

## **MODULE V - POST-CLOSURE GROUNDWATER CORRECTIVE ACTION**

### **V.A. POST-CLOSURE CORRECTIVE ACTION PROGRAM**

- V.A.1. The Permittee shall institute a corrective action program as specified in R315-8-6.11. The purpose of this program shall be to remove or treat hazardous constituents in the groundwater and to monitor the migration of the hazardous constituents as outlined in Module IV. The corrective action program shall follow the requirements of R315-8-6, and this permit.
- V.A.2. As part of the corrective action program, the Permittee shall submit a groundwater flow and contaminant transport model to the Executive Secretary. Upon approval of the model, the Permittee will have 180 days to submit a human-health risk assessment to the Executive Secretary, in accordance with R315-101.
- V.A.3. The Permittee shall submit an ecological risk assessment to the Executive Secretary, in accordance with R315-101, no later than one year from the approval date of the groundwater flow and transport model.

### **V.B. CORRECTIVE MEASURE(S) STUDY**

- V.B.1. The Permittee shall submit a Corrective Measures Study (CMS) to the Executive Secretary no later than 90 days after approval of the risk assessments. The CMS shall include the following elements:
- V.B.1.a. An introduction describing the overall purpose of the CMS;
- V.B.1.b. A summary on the current conditions of the contaminant plume in the Area of Compliance, the findings of the groundwater flow/contaminant transport model and risk assessments;
- V.B.1.c. Corrective measure objectives, including proposed media cleanup standards;
- V.B.1.d. An evaluation of potential corrective measure technologies which includes an assessment of the long-term reliability, effectiveness and implementability of the alternatives;
- V.B.1.e. A detailed description of any proposed pilot, laboratory and/or bench scale studies (pilot or bench scale studies already conducted by the Permittee may be incorporated into the CMS);
- V.B.1.f. A proposal for corrective measure(s) that shall satisfy corrective measure objectives, attain proposed media cleanup standards, control the sources of releases, and comply with applicable standards for the management of wastes; and

V.B.1.g. A public involvement plan.

**V.C. CORRECTIVE MEASURE(S) IMPLEMENTATION**

V.C.1. Within 90 days of approval of the CMS by the Executive Secretary, the Permittee shall submit a Corrective Measure Implementation Plan (CMI). The CMI Plan shall be submitted to the Executive Secretary for approval. The CMI Plan shall describe in detail how the approved corrective measure(s) for contaminated groundwater will be implemented. The CMI Plan shall include:

V.C.1.a. An introduction describing the overall purpose of the CMI Plan;

V.C.1.b. A summary/review of the approved corrective measure(s):

V.C.1.c. Design plans and specifications for the approved corrective measure(s);

V.C.1.d. A Construction Workplan with construction quality assurance objectives;

V.C.1.e. An Operation and Maintenance Plan for the corrective measure(s);

V.C.1.f. A Groundwater Monitoring Plan to demonstrate the effectiveness of the corrective action program;

V.C.1.g. Corrective Measure(s) Completion Criteria to determine when corrective measure(s) have achieved the cleanup objectives;

V.C.1.h. Data management and documentation procedures;

V.C.1.i. Waste management practices;

V.C.1.j. An account of the permits required for the corrective measure(s);

V.C.1.k. A Public Involvement Plan; and

V.C.1.l. A schedule for the implementation of corrective measures.

V.C.2. Within thirty days of approval of the CMI Plan by the Executive Secretary, the Permittee shall implement the corrective measure(s) according the schedule contained in the CMI Plan, and the Post-Closure Cost Estimate of Condition III.D. shall be updated and amended to account for any and all costs associated with the corrective measure(s) project.

**V.D. CORRECTIVE MEASURE(S) IMPLEMENTATION REPORT**

V.D.1. Within 90 days of completing construction of the corrective measure(s), the Permittee shall submit for the Executive Secretary’s approval a Corrective Measure Implementation Report. The report shall certify that the project was built according to the design plans and specifications, and that the corrective measure(s) are performing adequately. The report shall also include, at a minimum, the following elements:

V.D.1.a. A summary on the construction of the corrective measure(s), including any deviation or modification to the design plans and specifications;

V.D.1.b. Construction quality assurance documentation; and

V.D.1.c. As built drawings or photographs.

**V.E. OPERATION AND ASSESSMENT OF THE GROUNDWATER CORRECTIVE MEASURE(S)**

V.E.1. The Permittee shall conduct corrective measure(s) as described in the approved CMI Plan.

V.E.2. The Permittee shall recalibrate the groundwater flow and solute transport model annually. The results of the model recalibration and a summary analysis of the results shall be prepared by the Permittee, as required by Condition IV.E.2., and submitted as outlined in IV.E.4. If new groundwater surface or contaminant data does not show any discernable differences from the previous groundwater model calibration, and if the previous groundwater model calibration was deemed satisfactory by the Executive Secretary, the Permittee may petition the Executive Secretary to postpone the groundwater model recalibration for one year.

V.E.3. The Permittee shall provide a summary on the effectiveness of the corrective action program in each semi-annual report as required by Condition IV.E.2.

V.E.4. If the Executive Secretary determines that the Corrective Measure(s) Completion Criteria are not being attained, the Permittee shall modify the permit to install additional corrective measure(s) designed to achieve these cleanup goals. The modification request shall be submitted within 90 days of the Executive Secretary’s determination.

V.E.5. If the Permittee discovers that the corrective measure(s) are not operating as intended, or that operation of them are adversely affecting the quality of the groundwater down-gradient, he shall notify the Executive Secretary within seven days.

**V.F. DURATION OF CORRECTIVE ACTION PROGRAM**

V.F.1. The Permittee shall prepare a Corrective Measure(s) Completion Report when the Permittee believes that the Corrective Measure(s) Completion Criteria have been attained. The purpose of the Corrective Measure(s) Completion Report is to fully document how the Corrective Measure(s) Completion Criteria have been met and to justify why the corrective measure(s) and/or groundwater monitoring may cease.

V.F.2. The Permittee shall continue the corrective measures and groundwater monitoring until the Permittee receives written notification from the Executive Secretary approving the request to cease corrective measure(s) and/or groundwater monitoring as proposed in the Corrective Measure(s) Completion Report.

**V.G. FINANCIAL ASSURANCE FOR CORRECTIVE ACTION**

V.G.1. The Permittee shall be financially responsible for the development and implementation of the corrective action program.