66264.552 Corrective Action Management Units (CAMU) for RCRA Hazardous Waste

(a)

For the purpose of implementing corrective action under this article, Health and Safety Code sections 25200.10, 25187, or 25200.14, or section 25358.9 where as provided for under the provisions of that section the Department has excluded the removal or corrective action at a site from the hazardous waste facilities permit required by Health and Safety Code section 25201, or federal RCRA section 3005 [Title 42, U.S.C., section 6925], the Department may designate an area at the facility as a corrective action management unit under the requirements in this section. Corrective action management unit means an area within a facility that is used only for managing CAMU-eligible wastes for implementing corrective action or cleanup at the facility. A corrective action management unit shall be located within the contiguous property under the control of the owner or operator where the wastes to be managed in the corrective action management unit originated. One or more corrective action management units may be designated at a facility. (1) CAMU-eligible waste means: (A) All solid and RCRA hazardous wastes, and all media (including ground water, surface water, soils, and sediments) and debris, that are managed for implementing cleanup. As-generated wastes (either RCRA hazardous, non-RCRA hazardous or non-hazardous) from ongoing industrial operations at a

site are not CAMU-eligible wastes. (B) Wastes that would otherwise meet the description in subsection (a)(1)(A) of this section are not "CAMU-Eligible Wastes" where:1. The wastes are RCRA hazardous wastes found during cleanup in intact or substantially intact containers, tanks, or other non-land-based units found above ground, unless the wastes are first placed in the tanks, containers or non-land-based units as part of cleanup, or the containers or tanks are excavated during the course of cleanup; or 2. The Department exercises the discretion in subsection (a)(2) of this section to prohibit the wastes from management in a corrective action management unit. (C) Notwithstanding subsection (a)(1)(A) of this section, where appropriate, as-generated either non-RCRA hazardous or non-hazardous waste may be placed in a corrective action management unit where such waste is being used to facilitate treatment or the performance of the corrective action management unit. (2) The Department may prohibit, where appropriate, the placement of waste in a corrective action management unit where the Department has or receives information that such wastes have not been managed in compliance with applicable land disposal treatment standards of California Code of Regulations, title 22, division 4.5, chapter 18, or applicable unit design requirements of California Code of Regulations, title 22, division 4.5, chapter 14, or applicable unit design requirements of California Code of Regulations, title 22, division 4.5, chapter 18, or that non-compliance with other applicable requirements of California Code of Regulations, title 22 likely contributed to the release of the waste. (3) Prohibition against placing liquids in corrective action management units.(A) The placement of bulk or noncontainerized liquid RCRA hazardous waste or free liquids contained in RCRA hazardous waste (whether or not sorbents have been added) in any corrective action management unit is prohibited except where placement of such wastes

facilitates the remedy selected for the waste. (B) The placement of containers holding free liquids in a corrective action management unit shall comply with the requirements in 40 Code of Federal Regulations part 264.314(d) for placement in landfills except where placement facilitates the remedy selected for the waste. (C) The placement of any liquid which is not a RCRA hazardous waste in a corrective action management unit is prohibited unless such placement facilitates the remedy selected for the waste or a demonstration described in 40 Code of Federal Regulations part 264.314(f) is made. The administrative agency as used in part 264.314(f) includes the Department. (D) The absence or presence of free liquids in either a containerized or a bulk waste shall be determined in accordance with 40 Code of Federal Regulations part 264.314(c). Sorbents used to treat free liquids in corrective action management units shall meet the requirements of 40 Code of Federal Regulations part 264.314(e). (4) Placement of CAMU-eligible wastes into or within a corrective action management unit does not constitute land disposal of RCRA and/or non-RCRA hazardous wastes. (5) Consolidation or placement of CAMU-eligible wastes into or within a corrective action management unit does not constitute creation of a unit subject to minimum technology requirements.

(1)

CAMU-eligible waste means: (A) All solid and RCRA hazardous wastes, and all media (including ground water, surface water, soils, and sediments) and debris, that are managed for implementing cleanup. As-generated wastes (either RCRA hazardous, non-RCRA hazardous or non-hazardous) from ongoing industrial operations at a site are not CAMU-eligible wastes. (B) Wastes that would otherwise meet the description in subsection (a)(1)(A) of this section are not "CAMU-Eligible Wastes" where:1. The wastes are RCRA hazardous wastes found during cleanup in intact or substantially intact containers, tanks, or other non-land-based units found above ground, unless the wastes

are first placed in the tanks, containers or non-land-based units as part of cleanup, or the containers or tanks are excavated during the course of cleanup; or 2. The Department exercises the discretion in subsection (a)(2) of this section to prohibit the wastes from management in a corrective action management unit. (C) Notwithstanding subsection (a)(1)(A) of this section, where appropriate, as-generated either non-RCRA hazardous or non-hazardous waste may be placed in a corrective action management unit where such waste is being used to facilitate treatment or the performance of the corrective action management unit.

(A)

All solid and RCRA hazardous wastes, and all media (including ground water, surface water, soils, and sediments) and debris, that are managed for implementing cleanup. As-generated wastes (either RCRA hazardous, non-RCRA hazardous or non-hazardous) from ongoing industrial operations at a site are not CAMU-eligible wastes.

(B)

Wastes that would otherwise meet the description in subsection (a)(1)(A) of this section are not "CAMU-Eligible Wastes" where:1. The wastes are RCRA hazardous wastes found during cleanup in intact or substantially intact containers, tanks, or other non-land-based units found above ground, unless the wastes are first placed in the tanks, containers or non-land-based units as part of cleanup, or the containers or tanks are excavated during the course of cleanup; or 2. The Department exercises the discretion in subsection (a)(2) of this section to prohibit the wastes from management in a corrective action management unit.

1.

The wastes are RCRA hazardous wastes found during cleanup in intact or substantially intact containers, tanks, or other non-land-based units found above ground, unless the wastes are first placed in the tanks, containers or non-land-based units as part of cleanup, or the containers or tanks are excavated during the course of cleanup; or

2.

The Department exercises the discretion in subsection (a)(2) of this section to prohibit the wastes from management in a corrective action management unit.

(C)

Notwithstanding subsection (a)(1)(A) of this section, where appropriate, as-generated either non-RCRA hazardous or non-hazardous waste may be placed in a corrective action management unit where such waste is being used to facilitate treatment or the performance of the corrective action management unit.

(2)

The Department may prohibit, where appropriate, the placement of waste in a corrective action management unit where the Department has or receives information that such wastes have not been managed in compliance with applicable land disposal treatment standards of California Code of Regulations, title 22, division 4.5, chapter 18, or applicable unit design requirements of California Code of Regulations, title 22, division 4.5, chapter 14, or applicable unit design requirements of California Code of Regulations, title 22, division 4.5, chapter 18, or that non-compliance with other applicable requirements of California Code of Regulations, title 22 likely contributed to the release of the waste.

