

MTCA Cleanup Rulemaking
Chapter 173-340 WAC
Proposed Rule

Text with Tracked and Footnoted Changes

February 15, 2023

Purpose of this document:

The Department of Ecology (Ecology) proposes to amend Chapter [173-340](#) WAC, the Model Toxics Control Act (MTCA) Cleanup Regulations. Ecology filed the rule proposal on February 15, 2023. The proposal is currently available for public review and comment through April 16, 2023. The following documents are available for review and comment:

- Proposal notice – CR102 form.
- Proposed rule language – OTS text.
- Preliminary Regulatory Analyses.
- SEPA Environmental Checklist and Determination of Nonsignificance.

Ecology is providing this additional document to facilitate public review of the rule proposal. The proposal restructures several sections of the rule, which may make it difficult for the public to identify changes to particular regulatory requirements. This document facilitates public review by:

- Formatting the rule text to make it easier to read.
- Tracking changes to the rule in color to make it easier to identify the changes. The document tracks changes using ~~strikeouts~~ and underlines.
- Footnoting changes to the rule to make it easier to distinguish whether a particular requirement has simply been moved or substantively changed, or both.

This document includes only those rule sections where Ecology is proposing a change to the rule text.

To download these documents and learn more about the rulemaking, visit our webpage:

<https://ecology.wa.gov/Regulations-Permits/Laws-rules-rulemaking/Rulemaking/WAC-173-340>.

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Accommodation requests:

To request ADA accommodation including materials in a format for the visually impaired, call Ecology's Toxics Cleanup Program at 360-407-7170. Persons with impaired hearing may call Washington Relay Service at 711. Persons with speech disability may call TTY at 877-833-6341.

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Rule Proposal & Document Purpose

The Department of Ecology (Ecology) proposes to amend Chapter [173-340](#) WAC, the Model Toxics Control Act Cleanup Regulations. The proposal is authorized by and implements Chapter [70A.305](#) RCW, the Model Toxics Control Act (MTCA), and Chapter [70A.355](#) RCW, the Underground Storage Tank law.

Ecology filed the rule proposal on February 15, 2023. The proposal is currently available for review and comment by the public. The proposal will be published in the Washington State Register on March 1, 2023. Ecology will hold two public hearings on the proposal via webinar on March 23 and March 27, 2023. The comment period closes April 16, 2023.

What is the purpose of the proposal?

The purpose of the proposal is to:

- Improve the site hazard assessment and ranking process.
- Revitalize MTCA cleanup program planning and assessment.
- Update and clarify remedial investigation and remedy selection requirements.
- Distinguish more clearly requirements applying to independent remedial actions.
- Improve response to underground storage tank (UST) releases, and maintain federal approval of the state's UST program, as required by Chapter 70A.355 RCW.
- Strengthen environmental justice principles when prioritizing and cleaning up sites.
- Advance public participation and tribal engagement.
- Make the rule easier to use and understand.

Who may be impacted by the proposal?

The rule proposal may impact persons who:

- Are responsible for investigating and cleaning up contaminated sites.
- Provide services to persons who investigate and clean up contaminated sites.
- Own or operate UST systems regulated under Chapter [173-360A](#) WAC.
- Persons who may be exposed to or impacted by contaminated sites.

What documents are available for your review?

The following documents are available for your review and comment:

- Proposal notice – CR102 form.
- Proposed rule language.
- Preliminary Regulatory Analyses.
- SEPA Environmental Checklist and Determination of Nonsignificance.

To download these documents, visit our webpage: <https://ecology.wa.gov/Regulations-Permits/Laws-rules-rulemaking/Rulemaking/WAC-173-340>.

What is the purpose of this document?

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This document includes only those rule sections where Ecology is proposing a change to the rule text.

How can I provide comments?

The comment period on the rule proposal ends **April 16, 2023**. You can submit comments through one of the following ways:

- Submit comments online at: <https://tcp.ecology.commentinput.com/?id=uJVx2>
- Mail comments to:
Sarah Wollwage
Department of Ecology
P.O. Box 47600
Olympia, WA 98504-7600
- Attend a public hearing – see below

Please note that any information (e.g., personal or contact) you provide in a comment or in an attachment may be publicly disclosed and posted on the internet.

