied by adequate data to demonstrate the anticipated long-term performance of the unit. To account for cyclic fluctuations in weather and hydrology, no less that 10 years of performance data are required.

If this evaluation concludes that no further post-closure care is needed, the CHWA regulatory oversight of the waste management unit pursuant to the closure/post-closure regulations will end upon written

approval by the Department. Ending CHWA post-closure care does not necessarily mean that the owner/operator's responsibility at the site ends, but any necessary long-term care and maintenance will have been transferred to an Environmental Covenant. The Environmental Covenant may specify site management and care activities including meeting end-use obligations, maintaining institutional controls, controlling access, and fulfilling other applicable requirements that collectively will ensure that the waste management unit does not pose a threat to human health and the environment. Future land uses must be consistent with the restrictions in the Environmental Covenant. If the property owner desires to change land use in a manner prohibited by the Environmental Covenant, he or she must first seek modification or termination of the Covenant as outlined in C.R.S. §25-15-319(h).

It is important to note that if ongoing corrective action obligations exist in other areas of the facility, the Department will not consider terminating the facility's interim or permitted status until those requirements are satisfied, regardless of whether the post-closure care period for the regulated unit(s) has ended.

If conditions would allow the Department to approve, in accordance with 6 CCR 1007-3, §264.117(a)(2)(i) or §265.117(a)(2)(i), a proposal to end post-closure care under option II.A.2 above, the facility will be required either to place an Environmental Covenant on the property or to modify an existing Environmental Covenant as appropriate to incorporate the use restrictions and associated maintenance and monitoring requirements for the regulated unit.

<u>To be clear, if the above conditions are met in a time-period shorter than 30 years, the post-closure care period can be shortened as appropriate with approval from the Department. However, if the above conditions are not met at the conclusion of the initial 30-year post-closure care period, then the Department will require appropriate post-closure care to continue until these conditions are met, no matter how long that may take.</u>

B. Financial Assurance for Post-Closure

Financial assurance assures that funds will be available whenever needed for the adequate post-closure care of hazardous waste facilities. Should the owner or operator of a facility in post-closure become financially non-viable, the Department will call on the financial assurance to continue active post-closure care, maintenance, and monitoring for whatever timeframe is necessary to meet the conditions in section II.A.2 above.

Therefore, all hazardous waste facilities needing to implement post-closure care must initially provide enough financial assurance to provide for 30 years of post-closure care, maintenance, and monitoring. This amount can be adjusted as follows:

1. If the Department subsequently finds that the post-closure period may end at a point before the initial 30-year period has elapsed by meeting the conditions in section II.A.2 above, then the financial assurance may be terminated at that point.
2. If the Department subsequently finds that the post-closure liability of the owner/operator has legitimately decreased, then the amount of financial assurance can be decreased as approved by the Department. Liability decreases may include, but not be limited to, a) discontinuing certain active components of the remedy because they are no longer necessary; b) certain units or areas in post-closure meeting the conditions in section II.A.2 above, but not all areas; c) discontinuing

monitoring for certain constituents, but not others, because those constituents have met closure standards; or d) if the only ongoing liability is limited to annual cap maintenance and ground water monitoring and the Department finds that the conditions in section II.A.2 will be met before the initial 30-year period has elapsed. In the case of d), the amount of financial assurance can be annually decreased such that by the end of the last year of cap maintenance and/or ground water monitoring, the amount of financial assurance has been reduced to zero.

Important Note: The Department believes that most hazardous waste units in post-closure will not be able to cease post-closure care in 30 years. This could be due to any number of factors, but will usually include the fact that the waste in the unit is still toxic enough that isolation in the unit must be actively ensured. Therefore, the post-closure care period will be extended pursuant to §264.117(a)(2)(ii) or §265.117(a)(2)(ii). In many of these cases, it will be clear that more than 30 years of post-closure care will be needed right from the beginning of closure. When that is the case, the Department will require a continuation of the full 30-year financial assurance amount for all components of post-closure care that will extend beyond the initial 30-year period until such time as the Department believes the unit(s) will be able to meet the conditions in section II.A.2 in less than 30 years.

This policy is: (check one)

_____New X Replacement

Title	Signature	Date
Hazardous Waste Program Manager	Joe Schuff	11/25/13
Division Director	Gary W. Baughman	11/25/13