(3)

Prohibition against placing liquids in corrective action management units.(A) The placement of bulk or noncontainerized liquid RCRA hazardous waste or free liquids contained in RCRA hazardous waste (whether or not sorbents have been added) in any corrective action management unit is prohibited except where placement of such wastes facilitates the remedy selected for the waste. (B) The placement of containers holding free liquids in a corrective action management unit shall comply with the requirements in 40 Code of Federal Regulations part 264.314(d) for placement in

landfills except where placement facilitates the remedy selected for the waste. (C) The placement of any liquid which is not a RCRA hazardous waste in a corrective action management unit is prohibited unless such placement facilitates the remedy selected for the waste or a demonstration described in 40 Code of Federal Regulations part 264.314(f) is made. The administrative agency as used in part 264.314(f) includes the Department. (D) The absence or presence of free liquids in either a containerized or a bulk waste shall be determined in accordance with 40 Code of Federal Regulations part 264.314(c). Sorbents used to treat free liquids in corrective action management units shall meet the requirements of 40 Code of Federal Regulations part 264.314(e).

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The placement of bulk or noncontainerized liquid RCRA hazardous waste or free liquids contained in RCRA hazardous waste (whether or not sorbents have been added) in any corrective action management unit is prohibited except where placement of such wastes facilitates the remedy selected for the waste.

(B)

The placement of containers holding free liquids in a corrective action management unit shall comply with the requirements in 40 Code of Federal Regulations part 264.314(d) for placement in landfills except where placement facilitates the remedy selected for the waste.

(C)

The placement of any liquid which is not a RCRA hazardous waste in a corrective action management unit is prohibited unless such placement facilitates the remedy selected for the waste or a demonstration described in 40 Code of Federal Regulations part 264.314(f) is made. The administrative agency as used in part 264.314(f) includes the Department.

(D)

The absence or presence of free liquids in either a containerized or a bulk waste shall be determined in accordance with 40 Code of Federal Regulations part 264.314(c). Sorbents

used to treat free liquids in corrective action management units shall meet the requirements of 40 Code of Federal Regulations part 264.314(e).

(4)

Placement of CAMU-eligible wastes into or within a corrective action management unit does not constitute land disposal of RCRA and/or non-RCRA hazardous wastes.

(5)

Consolidation or placement of CAMU-eligible wastes into or within a corrective action management unit does not constitute creation of a unit subject to minimum technology requirements.

(b)

(1) The Department may designate a regulated unit (as defined in 40 Code of Federal Regulations part 264.90(a)(2)) as a corrective action management unit, or may incorporate a regulated unit into a corrective action management unit, if:(A) The regulated unit is closed or closing, meaning it has begun the closure process under section 66264.113 of chapter 14 or section 66265.113 of chapter 15 of this division; and (B) Inclusion of the regulated unit will enhance implementation of effective, protective and reliable corrective actions for the facility. (2) The article 6, 7, 8, and 17 requirements of this chapter or article 6, 7, 8, and 18 requirements of chapter 15 and the unit-specific requirements of chapter 14 or 15 that applied to the regulated unit will continue to apply to that portion of the corrective action management unit after incorporation into the corrective action management unit.

(1)

The Department may designate a regulated unit (as defined in 40 Code of Federal Regulations part 264.90(a)(2)) as a corrective action management unit, or may incorporate a regulated unit into a corrective action management unit, if:(A) The

regulated unit is closed or closing, meaning it has begun the closure process under section 66264.113 of chapter 14 or section 66265.113 of chapter 15 of this division; and (B) Inclusion of the regulated unit will enhance implementation of effective, protective and reliable corrective actions for the facility.

(A)

The regulated unit is closed or closing, meaning it has begun the closure process under section 66264.113 of chapter 14 or section 66265.113 of chapter 15 of this division; and

(B)

Inclusion of the regulated unit will enhance implementation of effective, protective and reliable corrective actions for the facility.

(2)

The article 6, 7, 8, and 17 requirements of this chapter or article 6, 7, 8, and 18 requirements of chapter 15 and the unit-specific requirements of chapter 14 or 15 that applied to the regulated unit will continue to apply to that portion of the corrective action management unit after incorporation into the corrective action management unit.

(c)

The Department shall designate a corrective action management unit that will be used for storage and/or treatment only in accordance with subsection (f) of this section. The Department shall designate all other corrective action management units in accordance with the following: (1) The corrective action management unit shall facilitate the implementation of reliable, effective, protective, and cost-effective remedies; (2) Waste management activities associated with the corrective action management unit shall not create unacceptable risks to humans or to the environment resulting from exposure to RCRA or non-RCRA hazardous wastes or hazardous constituents; (3) The corrective action management unit

shall include uncontaminated areas of the facility, only if including such areas for the purpose of managing CAMU-eligible waste is more protective than management of such wastes at contaminated areas of the facility; (4) Areas within the corrective action management unit, where wastes remain in place after closure of the corrective action management unit, shall be managed and contained so as to minimize future releases, to the extent practicable; (5) The corrective action management unit shall expedite the timing of corrective action activity implementation, when appropriate and practicable; (6) The corrective action management unit shall enable the use, when appropriate, of treatment technologies (including innovative technologies) to enhance the long-term effectiveness of corrective actions by reducing the toxicity, mobility, or volume of wastes that will remain in place after closure of the corrective action management unit; and (7) The corrective action management unit shall, to the extent practicable, minimize the land area of the facility upon which wastes will remain in place after closure of the corrective action management unit.

(1)

The corrective action management unit shall facilitate the implementation of reliable, effective, protective, and cost-effective remedies;

(2)

Waste management activities associated with the corrective action management unit shall not create unacceptable risks to humans or to the environment resulting from exposure to RCRA or non-RCRA hazardous wastes or hazardous constituents;

(3)

The corrective action management unit shall include uncontaminated areas of the facility, only if including such areas for the purpose of managing CAMU-eligible waste is more protective than management of such wastes at contaminated areas of the

facility;

(4)

Areas within the corrective action management unit, where wastes remain in place after closure of the corrective action management unit, shall be managed and contained so as to minimize future releases, to the extent practicable;

(5)

The corrective action management unit shall expedite the timing of corrective action activity implementation, when appropriate and practicable;

(6)

The corrective action management unit shall enable the use, when appropriate, of treatment technologies (including innovative technologies) to enhance the long-term effectiveness of corrective actions by reducing the toxicity, mobility, or volume of wastes that will remain in place after closure of the corrective action management unit; and

(7)

The corrective action management unit shall, to the extent practicable, minimize the land area of the facility upon which wastes will remain in place after closure of the corrective action management unit.

(d)

The owner or operator shall provide sufficient information to enable the Department to designate a corrective action management unit in accordance with the criteria in this section. This shall include, unless not reasonably available, information on: (1) The origin of the waste and how it was subsequently managed (including a description of the timing and circumstances surrounding the disposal and/or release); (2) Whether the waste was listed or identified as RCRA hazardous at the time of disposal and/or release; and (3) Whether the disposal and/or

release of the waste occurred before or after the land disposal requirements of 40 Code of Federal Regulations part 268 were in effect for the waste listing or characteristic.