How can I attend a public hearing?

Ecology will hold **two** public hearings on this rule proposal via webinar. Webinars are an online meeting you can attend from any computer using internet access. The hearings will begin with a short presentation and question and answer session, followed by the opportunity to provide testimony.

Date	Time	How to Join
Thursday, March 23, 2023	10:00 a.m.	Webinar hearing via Zoom Join online: https://waecy-wa-gov.zoom.us/meeting/register/tZErcyvrzsjHNehuxcfmhz0P5-yddlKedXf Join by phone (audio only): Call toll free 253-215-8782 and enter meeting ID 856 6571 0963.
Monday, March 27, 2023	5:00 p.m.	Webinar hearing via Zoom Join online: https://waecy-wa-gov.zoom.us/meeting/register/tZEpdemtpj0rGN1G0Umtahjkbpr7-PGvUIYc Join by phone (audio only): Call toll free 253-215-8782 and enter meeting ID 871 1342 5365.

Where can I find more information about the rulemaking?

For more information about the rulemaking, visit our website: <https://ecology.wa.gov/Regulations-Permits/Laws-rules-rulemaking/Rulemaking/WAC-173-340>.

If you have any questions about the rulemaking, contact Clint Stanovsky, Rulemaking Lead, at 360-742-9703 or MTCARule@ecy.wa.gov.

How do I request ADA accommodation for disabilities?

To request ADA accommodation for disabilities, or printed materials in a format for the visually impaired, contact Ecology's ADA Coordinator by email at ecyadacoordinator@ecy.wa.gov, or call 360-407-6831. People with impaired hearing may call Washington Relay Service at 711. People with speech disability may call TTY at 877-833-6341. Please contact Ecology by March 16, 2023.

Part 1 – Overall Cleanup Process

WAC 173-340-100 Purpose.

This chapter is promulgated under chapter 70A.305 RCW, the Model Toxics Control Act. It establishes administrative processes and standards to identify, investigate, and clean up ~~facilities~~sites where hazardous substances have come to be located. It defines the role of ~~the department~~ecology and encourages public and tribal involvement in decision making at these ~~facilities~~sites.

The goal of this chapter is to implement chapter ~~70.105D~~70A.305 RCW, the Model Toxics Control Act. This chapter provides a workable process to accomplish effective and expeditious cleanups in a manner that protects human health and the environment, including vulnerable populations and overburdened communities.¹ This chapter is primarily intended to address releases of hazardous substances caused by past activities although its provisions may be applied to potential and ongoing releases of hazardous substances from current activities.

Note: All materials incorporated by reference in this chapter are available for inspection at the Department of Ecology's Toxics Cleanup Program, 300 Desmond Drive, Lacey, Washington, 98503.

WAC 173-340-110 Applicability.

- (1) This chapter ~~shall apply~~applies to all ~~facilities~~sites where there has been a release or threatened release of a hazardous substance that may pose a threat to human health or the environment. Under this chapter, ~~the department~~ecology may require or take those actions necessary to investigate and ~~remedy~~clean up these releases.
- (2) ~~Nothing herein shall be construed to diminish the department's~~Ecology retains all its authority to address a release or threatened release under other applicable laws or regulations. The cleanup process and procedures under this chapter and under other laws may be combined. ~~The department~~Ecology may initiate a remedial action under this chapter and may upon further analysis determine that another law is more appropriate, or vice versa.
- (3) If a hazardous substance remains at a ~~facility~~site after actions have been completed under other applicable laws or regulations, ~~the department~~ecology may apply this chapter to protect human health or the environment.

¹ Emphasized that one of the goals of the chapter is to protect the health and environment of vulnerable populations and overburdened communities.

