RCRA/CHWA Closure for Interim Status Units

I. For closure of the Solar Evaporation Ponds (IHSS 101) and the Present Landfill (IHSS 114), which are both subject to RCRA/CHWA interim status requirements, and which will be closed in-place, DOE must, at a minimum:

A. Place a cap/cover over the unit using two design criteria:
   1. "design concentration limits (DCLs)" calculated to be protective of the most directly impacted surface water using the water quality standards listed in Table 1 of Attachment 5.
      - DCLs would be calculated on a unit-specific basis for ground water passing the downgradient unit boundary. Since closure remedies must last beyond the period of active remediation, DCLs would be back-calculated from the surface water quality standards listed in Table 1 of Attachment 5.
      - DCLs assume an ongoing release from the unit, but at levels that are protective of human health and the environment, consistent with the RFETS Vision.
      - DCLs, as a cap/cover design criteria for closure, will be presented within the appropriate decision documents.
   2. For units with existing ground water contamination, the cap/cover must be designed to control any remaining source to the extent that further contaminant contribution to the plume from the unit is not capable of enlarging the plume or increasing contaminant concentrations within the plume. The parties recognize that existing plumes may continue to migrate or expand independent of continued source contamination loading. As a design criteria for a cap/cover, the unit/source must have its rate of continuing release controlled to the extent necessary to prevent enlarging the plume or increasing contaminant concentrations.

B. After the cap/cover has been installed, points of compliance (POCs) for each unit will be determined. The POCs will generally be at the unit boundaries, but may:
   1. utilize existing monitoring wells to the greatest extent possible, and
   2. utilize "waste management areas" (see CHWR, Section 264.95(b)(2)). For the Solar Ponds, the waste management area would be the area prescribed by a line circumscribing all five surface impoundments, including the area covered by the outermost berms of each. For the Present Landfill, the waste management area would be the entire area in which waste has been placed. If waste management areas are used, POCs may be chosen at the downgradient limit of the area rather than the downgradient limit of each individual unit.

C. At the POCs, compliance would be based on:
   1. non-exceedance of "alternate concentration limits (ACLs)" at units/areas with either no ground water contamination or levels of contamination less than the ACLs.
   2. Generally declining contamination levels for units/areas with pre-existing ground water contamination levels greater than the ACLs (this assumes placement of a DCL cap/cover is in place).
   3. As with DCLs, ACLs would be calculated on a unit/area specific basis for ground water passing the POCs. Since closure remedies must last beyond the period of active remediation, ACLs would be back-calculated from the surface water quality standards listed in Table 1 of
   4. Attachment 5 so as to be protective of the most directly impacted surface water. To the extent that points of compliance are unit boundaries, the ACLs should equal the DCLs for those units. ACLs may be different from the DCLs when several units have been consolidated within a waste management area.

5. The POCs and ACLs will be designated within the appropriate decision document and approved by the regulators when the decision document is approved after appropriate public review and comment.

D. Closure requirements will not extend to remediation or management of existing ground water contamination from these units except as delineated in B.2 above. Existing ground water contamination will be addressed through coordinated RCRA corrective action/CERCLA remedial action, as described in RFCA.

E. Other large-scale remedial actions taken at RFETS may enhance the ability to comply with closure requirements. For instance, units that can benefit from large-scale dewatering or ground water diversion projects may be able to demonstrate ACL compliance with a minimal non-standard cover/cap.

F. Any materials generated during implementation of a closure action that are also generated as part of a corrective action will be considered "remediation wastes" for the purpose of CAMU utilization.

G. All post-closure requirements, including monitoring, maintenance, access control, and security requirements, will be delineated in the Closure Plan, IM/IRA, or CAD/ROD decision document for the unit or waste management area.