(1)

The origin of the waste and how it was subsequently managed (including a description of the timing and circumstances surrounding the disposal and/or release);

(2)

Whether the waste was listed or identified as RCRA hazardous at the time of disposal and/or release; and

(3)

Whether the disposal and/or release of the waste occurred before or after the land disposal requirements of 40 Code of Federal Regulations part 268 were in effect for the waste listing or characteristic.

(e)

The Department shall specify, in the permit or order, requirements for corrective action management units to include the following: (1) The areal configuration of the corrective action management unit. (2) Except as provided in subsection (g) of this section, requirements for CAMU-eligible waste management to include the specification of applicable design, operation, treatment and closure requirements. (3) Minimum design requirements. Corrective action management units, except as provided in subsection (f) of this section, into which wastes are placed shall be designed in accordance with the following:(A) Unless the Department approves alternate requirements under subsection (e)(3)(B) of this section, corrective action management units that consist of new, replacement, or laterally expanded units shall include a composite liner and a leachate collection system that is designed and constructed to maintain less than a 30-cm depth of leachate over the liner.

For purposes of this section, composite liner means a system consisting of two components; the upper component shall consist of a minimum 30-mil flexible membrane liner (FML), and the lower component shall consist of at least a two-foot layer of compacted soil with a hydraulic conductivity of no more than 1x10-7 cm/sec. FML components consisting of high density polyethylene (HDPE) shall be at least 60 mil thick. The FML component shall be installed in direct and uniform contact with the compacted soil component; (B) Alternate requirements. The Department may approve alternate requirements if: 1. The Department finds that alternate design and operating practices, together with location characteristics, will prevent the migration of any hazardous constituents into the ground water or surface water at least as effectively as the liner and leachate collection systems in subsection (e)(3)(A) of this section; or 2. The corrective action management unit is to be established in an area with existing significant levels of contamination, and the Department finds that an alternative design, including a design that does not include a liner, would prevent migration from the unit that would exceed longterm corrective action goals. (4) Minimum treatment requirements: Unless the wastes will be placed in a corrective action management unit for storage and/or treatment only in accordance with subsection (f) of this section, CAMU-eligible wastes that, absent this section, would be subject to the treatment requirements of 40 Code of Federal Regulations part 268, and that the Department determines contain principal hazardous constituents, shall be treated to the standards specified in subsection (e)(4)(C) of this section. (A) Principal hazardous constituents are those constituents that the Department determines pose a risk to human health and the environment substantially higher than the cleanup levels or goals at the site.1. In general, the Department will designate as principal hazardous constituents: a. Carcinogens that pose a potential direct risk

from ingestion or inhalation at the site at or above 10-3; and b. Non-carcinogens that pose a potential direct risk from ingestion or inhalation at the site an order of magnitude or greater over their reference dose. 2. The Department will also designate constituents as principal hazardous constituents, where appropriate, when risks to human health and the environment posed by the potential migration of constituents in wastes to ground water are substantially higher than cleanup levels or goals at the site; when making such a designation, the Department may consider such factors as constituent concentrations, and fate and transport characteristics under site conditions. 3. The Department may also designate other constituents as principal hazardous constituents that the Department determines pose a risk to human health and the environment substantially higher than the cleanup levels or goals at the site. (B) In determining which constituents are "principal hazardous constituents," the Department shall consider all constituents which, absent this section, would be subject to the treatment requirements in 40 Code of Federal Regulations part 268. (C) Waste that the Department determines contains principal hazardous constituents shall meet treatment standards determined in accordance with subsection (e)(4)(D) or (e)(4)(E) of this section: (D) Treatment standards for wastes placed in corrective action management units. 1. For non-metals, treatment shall achieve 90 percent reduction in total principal hazardous constituent concentrations, except as provided by subsection (e)(4)(D) 3 of this section. 2. For metals, treatment shall achieve 90 percent reduction in principal hazardous constituent concentrations as measured in leachate from the treated waste or media (tested according to the TCLP incorporated by reference in section 66264.24, subsection (a) of this division) or 90 percent reduction in total constituent concentrations (when a metal removal treatment technology is used), except as provided by subsection (e)(4)(D) 3 of this section. 3. When treatment

of any principal hazardous constituent to a 90 percent reduction standard would result in a concentration less than 10 times the Universal Treatment Standard for that constituent, treatment to achieve constituent concentrations less than 10 times the Universal Treatment Standard is not required. Universal Treatment Standards are identified in 40 Code of Federal Regulations part 268.48 Table UTS. 4. For waste exhibiting the RCRA hazardous characteristic of ignitability, corrosivity or reactivity, the waste shall also be treated to eliminate these characteristics. 5. For debris, the debris shall be treated in accordance with California Code of Regulations, title 22, section 66268.45, or by methods or to levels established under subsections (e)(4)(D) 1 through 4, or subsection (e)(4)(E) of this section, whichever the Department determines is appropriate. 6. Alternatives to TCLP. For metal bearing wastes for which metals removal treatment is not used, the Department may specify a leaching test other than the TCLP (SW846 Method 1311, 40 C.F.R. § 260.11 (11)) to measure treatment effectiveness, provided the Department determines that an alternative leach testing protocol is appropriate for use, and that the alternative more accurately reflects conditions at the site that affect leaching. (E) Adjusted standards. The Department may adjust the treatment level or method in subsection (e)(4)(D) of this section to a higher or lower level, based on one or more of the following factors, as appropriate. The adjusted level or method shall be protective of human health and the environment: 1. The technical impracticability of treatment to the levels or by the methods in subsection (e)(4)(D) of this section; 2. The levels or methods in subsection (e)(4)(D) of this section would result in concentrations of principal hazardous constituents (PHCs) that are significantly above or below cleanup standards applicable to the site (established either site-specifically, or promulgated under state or federal law); 3. The views of the affected local

community on the treatment levels or methods in subsection (e)(4)(D) of this section as applied at the site, and, for treatment levels, the treatment methods necessary to achieve these levels; 4. The short-term risks presented by the on-site treatment method necessary to achieve the levels or treatment methods in subsection (e)(4)(D) of this section; 5. The long-term protection offered by the engineering design of the corrective action management unit and related engineering controls: a. Where the treatment standards in subsection (e)(4)(D) of this section are substantially met and the principal hazardous constituents in the waste or residuals are of very low mobility; or b. Where cost-effective treatment has been used and the corrective action management unit meets the RCRA subtitle C liner and leachate collection requirements for new land disposal units at 40 Code of Federal Regulations parts 264.301(c) and (d); or c. Where, after review of appropriate treatment technologies, the Department determines that cost-effective treatment is not reasonably available, and the corrective action management unit meets the RCRA subtitle C liner and leachate collection requirements for new land disposal units at 40 Code of Federal Regulations parts 264.301(c) and (d); or d. Where cost-effective treatment has been used and the principal hazardous constituents in the treated wastes are of very low mobility; or e. Where, after review of appropriate treatment technologies, the Department determines that cost-effective treatment is not reasonably available, the principal hazardous constituents in the wastes are of very low mobility, and either the corrective action management unit meets or exceeds the liner standards for new, replacement, or laterally expanded corrective action management units in subsections (e)(3)(A) and (B) of this section, or the corrective action management unit provides substantially equivalent or greater protection. (F) The treatment required by the treatment standards shall be completed prior to, or within a