WAC 173-340-120 **Overview of cleanup process.²**

~~(1) — Purpose.~~ This section provides an overview of the cleanup process that typically ~~will~~ occurs at a site ~~following the discovery of where~~ a release ~~or threatened release~~ of a hazardous substance ~~to the environment~~ ~~has been discovered with an emphasis on sites being cleaned up under order or consent decree.~~ See WAC 173-340-510 for an overview of the administrative options for investigating and cleaning up a site.³ If there are any inconsistencies between this section and any specifically referenced sections, the referenced section ~~shall~~ governs.⁴

~~(2) — Site discovery.~~ Site discovery includes:

~~(a)(1)~~ **Release reporting.** ~~Within 90 days of discovering a hazardous substance release or threatened release that may pose a threat to human health or the environment, A~~an owner or operator ~~who knows of or discovers a release of a hazardous substance due to past activities~~ must report the release to ~~the department~~ ecology as described in WAC 173-340-300. ~~Other persons are encouraged to report such releases. Most current~~Some releases ~~of hazardous substances are exempt from the release reporting requirements of this chapter, including those~~ ~~must be~~ previously reported to ~~the department~~ ecology under the state's hazardous waste, underground storage tank, or water quality laws. The term "hazardous substance" includes a broad range of substances as defined ~~by chapter 70.105 DRCW~~in WAC 173-340-200.

~~(b)(2)~~ **Initial investigation.** Within ~~ninety~~90 days of learning of a hazardous substance release, ~~the department~~ ecology ~~will~~ conducts an initial investigation ~~of the site~~ under WAC 173-340-310 ~~to confirm whether a release occurred that poses a threat and to determine whether further remedial action is necessary to confirm or address that threat.~~ Ecology may extend an initial investigation when independent remedial actions are completed within 90 days of release discovery. ~~For sites that may need further remedial action, the department will send an early notice letter to the owner, operator, and other potentially liable persons known to the department, informing them of the department's decision.~~ Ecology notifies owners and operators in writing of its determination. For sites where remedial action is necessary, ecology also notifies the public in the *Contaminated Site Register* and provides information about the site on ecology's website under WAC 173-340-600.

~~(3) — Site priorities.~~ Sites are prioritized for further remedial action by the following process:

~~(a) — Site hazard assessment.~~ Based on the results of the initial investigation, a site hazard assessment will be performed if necessary, as described in WAC ~~173-340-320~~. The purpose of the site hazard assessment is to gather information to confirm whether a release has occurred and to enable the department to evaluate the relative potential hazard posed by the release. ~~If the department decides that no further action is required, it will notify the public of that decision through the Site Register.~~

² Updated the cleanup process overview to reflect changes in the proposed rule, enhanced parts to be more descriptive, and clarified as appropriate. See referenced sections for notes regarding any changes.

³ Consolidated overview of administrative options for remedial action in Section 510.

⁴ As stated in this section, any inconsistencies between the overview and the referenced sections are resolved in favor of the referenced sections.

- ~~(b) — **Hazardous sites list.** The department will maintain a list of sites known as the "hazardous sites list" where further remedial action is required. The department will add sites to this list after the completion of a site hazard assessment. Sites placed on the list will be ranked using the department's hazard ranking method. The department will remove a site from the hazardous sites list if the site meets the requirements for removal described in WAC 173-340-330.~~
- ~~(c) — **Biennial program report.** Every even-numbered year, the department will prepare a biennial program report for the legislature. The hazard ranking, along with other factors, will be used in this report to identify the projects and expenditures recommended for appropriation. See WAC 173-340-340.~~
- ~~(4) — **Detailed site investigations and cleanup decisions.** The following steps will be taken to ensure that the proper method of cleanup is chosen for the site.~~
- ~~(a) — **Remedial investigation.** A remedial investigation will be performed at ranked sites under WAC 173-340-350. The purpose of the remedial investigation is to collect data and information necessary to define the extent of contamination and to characterize the site.~~
- ~~(b) — **Feasibility study.** A feasibility study will be conducted at ranked sites under WAC 173-340-350. The purpose of the feasibility study is to develop and evaluate alternative cleanup actions. The department will evaluate the remedial investigation/feasibility study, establish cleanup levels and the point or points at which they must be complied with in accordance with the procedures provided for in WAC 173-340-700 through 173-340-760 and select a cleanup action that protects human health and the environment and is based on the remedy selection criteria and requirements in WAC 173-340-350 through 173-340-390. WAC 173-340-440 sets forth the circumstances in which institutional controls will be required to ensure continued protection of human health and the environment.~~
- ~~(c) — **Cleanup action plan.** The cleanup action will be set forth in a draft cleanup action plan that addresses cleanup requirements for hazardous substances at the site. After public comment on the draft plan, a final cleanup action plan will be issued by the department.~~
- ~~(5) — **Site cleanup.** Once the appropriate cleanup action has been selected for the site, the actual cleanup will be performed.~~
- ~~(a) — **Cleanup actions.** WAC 173-340-400 describes the design and construction requirements for implementing the cleanup action plan.~~
- ~~(b) — **Compliance monitoring and review.** The cleanup action must include compliance monitoring under WAC 173-340-410 and in some cases periodic review under WAC 173-340-420 to ensure the long-term effectiveness of the cleanup action.~~
- ~~(6) — **Interim actions.** Under certain conditions it may be appropriate to take early actions at a site before completing the process described in subsections (2) through (5) of this section. WAC 173-~~

