

**WAC 173-340-400 Implementation of the cleanup action.** (1) Purpose. Unless otherwise directed by the department, cleanup actions shall comply with this section except for emergencies or interim actions. The purpose of this section is to ensure that the cleanup action is designed, constructed, and operated in a manner that is consistent with:

- (a) The cleanup action plan;
- (b) Accepted engineering practices; and
- (c) The requirements specified in WAC 173-340-360.

(2) Administrative options. A cleanup action may be conducted under any of the procedures described in WAC 173-340-510 and 173-340-515.

(3) Public participation. During cleanup action implementation, public participation shall be accomplished in a manner consistent with the requirements of WAC 173-340-600.

(4) Plans describing the cleanup action. Design, construction, and operation of the cleanup action shall be consistent with the purposes of this section and shall consider relevant information provided by the remedial investigation/feasibility study. For most cleanups, to ensure this is done it will be necessary to prepare the engineering documents described in this section. The scope and level of detail in these documents may vary from site to site depending on the site-specific conditions and nature and complexity of the proposed cleanup action. In many cases, such as routine cleanups and cleanups at leaking underground storage tanks, it is appropriate to combine the information in these various documents into one report to avoid unnecessary duplication. Where the information is contained in other documents it may be appropriate to incorporate those documents by reference to avoid duplication. Any document prepared in order to implement a cleanup may be used to satisfy these requirements provided they contain the required information. In addition, for facilities on the national priorities list the plans prepared for the cleanup action shall also comply with federal requirements.

(a) Engineering design report. The engineering design report shall include sufficient information for the development and review of construction plans and specifications. It shall document engineering concepts and design criteria used for design of the cleanup action. The following information shall be included in the engineering design report, as appropriate:

(i) Goals of the cleanup action including specific cleanup or performance requirements;

(ii) General information on the facility including a summary of information in the remedial investigation/feasibility study updated as necessary to reflect the current conditions;

(iii) Identification of who will own, operate, and maintain the cleanup action during and following construction;

(iv) Facility maps showing existing site conditions and proposed location of the cleanup action;

(v) Characteristics, quantity, and location of materials to be treated or otherwise managed, including groundwater containing hazardous substances;

(vi) A schedule for final design and construction;

(vii) A description and conceptual plan of the actions, treatment units, facilities, and processes required to implement the cleanup action including flow diagrams;

(viii) Engineering justification for design and operation parameters, including:

- (A) Design criteria, assumptions and calculations for all components of the cleanup action;
  - (B) Expected treatment, destruction, immobilization, or containment efficiencies and documentation on how that degree of effectiveness is determined; and
  - (C) Demonstration that the cleanup action will achieve compliance with cleanup requirements by citing pilot or treatability test data, results from similar operations, or scientific evidence from the literature;
  - (ix) Design features for control of hazardous materials spills and accidental discharges (for example, containment structures, leak detection devices, run-on and runoff controls);
  - (x) Design features to assure long-term safety of workers and local residences (for example, hazardous substances monitoring devices, pressure valves, bypass systems, safety cutoffs);
  - (xi) A discussion of methods for management or disposal of any treatment residual and other waste materials containing hazardous substances generated as a result of the cleanup action;
  - (xii) Facility specific characteristics that may affect design, construction, or operation of the selected cleanup action, including:
    - (A) Relationship of the proposed cleanup action to existing facility operations;
    - (B) Probability of flooding, probability of seismic activity, temperature extremes, local planning and development issues; and
    - (C) Soil characteristics and groundwater system characteristics;
  - (xiii) A general description of construction testing that will be used to demonstrate adequate quality control;
  - (xiv) A general description of compliance monitoring that will be performed during and after construction to meet the requirements of WAC 173-340-410;
  - (xv) A general description of construction procedures proposed to assure that the safety and health requirements of WAC 173-340-810 are met;
  - (xvi) Any information not provided in the remedial investigation/feasibility study needed to fulfill the applicable requirements of the State Environmental Policy Act (chapter 43.21C RCW);
  - (xvii) Any additional information needed to address the applicable state, federal and local requirements including the substantive requirements for any exempted permits; and property access issues which need to be resolved to implement the cleanup action;
  - (xviii) For sites requiring financial assurance and where not already incorporated into the order or decree or other previously submitted document, preliminary cost calculations and financial information describing the basis for the amount and form of financial assurance and, a draft financial assurance document;
  - (xix) For sites using institutional controls as part of the cleanup action and where not already incorporated into the order or decree or other previously submitted documents, copies of draft restrictive covenants and/or other draft documents establishing these institutional controls; and
  - (xx) Other information as required by the department.
- (b) Construction plans and specifications. Construction plans and specifications shall detail the cleanup actions to be performed. The plans and specifications shall be prepared in conformance with currently accepted engineering practices and techniques and shall include the following information as applicable:

(i) A general description of the work to be performed and a summary of the engineering design criteria from the engineering design report;

(ii) General location map and existing facility conditions map;

(iii) A copy of any permits and approvals;

(iv) Detailed plans, procedures and material specifications necessary for construction of the cleanup action;

(v) Specific quality control tests to be performed to document the construction, including specifications for the testing or reference to specific testing methods, frequency of testing, acceptable results, and other documentation methods;

(vi) Startup procedures and criteria to demonstrate the cleanup action is prepared for routine operation;

(vii) Additional information to address applicable state, federal, and local requirements including the substantive requirements for any exempted permits;

(viii) A compliance monitoring plan prepared under WAC 173-340-410 describing monitoring to be performed during construction, and a sampling and analysis plan meeting the requirements of WAC 173-340-820;

(ix) Provisions to assure safety and health requirements of WAC 173-340-810 are met; and

(x) Other information as required by the department.