reasonable time after, placement in the corrective action management unit. (G) For the purpose of determining whether wastes placed in corrective action management units have met site-specific treatment standards, the Department may, as appropriate, specify a subset of the principal hazardous constituents in the waste as analytical surrogates for determining whether treatment standards have been met for other principal hazardous constituents. This specification will be based on the degree of difficulty of treatment and analysis of constituents with similar treatment properties. (5) Except as provided in subsection (f) of this section, requirements for ground water monitoring and corrective action that are sufficient to: (A) Continue to detect and to characterize the nature, extent, concentration, direction, and movement of existing releases of hazardous constituents in ground water from sources located within the corrective action management unit; and (B) Detect and subsequently characterize releases of hazardous constituents to ground water that may occur from areas of the corrective action management unit in which wastes will remain in place after closure of the corrective action management unit; and (C) Require notification to the Department and corrective action as necessary to protect human health and the environment for releases to ground water from the corrective action management unit. (6) Except as provided in subsection (f) of this section, closure and post-closure requirements: (A) Closure of corrective action management units shall:1. Minimize the need for further maintenance; and 2. Control, minimize, or eliminate, to the extent necessary to protect human health and the environment, for areas where wastes remain in place, post-closure escape of RCRA hazardous wastes, hazardous constituents, leachate, contaminated runoff, or RCRA hazardous waste decomposition products to the ground, to surface waters, or to the atmosphere. (B) Requirements for closure of corrective action

management units shall include the following, as appropriate and as deemed necessary by the Department for a given corrective action management unit:1. Requirements for excavation, removal, treatment or containment of wastes; and 2. Requirements for removal and decontamination of equipment, devices, and structures used in CAMU-eligible waste management activities within the corrective action management unit. (C) In establishing specific closure requirements for corrective action management units under subsection (e) of this section, the Department shall consider the following factors:1. Corrective action management unit characteristics; 2. Volume of wastes which remain in place after closure; 3. Potential for releases from the corrective action management unit; 4. Physical and chemical characteristics of the waste; 5. Hydrological and other relevant environmental conditions at the facility which may influence the migration of any potential or actual releases; and 6. Potential for exposure of humans and environmental receptors if releases were to occur from the corrective action management unit. (D) Cap requirements:1. At final closure of the corrective action management unit, for areas in which wastes will remain after closure of the corrective action management unit, with constituent concentrations at or above corrective action levels or goals applicable to the site, the owner or operator shall cover the corrective action management unit with a final cover designed and constructed to meet the following performance criteria, except as provided in subsection (e)(6)(D) 2 of this section: a. Provide long-term minimization of migration of liquids through the closed unit; b. Function with minimum maintenance; c. Promote drainage and minimize erosion or abrasion of the cover; d. Accommodate settling and subsidence so that the cover's integrity is maintained; and e. Have a permeability less than or equal to the permeability of any bottom liner system or natural subsoils present. 2. The Department may

determine that modifications to subsection (e)(6)(D) 1 of this section are needed to facilitate treatment or the performance of the corrective action management unit (e.g., to promote biodegradation). (E) Post-closure requirements as necessary to protect human health and the environment, to include, for areas where wastes will remain in place, monitoring and maintenance activities, and the frequency with which such activities shall be performed to ensure the integrity of any cap, final cover, or other containment system.

(1)

The areal configuration of the corrective action management unit.

(2)

Except as provided in subsection (g) of this section, requirements for CAMU-eligible waste management to include the specification of applicable design, operation, treatment and closure requirements.

(3)

Minimum design requirements. Corrective action management units, except as provided in subsection (f) of this section, into which wastes are placed shall be designed in accordance with the following:(A) Unless the Department approves alternate requirements under subsection (e)(3)(B) of this section, corrective action management units that consist of new, replacement, or laterally expanded units shall include a composite liner and a leachate collection system that is designed and constructed to maintain less than a 30-cm depth of leachate over the liner. For purposes of this section, composite liner means a system consisting of two components; the upper component shall consist of a minimum 30-mil flexible membrane liner (FML), and the lower component shall consist of at least a two-foot layer of compacted soil with a hydraulic conductivity of no more than 1x10-7 cm/sec. FML components consisting of high density polyethylene (HDPE) shall be at least 60 mil

thick. The FML component shall be installed in direct and uniform contact with the compacted soil component; (B) Alternate requirements. The Department may approve alternate requirements if: 1. The Department finds that alternate design and operating practices, together with location characteristics, will prevent the migration of any hazardous constituents into the ground water or surface water at least as effectively as the liner and leachate collection systems in subsection (e)(3)(A) of this section; or 2. The corrective action management unit is to be established in an area with existing significant levels of contamination, and the Department finds that an alternative design, including a design that does not include a liner, would prevent migration from the unit that would exceed longterm corrective action goals.

(A)

Unless the Department approves alternate requirements under subsection (e)(3)(B) of this section, corrective action management units that consist of new, replacement, or laterally expanded units shall include a composite liner and a leachate collection system that is designed and constructed to maintain less than a 30-cm depth of leachate over the liner. For purposes of this section, composite liner means a system consisting of two components; the upper component shall consist of a minimum 30-mil flexible membrane liner (FML), and the lower component shall consist of at least a two-foot layer of compacted soil with a hydraulic conductivity of no more than 1x10-7 cm/sec. FML components consisting of high density polyethylene (HDPE) shall be at least 60 mil thick. The FML component shall be installed in direct and uniform contact with the compacted soil component;

(B)

Alternate requirements. The Department may approve alternate requirements if: 1. The Department finds that alternate design and operating practices, together with location characteristics, will prevent the migration of any hazardous constituents into the ground water or surface water at least as effectively as the liner and leachate collection systems in

subsection (e)(3)(A) of this section; or 2. The corrective action management unit is to be established in an area with existing significant levels of contamination, and the Department finds that an alternative design, including a design that does not include a liner, would prevent migration from the unit that would exceed longterm corrective action goals.

1.

The Department finds that alternate design and operating practices, together with location characteristics, will prevent the migration of any hazardous constituents into the ground water or surface water at least as effectively as the liner and leachate collection systems in subsection (e)(3)(A) of this section; or

2.

The corrective action management unit is to be established in an area with existing significant levels of contamination, and the Department finds that an alternative design, including a design that does not include a liner, would prevent migration from the unit that would exceed longterm corrective action goals.