~~340-430 describes when it is appropriate to take these early or interim actions and the requirements for such actions.~~

~~(7) **Leaking underground storage tanks.** Underground storage tank (UST) owners and underground storage tank operators regulated under chapter 90.76 RCW are required to perform specific actions in addition to what other site owners and operators would do under this chapter. WAC 173-340-450 describes the requirements for leaking underground storage tanks.~~

~~(8) **Procedures for conducting remedial actions.**⁵~~

~~(a) **Remedial action agreements.** The department has authority to take remedial actions or to order persons to conduct remedial actions under WAC 173-340-510 and 173-340-540. However, the department encourages agreements for investigations and cleanups in appropriate cases. These agreements can be agreed orders or consent decrees reached under the procedures of WAC 173-340-520 and 173-340-530.~~

~~(b) **Independent remedial actions.** Persons may conduct investigations and cleanups without department approval under this chapter. The department will use the appropriate requirements in this chapter when evaluating the adequacy of any independent remedial action. Except as limited by WAC 173-340-515(2), nothing in this chapter prohibits persons from conducting such actions before the department is ready to act at the site; however, all interim and cleanup actions must be reported to the department under WAC 173-340-515. Furthermore, independent remedial actions are conducted at the potentially liable person's own risk and the department may take or require additional remedial actions at these sites at any time. (See WAC 173-340-515 and 173-340-545.)~~

~~(9) **Public participation.** At sites where the department is conducting the cleanup or overseeing the cleanup under an order or decree, the public will receive notice and an opportunity to comment on most of the steps in the cleanup process. At many sites, a public participation plan will be prepared to provide opportunities for more extensive public involvement in the cleanup process. These and other requirements are described in WAC 173-340-600.~~

(3) **Site hazard assessment and ranking.** Based on the results of the initial investigation, ecology assesses and ranks the threats to human health and the environment posed by the site under WAC 173-340-320. Ecology may update the site's hazard assessment and rankings during the cleanup process when new information becomes available or conditions change. Ecology uses the results to support decisions to add or remove sites from the contaminated sites list, prioritize remedial action and funding among and within sites, track cleanup progress, and communicate threats to the public.

(4) **Listing.** Ecology lists a site based on the results of the initial investigation and the site hazard assessment and ranking.

(a) **Contaminated sites list.** If further remedial action is necessary, ecology adds the site to the contaminated sites list under WAC 173-340-330. The list also identifies the site's

⁵ Consolidated overview of administrative options for remedial action in Section 510.

remedial action status. Ecology updates the status during the cleanup process to reflect current conditions. The list is publicly available on ecology's website.

