

MODULE V – GWMU CORRECTIVE ACTION PROGRAM

V.A. APPLICABILITY

- V.A.1. The Permittee shall implement a corrective action program for the Groundwater Management Unit (GWMU) identified in the RCRA Facility Investigation Work Plan in accordance with UAC R315-8-6.11 and this module. The purpose of this program shall be to remove or treat any groundwater contaminants that present a risk to human health or the environment.
- V.A.2. The time frames and submittal dates in this Module supersede all previous agreements, orders, and plans regarding corrective action. This permit has been developed in accordance with the applicable requirements of UAC R315-1 through 101. The conditions in Module V shall replace the Permittee's obligations under Stipulation and Consent Order, No.8606396 regarding the investigation, monitoring, and cleanup of the groundwater contamination related to the Permittee's facility.
- V.A.3. This Permit has been developed in accordance with the applicable requirements of UAC R315-1 through 101. All conditions within this Permit shall supersede conflicting statements, requirements, or procedures found in UAC R315-1 through 101 or attachments to this Permit.

V.B. GROUNDWATER MODELING

- V.B.1. The Permittee shall maintain a program to monitor the migration of the solid and hazardous constituents as required by UAC R315-8-6 and included in Attachment 10 of this Permit.
- V.B.2. The Permittee shall maintain an approved groundwater flow and contaminant transport model for the groundwater contamination at the Permittee's facility.
- V.B.3. The Permittee shall assess the approved groundwater flow and contaminant transport model annually using the previous year's water level data and determine whether recalibration is necessary. If the new groundwater elevations or contaminant concentrations do not show any differences from those measured for the previous groundwater model calibration, the Permittee may petition the Director to postpone the groundwater model recalibration.
- V.B.4. The Permittee shall submit an annual groundwater report Director on or before March 31st of each calendar year.
- V.B.5. The report shall include a discussion of the assessment and/or recalibration effort or the petition to postpone, which shall, at a minimum, include an evaluation of boundary conditions, an assessment of the degree of error between calibrated and measured groundwater elevations and between calibrated and measured contaminant concentrations, as well as the electronic data file for the previous year's water levels and analytical results,

V.C. RISK ASSESSMENT

- V.C.1 Within 90 days of issuance of this Permit, the Permittee shall submit to the Director for approval a proposed risk-assessment protocol document for the human-health and ecological risk assessment for the groundwater contamination at the facility. The protocol document shall describe and define methodologies and scenarios that will be employed to evaluate the

human-health risk assessment.

V.C.2. Within 180 days of receipt of approval of the risk assessment protocol document defined in Condition V.C.1., the Permittee shall submit a human-health risk assessment for the groundwater contamination to the Director, in accordance with UAC R315-101.

V.C.3. Within one year of receipt of approval of the risk assessment protocol document defined in Condition V.C.1., the Permittee shall submit an ecological risk assessment to the Director, in accordance with UAC R315-101.

V.D. CORRECTIVE MEASURES STUDY

V.D.1. The Permittee shall submit a Corrective Measures Study (CMS) for the remediation of the groundwater contamination to the Director within 180 days of approval of the risk assessment required in Condition V.C. of this Permit. The CMS shall include, at a minimum, the following:

V.D.1.a. An introduction describing the overall purpose of the CMS;

V.D.1.b. A summary on the current conditions of the contaminant plume, the findings of the groundwater flow/contaminant transport model and risk assessments, and all interim corrective measures that have been implemented to control human exposures to the groundwater contamination and to control the spread of the groundwater contamination;

V.D.1.c. Corrective measure objectives, including proposed media cleanup goals, levels or standards;

V.D.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.D.1.e. A detailed description of all existing or 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.D.1.f. A proposal for corrective measures that shall satisfy corrective measure objectives, attain proposed media cleanup goals, levels or standards, control the sources of releases, and comply with applicable standards for the management of wastes; and

V.D.1.g. A public participation plan.