(4)

Minimum treatment requirements: Unless the wastes will be placed in a corrective action management unit for storage and/or treatment only in accordance with subsection (f) of this section, CAMU-eligible wastes that, absent this section, would be subject to the treatment requirements of 40 Code of Federal Regulations part 268, and that the Department determines contain principal hazardous constituents, shall be treated to the standards specified in subsection (e)(4)(C) of this section. (A) Principal hazardous constituents are those constituents that the Department determines pose a risk to human health and the environment substantially higher than the cleanup levels or goals at the site.1. In general, the Department will designate as principal hazardous constituents: a. Carcinogens that pose a potential direct risk from ingestion or inhalation at the site at or above 10-3; and b. Non-carcinogens that pose a potential

direct risk from ingestion or inhalation at the site an order of magnitude or greater over their reference dose. 2. The Department will also designate constituents as principal hazardous constituents, where appropriate, when risks to human health and the environment posed by the potential migration of constituents in wastes to ground water are substantially higher than cleanup levels or goals at the site; when making such a designation, the Department may consider such factors as constituent concentrations, and fate and transport characteristics under site conditions. 3. The Department may also designate other constituents as principal hazardous constituents that the Department determines pose a risk to human health and the environment substantially higher than the cleanup levels or goals at the site. (B) In determining which constituents are "principal hazardous constituents," the Department shall consider all constituents which, absent this section, would be subject to the treatment requirements in 40 Code of Federal Regulations part 268. (C) Waste that the Department determines contains principal hazardous constituents shall meet treatment standards determined in accordance with subsection (e)(4)(D) or (e)(4)(E) of this section: (D) Treatment standards for wastes placed in corrective action management units. 1. For non-metals, treatment shall achieve 90 percent reduction in total principal hazardous constituent concentrations, except as provided by subsection (e)(4)(D) 3 of this section. 2. For metals, treatment shall achieve 90 percent reduction in principal hazardous constituent concentrations as measured in leachate from the treated waste or media (tested according to the TCLP incorporated by reference in section 66264.24, subsection (a) of this division) or 90 percent reduction in total constituent concentrations (when a metal removal treatment technology is used), except as provided by subsection (e)(4)(D) 3 of this section. 3. When treatment of any principal hazardous constituent to a 90 percent reduction standard would result in a concentration less than 10 times the Universal Treatment Standard for that constituent,

treatment to achieve constituent concentrations less than 10 times the Universal Treatment Standard is not required. Universal Treatment Standards are identified in 40 Code of Federal Regulations part 268.48 Table UTS. 4. For waste exhibiting the RCRA hazardous characteristic of ignitability, corrosivity or reactivity, the waste shall also be treated to eliminate these characteristics. 5. For debris, the debris shall be treated in accordance with California Code of Regulations, title 22, section 66268.45, or by methods or to levels established under subsections (e)(4)(D) 1 through 4, or subsection (e)(4)(E) of this section, whichever the Department determines is appropriate. 6. Alternatives to TCLP. For metal bearing wastes for which metals removal treatment is not used, the Department may specify a leaching test other than the TCLP (SW846 Method 1311, 40 C.F.R. § 260.11 (11)) to measure treatment effectiveness, provided the Department determines that an alternative leach testing protocol is appropriate for use, and that the alternative more accurately reflects conditions at the site that affect leaching. (E) Adjusted standards. The Department may adjust the treatment level or method in subsection (e)(4)(D) of this section to a higher or lower level, based on one or more of the following factors, as appropriate. The adjusted level or method shall be protective of human health and the environment: 1. The technical impracticability of treatment to the levels or by the methods in subsection (e)(4)(D) of this section; 2. The levels or methods in subsection (e)(4)(D) of this section would result in concentrations of principal hazardous constituents (PHCs) that are significantly above or below cleanup standards applicable to the site (established either site-specifically, or promulgated under state or federal law); 3. The views of the affected local community on the treatment levels or methods in subsection (e)(4)(D) of this section as applied at the site, and, for treatment levels, the treatment methods necessary to achieve these levels; 4. The short-term risks presented by the on-site treatment method necessary to achieve the levels or treatment methods in subsection (e)(4)(D) of this section; 5. The

long-term protection offered by the engineering design of the corrective action management unit and related engineering controls: a. Where the treatment standards in subsection (e)(4)(D) of this section are substantially met and the principal hazardous constituents in the waste or residuals are of very low mobility; or b. Where cost-effective treatment has been used and the corrective action management unit meets the RCRA subtitle C liner and leachate collection requirements for new land disposal units at 40 Code of Federal Regulations parts 264.301(c) and (d); or c. Where, after review of appropriate treatment technologies, the Department determines that cost-effective treatment is not reasonably available, and the corrective action management unit meets the RCRA subtitle C liner and leachate collection requirements for new land disposal units at 40 Code of Federal Regulations parts 264.301(c) and (d); or d. Where cost-effective treatment has been used and the principal hazardous constituents in the treated wastes are of very low mobility; or e. Where, after review of appropriate treatment technologies, the Department determines that cost-effective treatment is not reasonably available, the principal hazardous constituents in the wastes are of very low mobility, and either the corrective action management unit meets or exceeds the liner standards for new, replacement, or laterally expanded corrective action management units in subsections (e)(3)(A) and (B) of this section, or the corrective action management unit provides substantially equivalent or greater protection. (F) The treatment required by the treatment standards shall be completed prior to, or within a reasonable time after, placement in the corrective action management unit. (G) For the purpose of determining whether wastes placed in corrective action management units have met site-specific treatment standards, the Department may, as appropriate, specify a subset of the principal hazardous constituents in the waste as analytical surrogates for determining whether treatment standards have been met for other principal hazardous constituents. This specification

will be based on the degree of difficulty of treatment and analysis of constituents with similar treatment properties.

(A)

Principal hazardous constituents are those constituents that the Department determines pose a risk to human health and the environment substantially higher than the cleanup levels or goals at the site.1. In general, the Department will designate as principal hazardous constituents: a. Carcinogens that pose a potential direct risk from ingestion or inhalation at the site at or above 10-3; and b. Non-carcinogens that pose a potential direct risk from ingestion or inhalation at the site an order of magnitude or greater over their reference dose. 2. The Department will also designate constituents as principal hazardous constituents, where appropriate, when risks to human health and the environment posed by the potential migration of constituents in wastes to ground water are substantially higher than cleanup levels or goals at the site; when making such a designation, the Department may consider such factors as constituent concentrations, and fate and transport characteristics under site conditions. 3. The Department may also designate other constituents as principal hazardous constituents that the Department determines pose a risk to human health and the environment substantially higher than the cleanup levels or goals at the site.

1.

In general, the Department will designate as principal hazardous constituents: a. Carcinogens that pose a potential direct risk from ingestion or inhalation at the site at or above 10-3; and b. Non-carcinogens that pose a potential direct risk from ingestion or inhalation at the site an order of magnitude or greater over their reference dose.

a.

Carcinogens that pose a potential direct risk from ingestion or inhalation at the site at or above 10-3; and

b.

Non-carcinogens that pose a potential direct risk from ingestion or inhalation at the site an order of magnitude

or greater over their reference dose.

2.

The Department will also designate constituents as principal hazardous constituents, where appropriate, when risks to human health and the environment posed by the potential migration of constituents in wastes to ground water are substantially higher than cleanup levels or goals at the site; when making such a designation, the Department may consider such factors as constituent concentrations, and fate and transport characteristics under site conditions.

3.