II. To meet the RCRA/CHWA closure requirements for all other IHSSs subject to interim status requirements (portions of the former OU 9, OU 10 and OU 13 consisting of tanks, ancillary equipment, and storage pads -–See Attachment 3), DOE must, at a minimum:

A. Remove all wastes from the units.

B. If the units have not had a release, close the units and associated ancillary equipment. For the tanks and storage areas that make up this universe of units at RFETS, this should be able to be accomplished via:
   1. decontamination of the unit and any ancillary equipment, and/or

   2. removal and appropriate disposition/disposal of the unit and any ancillary equipment.

   Closure via 1. or 2. above should result in "clean" closure (i.e., no ongoing responsibility for post-closure care) and DOE may obtain complete closure certification.

C. If the units have had a release, DOE should proceed through the activities outlined II.B above. However, DOE must also remove all contaminated soil affected by the unit unless a demonstration can be made that the contaminated soil cannot practicably be removed (265.197(a)). If this demonstration can be made and soil contaminated by a release from any of these units is left in place, the unit must close as a landfill (265.197(b)). In addition, back-filling a tank and its ancillary equipment with material that effectively and permanently immobilizes any remaining contaminants would be an acceptable means of closure in place. If either contaminated soil or a back-filled tank is left in place, Section I of this attachment, including post-closure requirements, would apply. If the contaminated soils and the tank can be practicably removed and the requirements of II.B.1 or II.B.2

have been accomplished, the unit can be "clean" closed with no ongoing responsibility for post-closure care and DOE may obtain complete closure certification.

D. Closure requirements will not extend to remediation or management of existing ground water contamination from these units except as delineated in I.B.2 above. Existing ground water contamination will be addressed through coordinated RCRA corrective action/CERCLA remedial action, as described in RFCA.

E. After initially removing hazardous waste inventory from the units, all wastes generated during implementation of a closure action will be considered" remediation wastes" for the purpose of CAMU utilization.

F. All post-closure requirements, including monitoring, maintenance, access control, and security requirements, will be delineated in the Closure Plan, IM/IRA, or CAD/ROD decision document for the unit or waste management area.

III. CDPHE and DOE agree that past decisions regarding IHSSs (or portions thereof) at RFETS subject to closure requirements will be reviewed (See Attachment 3). Based upon this review, and in consideration of more complete information, it is the expectation of the CDPHE and DOE that several of these IHSSs may not be subject to interim status closure requirements.CDPHE and DOE have reviewed the information related to the Original Process Waste Lines (OPWL), IHSS 121 of former OU-9 and other IHSSs. The OPWL network originally consisted of approximately 35,000 feet of pipeline. Parts of the OPWL were converted to New Process Waste Lines, or other systems. The OPWL system now consists of approximately 29,000 feet of pipeline. A 1986 RCRA Compliance Order and CERCLA Agreement granted interim status to mixed waste units including the process waste lines that were in use at that time (NPWL) and did not include OPWL. That agreement is the reason that OPWL are not subject to interim status closure requirements.

IV. CDPHE agrees that tank system interim status units identified in Part II of this Attachment may qualify for closure in accordance with standards that are alternative to the requirements specified in Part II of this Attachment, as provided in revisions to the Colorado Hazardous Waste Regulations, 265.110 (d). CDPHE also agrees that IHSS 101 and/or IHSS 114 identified in Part I of this Attachment may qualify for closure in accordance with these alternative requirements, but more information is needed to make a determination. Because the alternative requirements in 265.110(d) will protect human health and the environment, such qualified interim status units are eligible to be closed in accordance with the performance standard in 265.111 (a) and (b) in lieu of the requirements specified in Parts I and II of this Attachment. Closure in accordance with these alternative requirements will meet the following :

A. Be protective of the wildlife refuge worker to a lifetime excess cancer risk of $1x10^{-5}$ and;

B. Provide that the concentration of contaminants do not result in a Hazard Index (HI) of greater than 1 for a wildlife refuge worker and;

C. Assure that contaminants that exceed the ecological action level for target species, listed in Table 3, Soil Action Levels, in Attachment 5 do not pose an unacceptable hazard considering the target species and the exposure unit for that species, and the location, areal extent, and concentration of contamination.