V.E. CORRECTIVE MEASURES IMPLEMENTATION

V.E.1. Within 90 days of approval of the CMS by the Director, the Permittee shall submit a Corrective Measures Implementation Plan (CMI). The CMI Plan shall be submitted to the Director 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, at a minimum, include the following:

- V.E.1.a. An introduction describing the overall purpose of the CMI Plan;
- V.E.1.b. A summary/review of the approved corrective measure(s), which shall include the cleanup objectives that the Permittee plans to achieve;
- V.E.1.c. Design plans and specifications for the approved corrective measure(s);
- V.E.1.d. A Construction Workplan that includes a construction quality assurance program;
- V.E.1.e. The Operation and Maintenance Plan for the corrective measure(s);
- V.E.1.f. A Groundwater Monitoring Plan designed to demonstrate the effectiveness of the corrective measure(s);
- V.E.1.g. Corrective Measure(s) Completion Criteria designed to determine when the corrective measure(s) have achieved the cleanup objectives;
- V.E.1.h. Data management and documentation procedures;
- V.E.1.i. Waste management practices;
- V.E.1.j. A description of all other permits required for the corrective measure(s);
- V.E.1.k. A public participation plan;
- V.E.1.l. A cost estimate that identifies all costs associated with the corrective measure(s) project; and
- V.E.1.m. A schedule for the implementation of corrective measures.
- V.E.2. Within 30 days of approval of the CMI Plan by the Director, the Permittee shall implement the corrective measure(s) according the schedule contained in the CMI Plan.

V.F. CORRECTIVE MEASURE(S) IMPLEMENTATION REPORT

- V.F.1. Within 90 days of completing construction of the corrective measure(s), the Permittee shall submit a Corrective Measure Implementation Report to the Director for approval. 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:
 - V.F.1.a. A summary on the construction of the corrective measure(s), including any deviation or modification to the design plans and specifications;
 - V.F.1.b. Construction quality assurance documentation;
 - V.F.1.c. As-built drawings or photographs, and;
 - V.F.1.d. A certification by an independent, Utah registered professional engineer qualified by experience and education in the appropriate engineering field that the corrective measure(s)

were implemented in accordance with the CMI Plan.

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

- V.G.1. The Permittee shall conduct corrective measure(s) as described in the approved CMI Plan.
- V.G.2. The Permittee shall provide an annual report to the Director on the operation, maintenance, and effectiveness of the groundwater corrective measure(s) program. This report shall be submitted on or before March 31st of each calendar year.
- V.G.3. If the Permittee determines that the Operation and Maintenance Plan needs to be modified to meet the Corrective Measure(s) Completion Criteria, the Permittee shall submit a request to modify the Operation and Maintenance Plan to the Director within 90 days of determining that the modification is necessary.
- V.G.4. If the Director determines that the Corrective Measure(s) Completion Criteria are not being attained, the Director will notify the Permittee that the groundwater corrective action program is not being effective and needs to be modified. The Permittee shall within 90 days of receiving the Director's notification to modify the groundwater corrective action program so that the cleanup goals can be met. The modification, if necessary, shall include additional corrective measure(s) designed to achieve the cleanup or modification(s) to the operation and maintenance of the existing corrective measure(s).
- V.G.5. Whenever the Permittee discovers that the corrective measure(s) are not operating as intended, he shall take immediate action to correct the problem and notify the Director within seven days.
- V.G.6. If the Permittee discovers that operating the corrective measure(s) is adversely affecting the quality of the groundwater down-gradient, he shall notify the Director within 24 hours and take immediate action to mitigate the deterioration of the State of Utah's groundwater resource.
- V.G.7. Any modification to the Operation and Maintenance Plan, the Corrective Measures Completion Criteria or any other component of the corrective measures program shall be done in accordance with Condition I.D.

V.H. DURATION OF GROUNDWATER CORRECTIVE ACTION PROGRAM

- V.H.1. When the Permittee believes that the Corrective Measure(s) Completion Criteria have been attained, the Permittee shall prepare a Corrective Measure(s) Completion Report. The purpose of the Corrective Measure(s) Completion Report is to document how the Corrective Measure(s) Completion Criteria have been met and to justify why the corrective measure(s) and/or groundwater monitoring program for the groundwater contamination may cease.
- V.H.2. The Permittee shall continue the corrective measure(s) and groundwater monitoring until the Permittee receives written notification from the Director approving the request to cease corrective measure(s) and/or groundwater monitoring as proposed in the Corrective Measure(s) Completion Report. The response for this request shall not be unreasonably withheld.

**V.I. FINANCIAL ASSURANCE FOR THE GROUNDWATER
CORRECTIVE ACTION**

V.I.1. The Permittee shall be financially responsible for the development and implementation of the groundwater corrective action program in accordance with UAC R315-8-6.12(b).