The Department may also designate other constituents as principal hazardous constituents that the Department determines pose a risk to human health and the environment substantially higher than the cleanup levels or goals at the site.

(B)

In determining which constituents are "principal hazardous constituents," the Department shall consider all constituents which, absent this section, would be subject to the treatment requirements in 40 Code of Federal Regulations part 268.

(C)

Waste that the Department determines contains principal hazardous constituents shall meet treatment standards determined in accordance with subsection (e)(4)(D) or (e)(4)(E) of this section:

(D)

Treatment standards for wastes placed in corrective action management units. 1. For non-metals, treatment shall achieve 90 percent reduction in total principal hazardous constituent concentrations, except as provided by subsection (e)(4)(D) 3 of this section. 2. For metals, treatment shall achieve 90 percent reduction in principal hazardous constituent concentrations as measured in leachate from the treated waste or media (tested according to the TCLP incorporated by reference in section 66264.24, subsection (a) of this division) or

90 percent reduction in total constituent concentrations (when a metal removal treatment technology is used), except as provided by subsection (e)(4)(D) 3 of this section. 3. When treatment of any principal hazardous constituent to a 90 percent reduction standard would result in a concentration less than 10 times the Universal Treatment Standard for that constituent, treatment to achieve constituent concentrations less than 10 times the Universal Treatment Standard is not required. Universal Treatment Standards are identified in 40 Code of Federal Regulations part 268.48 Table UTS. 4. For waste exhibiting the RCRA hazardous characteristic of ignitability, corrosivity or reactivity, the waste shall also be treated to eliminate these characteristics. 5. For debris, the debris shall be treated in accordance with California Code of Regulations, title 22, section 66268.45, or by methods or to levels established under subsections (e)(4)(D) 1 through 4, or subsection (e)(4)(E) of this section, whichever the Department determines is appropriate. 6. Alternatives to TCLP. For metal bearing wastes for which metals removal treatment is not used, the Department may specify a leaching test other than the TCLP (SW846 Method 1311, 40 C.F.R. § 260.11 (11)) to measure treatment effectiveness, provided the Department determines that an alternative leach testing protocol is appropriate for use, and that the alternative more accurately reflects conditions at the site that affect leaching.

1.

For non-metals, treatment shall achieve 90 percent reduction in total principal hazardous constituent concentrations, except as provided by subsection (e)(4)(D) 3 of this section.

2.

For metals, treatment shall achieve 90 percent reduction in principal hazardous constituent concentrations as measured in leachate from the treated waste or media (tested according to the TCLP incorporated by reference in section 66264.24, subsection (a) of this division) or 90 percent reduction in total constituent concentrations (when a metal removal treatment technology is used), except as provided by subsection (e)(4)(D) 3 of this section.

3.

When treatment of any principal hazardous constituent to a 90 percent reduction standard would result in a concentration less than 10 times the Universal Treatment Standard for that constituent, treatment to achieve constituent concentrations less than 10 times the Universal Treatment Standard is not required. Universal Treatment Standards are identified in 40 Code of Federal Regulations part 268.48 Table UTS.

4.

For waste exhibiting the RCRA hazardous characteristic of ignitability, corrosivity or reactivity, the waste shall also be treated to eliminate these characteristics.

5.

For debris, the debris shall be treated in accordance with California Code of Regulations, title 22, section 66268.45, or by methods or to levels established under subsections (e)(4)(D) 1 through 4, or subsection (e)(4)(E) of this section, whichever the Department determines is appropriate.

6.

Alternatives to TCLP. For metal bearing wastes for which metals removal treatment is not used, the Department may specify a leaching test other than the TCLP (SW846 Method 1311, 40 C.F.R. § 260.11 (11)) to measure treatment effectiveness, provided the Department determines that an alternative leach testing protocol is appropriate for use, and that the alternative more accurately reflects conditions at the site that affect leaching.

(E)

Adjusted standards. The Department may adjust the treatment level or method in subsection (e)(4)(D) of this section to a higher or lower level, based on one or more of the following factors, as appropriate. The adjusted level or method shall be protective of human health and the environment: 1. The technical impracticability of treatment to the levels or by the methods in subsection (e)(4)(D) of this section; 2. The levels or methods in subsection (e)(4)(D) of this section would result in concentrations of principal hazardous

constituents (PHCs) that are significantly above or below cleanup standards applicable to the site (established either site-specifically, or promulgated under state or federal law); 3. The views of the affected local community on the treatment levels or methods in subsection (e)(4)(D) of this section as applied at the site, and, for treatment levels, the treatment methods necessary to achieve these levels; 4. The short-term risks presented by the on-site treatment method necessary to achieve the levels or treatment methods in subsection (e)(4)(D) of this section; 5. The long-term protection offered by the engineering design of the corrective action management unit and related engineering controls: a. Where the treatment standards in subsection (e)(4)(D) of this section are substantially met and the principal hazardous constituents in the waste or residuals are of very low mobility; or b. Where cost-effective treatment has been used and the corrective action management unit meets the RCRA subtitle C liner and leachate collection requirements for new land disposal units at 40 Code of Federal Regulations parts 264.301(c) and (d); or c. Where, after review of appropriate treatment technologies, the Department determines that cost-effective treatment is not reasonably available, and the corrective action management unit meets the RCRA subtitle C liner and leachate collection requirements for new land disposal units at 40 Code of Federal Regulations parts 264.301(c) and (d); or d. Where cost-effective treatment has been used and the principal hazardous constituents in the treated wastes are of very low mobility; or e. Where, after review of appropriate treatment technologies, the Department determines that cost-effective treatment is not reasonably available, the principal hazardous constituents in the wastes are of very low mobility, and either the corrective action management unit meets or exceeds the liner standards for new, replacement, or laterally expanded corrective action management units in subsections (e)(3)(A) and (B) of this section, or the corrective action management unit provides substantially equivalent or greater protection.

1.

The technical impracticability of treatment to the levels or by the methods in subsection (e)(4)(D) of this section;

2.

The levels or methods in subsection (e)(4)(D) of this section would result in concentrations of principal hazardous constituents (PHCs) that are significantly above or below cleanup standards applicable to the site (established either site-specifically, or promulgated under state or federal law);

3.

The views of the affected local community on the treatment levels or methods in subsection (e)(4)(D) of this section as applied at the site, and, for treatment levels, the treatment methods necessary to achieve these levels;

4.

The short-term risks presented by the on-site treatment method necessary to achieve the levels or treatment methods in subsection (e)(4)(D) of this section;

5.

The long-term protection offered by the engineering design of the corrective action management unit and related engineering controls: a. Where the treatment standards in subsection (e)(4)(D) of this section are substantially met and the principal hazardous constituents in the waste or residuals are of very low mobility; or b. Where cost-effective treatment has been used and the corrective action management unit meets the RCRA subtitle C liner and leachate collection requirements for new land disposal units at 40 Code of Federal Regulations parts 264.301(c) and (d); or c. Where, after review of appropriate treatment technologies, the Department determines that cost-effective treatment is not reasonably available, and the corrective action management unit meets the RCRA subtitle C liner and leachate collection requirements for new land disposal units at 40 Code of Federal Regulations parts 264.301(c) and (d); or d. Where cost-effective treatment has been used and the principal hazardous constituents in the treated wastes are of very low mobility; or e. Where, after review of appropriate treatment technologies, the Department determines that cost-effective

treatment is not reasonably available, the principal hazardous constituents in the wastes are of very low mobility, and either the corrective action management unit meets or exceeds the liner standards for new, replacement, or laterally expanded corrective action management units in subsections (e)(3)(A) and (B) of this section, or the corrective action management unit provides substantially equivalent or greater protection.

a.