(c) Operation and maintenance plan. An operation and maintenance plan that presents technical guidance and regulatory requirements to assure effective operations under both normal and emergency conditions. The operation and maintenance plan shall include the following elements, as appropriate:

(i) Name and phone number of the responsible individuals;

(ii) Process description and operating principles;

(iii) Design criteria and operating parameters and limits;

(iv) General operating procedures, including startup, normal operations, operation at less than design loading, shutdown, and emergency or contingency procedures;

(v) A discussion of the detailed operation of individual treatment units, including a description of various controls, recommended operating parameters, safety features, and any other relevant information;

(vi) Procedures and sample forms for collection and management of operating and maintenance records;

(vii) Spare part inventory, addresses of suppliers of spare parts, equipment warranties, and appropriate equipment catalogues;

(viii) Equipment maintenance schedules incorporating manufacturers recommendations;

(ix) Contingency procedures for spills, releases, and personnel accidents;

(x) A compliance monitoring plan prepared under WAC 173-340-410 describing monitoring to be performed during operation and maintenance, and a sampling and analysis plan meeting the requirements of WAC 173-340-820;

(xi) Description of procedures which ensure that the safety and health requirements of WAC 173-340-810 are met, including specification of contaminant action levels and contingency plans, as appropriate;

(xii) Procedures for the maintenance of the facility after completion of the cleanup action, including provisions for removal of un-

needed appurtenances, and the maintenance of covers, caps, containment structures, and monitoring devices; and

(xiii) Other information as required by the department.

(5) Permits. Permits and approvals and any substantive requirements for exempted permits, if required for construction or to otherwise implement the cleanup action, shall be identified and where possible, resolved before, or during, the design phase to avoid delays during construction and implementation of the cleanup action.

(6) Construction. Construction of the cleanup action shall be conducted in accordance with the construction plans and specifications, and other plans prepared under this section.

(a) Department inspections.

(i) The department may perform site inspections and construction oversight. The department may require that construction activities be halted at a site if construction or any supporting activities are not consistent with approved plans; are not in compliance with environmental regulations or accepted construction procedures; or endanger human health or the environment.

(ii) The department may conduct a formal inspection of the site following construction and an initial operational shake down period to ensure satisfactory completion of the construction. If such an inspection is performed, the construction documentation report and engineer's opinion specified in (b)(ii) of this subsection shall be available before the inspection.

(b) Construction documentation.

(i) Except as provided for in (b)(iii) of this subsection, all aspects of construction shall be performed under the oversight of a professional engineer registered in the state of Washington or a qualified technician under the direct supervision of a professional engineer registered in the state of Washington or as otherwise provided for in RCW 18.43.130. During construction, detailed records shall be kept of all aspects of the work performed including construction techniques and materials used, items installed, and tests and measurements performed.

(ii) As built reports. At the completion of construction the engineer responsible for the oversight of construction shall prepare as built drawings and a report documenting all aspects of facility construction. The report shall also contain an opinion from the engineer, based on testing results and inspections, as to whether the cleanup action has been constructed in substantial compliance with the plans and specifications and related documents.

(iii) For leaking underground storage tanks, the construction oversight and documentation report may be conducted by an underground storage tank provider certified under chapter 173-360 WAC. Removal of above ground abandoned drums, tanks and similar above ground containers and associated minor soil contamination may be overseen and documented by an experienced environmental professional. In other appropriate cases the department may authorize departure from the requirements of this subsection.

(c) Financial assurance and institutional control documentation. As part of the as-built documentation for the site cleanup, where the following information has not already been submitted under an order or decree or as part of another previously submitted document, the following information shall be included in the as-built report:

(i) For sites requiring financial assurance, a copy of the financial assurance document and any procedures for periodic adjustment to the value of the financial assurance mechanism;

(ii) For sites using institutional controls as part of the cleanup action, copies of recorded deed restrictions (with proof of recording) and other documents establishing these institutional controls.

(d) Plan modifications. Changes in the design or construction of the cleanup action performed under an order or decree shall be approved by the department.

(7) Opportunity for public comment. If the department determines that any plans prepared under this section represent a substantial change from the cleanup action plan, the department shall provide public notice and opportunity for comment under WAC 173-340-600.

(8) Plans and reports. Plans or reports prepared under this section and under an order or decree shall be submitted to the department for review and approval. For independent remedial actions, the plans and reports shall be submitted as required under WAC 173-340-515.

(9) Requirements for managing waste generated by site cleanup. Any waste contaminated by a hazardous substance generated during cleanup activities and requiring offsite treatment, storage or disposal, shall be transported to a facility permitted or approved to handle these wastes.

[Statutory Authority: Chapter 70.105D RCW. WSR 01-05-024 (Order 97-09A), § 173-340-400, filed 2/12/01, effective 8/15/01; WSR 90-08-086, § 173-340-400, filed 4/3/90, effective 5/4/90.]