Where the treatment standards in subsection (e)(4)(D) of this section are substantially met and the principal hazardous constituents in the waste or residuals are of very low mobility; or

b.

Where cost-effective treatment has been used and the corrective action management unit meets the RCRA subtitle C liner and leachate collection requirements for new land disposal units at 40 Code of Federal Regulations parts 264.301(c) and (d); or

c.

Where, after review of appropriate treatment technologies, the Department determines that cost-effective treatment is not reasonably available, and the corrective action management unit meets the RCRA subtitle C liner and leachate collection requirements for new land disposal units at 40 Code of Federal Regulations parts 264.301(c) and (d); or

d.

Where cost-effective treatment has been used and the principal hazardous constituents in the treated wastes are of very low mobility; or

e.

Where, after review of appropriate treatment technologies, the Department determines that cost-effective treatment is not reasonably available, the principal hazardous constituents in the wastes are of very low mobility, and either the corrective action management unit meets or exceeds the liner standards for new, replacement, or laterally expanded corrective action management units in subsections (e)(3)(A) and (B) of this section, or the corrective action management unit provides substantially equivalent or greater protection.

(F)

The treatment required by the treatment standards shall be completed prior to, or within a reasonable time after, placement in the corrective action management unit.

(G)

For the purpose of determining whether wastes placed in corrective action management units have met site-specific treatment standards, the Department may, as appropriate, specify a subset of the principal hazardous constituents in the waste as analytical surrogates for determining whether treatment standards have been met for other principal hazardous constituents. This specification will be based on the degree of difficulty of treatment and analysis of constituents with similar treatment properties.

(5)

Except as provided in subsection (f) of this section, requirements for ground water monitoring and corrective action that are sufficient to: (A) Continue to detect and to characterize the nature, extent, concentration, direction, and movement of existing releases of hazardous constituents in ground water from sources located within the corrective action management unit; and (B) Detect and subsequently characterize releases of hazardous constituents to ground water that may occur from areas of the corrective action management unit in which wastes will remain in place after closure of the corrective action management unit; and (C) Require notification to the Department and corrective action as necessary to protect human health and the environment for releases to ground water from the corrective action management unit.

(A)

Continue to detect and to characterize the nature, extent, concentration, direction, and movement of existing releases of hazardous constituents in ground water from sources located within the corrective action management unit; and

(B)

Detect and subsequently characterize releases of hazardous constituents to ground water that may occur from areas of the corrective action management unit in which wastes will remain in place after closure of the corrective action management unit; and

(C)

Require notification to the Department and corrective action as necessary to protect human health and the environment for releases to ground water from the corrective action management unit.

(6)

Except as provided in subsection (f) of this section, closure and post-closure requirements: (A) Closure of corrective action management units shall:1. Minimize the need for further maintenance; and 2. Control, minimize, or eliminate, to the extent necessary to protect human health and the environment, for areas where wastes remain in place, post-closure escape of RCRA hazardous wastes, hazardous constituents, leachate, contaminated runoff, or RCRA hazardous waste decomposition products to the ground, to surface waters, or to the atmosphere. (B) Requirements for closure of corrective action management units shall include the following, as appropriate and as deemed necessary by the Department for a given corrective action management unit:1. Requirements for excavation, removal, treatment or containment of wastes; and 2. Requirements for removal and decontamination of equipment, devices, and structures used in CAMU-eligible waste management activities within the corrective action management unit. (C) In establishing specific closure requirements for corrective action management units under subsection (e) of this section, the Department shall consider the following factors:1. Corrective action management unit characteristics; 2. Volume of wastes which remain in place after closure; 3. Potential for releases from the corrective action management unit; 4. Physical and chemical characteristics of the waste; 5. Hydrological and other relevant environmental

conditions at the facility which may influence the migration of any potential or actual releases; and 6. Potential for exposure of humans and environmental receptors if releases were to occur from the corrective action management unit. (D) Cap requirements:1. At final closure of the corrective action management unit, for areas in which wastes will remain after closure of the corrective action management unit, with constituent concentrations at or above corrective action levels or goals applicable to the site, the owner or operator shall cover the corrective action management unit with a final cover designed and constructed to meet the following performance criteria, except as provided in subsection (e)(6)(D) 2 of this section: a. Provide long-term minimization of migration of liquids through the closed unit; b. Function with minimum maintenance; c. Promote drainage and minimize erosion or abrasion of the cover; d. Accommodate settling and subsidence so that the cover's integrity is maintained; and e. Have a permeability less than or equal to the permeability of any bottom liner system or natural subsoils present. 2. The Department may determine that modifications to subsection (e)(6)(D) 1 of this section are needed to facilitate treatment or the performance of the corrective action management unit (e.g., to promote biodegradation). (E) Post-closure requirements as necessary to protect human health and the environment, to include, for areas where wastes will remain in place, monitoring and maintenance activities, and the frequency with which such activities shall be performed to ensure the integrity of any cap, final cover, or other containment system.

(A)

Closure of corrective action management units shall:1. Minimize the need for further maintenance; and 2. Control, minimize, or eliminate, to the extent necessary to protect human health and the environment, for areas where wastes remain in place, post-closure escape of RCRA hazardous wastes, hazardous constituents, leachate, contaminated runoff, or

RCRA hazardous waste decomposition products to the ground, to surface waters, or to the atmosphere.

1.

Minimize the need for further maintenance; and

2.

Control, minimize, or eliminate, to the extent necessary to protect human health and the environment, for areas where wastes remain in place, post-closure escape of RCRA hazardous wastes, hazardous constituents, leachate, contaminated runoff, or RCRA hazardous waste decomposition products to the ground, to surface waters, or to the atmosphere.

(B)

Requirements for closure of corrective action management units shall include the following, as appropriate and as deemed necessary by the Department for a given corrective action management unit:1. Requirements for excavation, removal, treatment or containment of wastes; and 2. Requirements for removal and decontamination of equipment, devices, and structures used in CAMU-eligible waste management activities within the corrective action management unit.

1.

Requirements for excavation, removal, treatment or containment of wastes; and

2.

Requirements for removal and decontamination of equipment, devices, and structures used in CAMU-eligible waste management activities within the corrective action management unit.

(C)

In establishing specific closure requirements for corrective action management units under subsection (e) of this section, the Department shall consider the following factors:1. Corrective action management unit characteristics; 2. Volume of wastes which remain in place after closure; 3. Potential for releases from the corrective action management unit; 4.

Physical and chemical characteristics of the waste; 5. Hydrological and other relevant environmental conditions at the facility which may influence the migration of any potential or actual releases; and 6. Potential for exposure of humans and environmental receptors if releases were to occur from the corrective action management unit.

1.

Corrective action management unit characteristics;

2.

Volume of wastes which remain in place after closure;

3.

Potential for releases from the corrective action management unit;

4.

Physical and chemical characteristics of the waste;

5.

Hydrological and other relevant environmental conditions at the facility which may influence the migration of any potential or actual releases; and

6.

Potential for exposure of humans and environmental receptors if releases were to occur from the corrective action management unit.

(D)

Cap requirements:1. At final closure of the corrective action management unit, for areas in which wastes will remain after closure of the corrective action management unit, with constituent concentrations at or above corrective action levels or goals applicable to the site, the owner or operator shall cover the corrective action management unit with a final cover designed and constructed to meet the following performance criteria, except as provided in subsection (e)(6)(D) 2 of this section: a. Provide long-term minimization of migration of liquids through the closed unit; b. Function with minimum maintenance; c.

Promote drainage and minimize erosion or abrasion of the cover; d. Accommodate settling and subsidence so that the cover's integrity is maintained; and e. Have a permeability less than or equal to the permeability of any bottom liner system or natural subsoils present. 2. The Department may determine that modifications to subsection (e)(6)(D) 1 of this section are needed to facilitate treatment or the performance of the corrective action management unit (e.g., to promote biodegradation).

1.

At final closure of the corrective action management unit, for areas in which wastes will remain after closure of the corrective action management unit, with constituent concentrations at or above corrective action levels or goals applicable to the site, the owner or operator shall cover the corrective action management unit with a final cover designed and constructed to meet the following performance criteria, except as provided in subsection (e)(6)(D) 2 of this section: a. Provide long-term minimization of migration of liquids through the closed unit; b. Function with minimum maintenance; c. Promote drainage and minimize erosion or abrasion of the cover; d. Accommodate settling and subsidence so that the cover's integrity is maintained; and e. Have a permeability less than or equal to the permeability of any bottom liner system or natural subsoils present.

a.

Provide long-term minimization of migration of liquids through the closed unit;

b.

Function with minimum maintenance;

c.

Promote drainage and minimize erosion or abrasion of the cover;

d.

Accommodate settling and subsidence so that the cover's integrity is maintained; and

e.

Have a permeability less than or equal to the permeability of any bottom liner system or natural subsoils

present.

2.

The Department may determine that modifications to subsection (e)(6)(D) 1 of this section are needed to facilitate treatment or the performance of the corrective action management unit (e.g., to promote biodegradation).

(E)

Post-closure requirements as necessary to protect human health and the environment, to include, for areas where wastes will remain in place, monitoring and maintenance activities, and the frequency with which such activities shall be performed to ensure the integrity of any cap, final cover, or other containment system.

(f)

Corrective action management units used for storage and/or treatment only are corrective action management units in which wastes will not remain after closure. Such corrective action management units shall be designated in accordance with all of the requirements of this section, except as follows. (1) Corrective action management units that are used for storage and/or treatment only and that operate in accordance with the time limits established in the staging pile regulations at 40 Code of Federal Regulations parts 264.554(d)(1)(iii), (h), and (i) are subject to the requirements for staging piles at 40 Code of Federal Regulations parts 264.554(d)(1)(i) and (ii), part 264.554(d)(2), parts 264.554(e) and (f), and parts 264.554(j) and (k) in lieu of the performance standards and requirements for corrective action management units in this section at subsections (c) and (e)(3) through (6). (2) Corrective action management units that are used for storage and/or treatment only and that do not operate in accordance with the time limits established in the staging pile regulations at 40 Code of Federal Regulations parts 264.554(d)(1)(iii), (h), and (i): (A) Shall operate in accordance with a time limit,

established by the Department, that is no longer than necessary to achieve a timely remedy selected for the waste, and (B) Are subject to the requirements for staging piles at 40 Code of Federal Regulations parts 264.554(d)(1)(i) and (ii), part 264.554(d)(2), parts 264.554(e) and (f), and parts 264.554(j) and (k) in lieu of the performance standards and requirements for corrective action management units in this section at subsections (c) and (e)(4) and (6).

(1)

Corrective action management units that are used for storage and/or treatment only and that operate in accordance with the time limits established in the staging pile regulations at 40 Code of Federal Regulations parts 264.554(d)(1)(iii), (h), and (i) are subject to the requirements for staging piles at 40 Code of Federal Regulations parts 264.554(d)(1)(i) and (ii), part 264.554(d)(2), parts 264.554(e) and (f), and parts 264.554(j) and (k) in lieu of the performance standards and requirements for corrective action management units in this section at subsections (c) and (e)(3) through (6).

(2)

Corrective action management units that are used for storage and/or treatment only and that do not operate in accordance with the time limits established in the staging pile regulations at 40 Code of Federal Regulations parts 264.554(d)(1)(iii), (h), and (i): (A) Shall operate in accordance with a time limit, established by the Department, that is no longer than necessary to achieve a timely remedy selected for the waste, and (B) Are subject to the requirements for staging piles at 40 Code of Federal Regulations parts 264.554(d)(1)(i) and (ii), part 264.554(d)(2), parts 264.554(e) and (f), and parts 264.554(j) and (k) in lieu of the performance standards and requirements for corrective action management units in this section at subsections (c) and (e)(4) and (6).

(A)

Shall operate in accordance with a time limit, established by the Department, that is no

longer than necessary to achieve a timely remedy selected for the waste, and

(B)

Are subject to the requirements for staging piles at 40 Code of Federal Regulations parts 264.554(d)(1)(i) and (ii), part 264.554(d)(2), parts 264.554(e) and (f), and parts 264.554(j) and (k) in lieu of the performance standards and requirements for corrective action management units in this section at subsections (c) and (e)(4) and (6).

(g)

Corrective action management units into which wastes are placed where all wastes have constituent levels at or below corrective action levels or goals applicable to the site do not have to comply with the requirements for liners at subsection (e)(3)(A) of this section, caps at subsection (e)(6)(D) of this section, ground water monitoring requirements at subsection (e)(5) of this section or, for treatment and/or storage-only corrective action management units, the design standards at subsection (f) of this section.

(h)

The Department shall provide public notice and a reasonable opportunity for public comment before designating a corrective action management unit. Such notice shall include the rationale for any proposed adjustments under subsection (e)(4)(E) of this section to the treatment standards in subsection (e)(4)(D) of this section.

(i)

Notwithstanding any other provision of this section, the Department may impose additional requirements as necessary to protect human health and the environment.

(j)

Incorporation of a corrective action management unit into an existing permit shall

be approved by the Department according to the procedures for Department-initiated permit modifications under section 66270.41 of chapter 20 of this division, or according to the permit modification procedures of section 66270.42 of chapter 20 of this division.

(k)

The designation of a corrective action management unit does not change the Department's existing authority to address clean-up levels, media-specific points of compliance to be applied to corrective action at a facility, or other remedy selection decisions.