- (b) No further action sites list.** If no further remedial action is necessary, ecology adds the site to the no further action sites list under WAC 173-340-335. The list identifies whether institutional controls or periodic reviews remain necessary at the site. The list is publicly available on ecology's website.
- (5) Interim actions.** Under certain conditions it may be necessary or appropriate to conduct an early, interim action at a site before conducting a cleanup action.
- (a)** WAC 173-340-430 describes when interim actions are typically appropriate at a site and the requirements for such actions.
- (b)** WAC 173-340-450 describes specific interim actions that UST system owners and operators must perform immediately or shortly after confirming a release from a regulated UST system to reduce the threats posed by the release, prevent any further release, and characterize the nature and extent of the release. As specified in chapter 173-360A WAC, such releases must be cleaned up in accordance with this chapter.
- (6) Remedial investigation of site conditions.** After a detailed work plan is prepared, a remedial investigation is conducted at the site under WAC 173-340-350 to identify the sources of contamination; to characterize the nature, extent, and magnitude of contamination; and to assess the threats posed by the contamination to human health and the environment. The results of the remedial investigation are used to establish cleanup standards and to develop and evaluate cleanup action alternatives in a feasibility study.
- (7) Feasibility study of cleanup action alternatives.** Based on the results of the remedial investigation, cleanup action alternatives for addressing the threats posed by the site are developed and evaluated in a feasibility study under WAC 173-340-351. The alternatives are evaluated against the requirements and expectations for cleanup actions in WAC 173-340-360 and 173-340-370. The results of the feasibility study are used to select the cleanup action for a site. A feasibility study is not required to select an applicable model remedy developed by ecology under WAC 173-340-390.
- (8) Cleanup action plan.** Based on the results of the remedial investigation/feasibility study, a cleanup action is selected and a cleanup action plan is prepared under WAC 173-340-380. The cleanup action plan documents the selected cleanup action and specifies the cleanup standards and other requirements the cleanup action must meet. Cleanup standards are established under Part 7 of this chapter and include the concentrations the cleanup action must meet (cleanup levels), the location where those concentrations must be met (points of compliance), and other regulatory requirements that apply to the cleanup action or site.
- (9) Cleanup.** After a cleanup action is selected, the cleanup is conducted under WAC 173-340-400 and 173-340-410. Cleanup includes design, construction, operation and maintenance, and monitoring of the cleanup action.

- (a) Design.** Before starting construction, plans are developed to detail the cleanup action. This includes engineering designs, construction plans and specifications, operation and maintenance plans, and compliance monitoring plans. Before or during this design phase, any permits or approvals needed to construct the cleanup action are identified and resolved.
- (b) Construction.** Construction of the cleanup action is conducted in accordance with the plans and specifications prepared during the design phase. Upon completion of construction, as-built reports are prepared to document all aspects of construction and compliance with plans and specifications. During and upon completion of construction, ecology may inspect the site and provide construction oversight.
- (c) Operation and maintenance.** After construction is complete, some cleanup actions need to be operated and maintained for a period of time to achieve cleanup standards. For example, a treatment system may be constructed and used to clean up contaminated groundwater. Operation and maintenance of such cleanup actions is conducted in accordance with a plan developed during the design phase.
- (d) Monitoring.** During the construction and the operation and maintenance of the cleanup action, the following types of compliance monitoring are conducted. Compliance monitoring is conducted in accordance with a plan developed during the design phase.

 - (i)** Protection monitoring is conducted to confirm that human health and the environment are adequately protected.
 - (ii)** Performance monitoring is conducted to confirm that the cleanup action is achieving or has attained cleanup standards and any other applicable performance standards, such as remediation levels or permit requirements.
- (10) Cleanup completion.** Ecology determines whether cleanup of the site is complete based on the criteria in WAC 173-340-330(5). Typically, a cleanup is complete if no further remedial action is necessary to achieve cleanup standards at the site. For nonpermanent cleanup actions, such as those involving containment of contamination, post-cleanup controls and monitoring may be necessary as part of the cleanup action to maintain and periodically review compliance with cleanup standards.
- (11) Removal from contaminated sites list.** After determining the cleanup of the site is complete, ecology removes the site from the contaminated sites list under WAC 173-340-330 and adds the site to the no further action sites list under WAC 173-340-335. The no further action sites list identifies whether institutional controls or periodic reviews remain necessary at the site.
- (12) Post-cleanup controls and monitoring.** For nonpermanent cleanup actions, after the cleanup is completed and the site is delisted, one or more of the following post-cleanup remedial actions may be needed to control or monitor contamination remaining at the site.

 - (a) Engineered controls.** Engineered controls are containment or treatment systems that prevent or limit movement of, or exposure to, contamination. For example, materials may be placed over contaminated soils to limit contact with contamination. For a

cleanup action to remain protective, engineered controls must be operated and maintained in accordance with the plan required under WAC 173-340-400.

- (b) Institutional controls.** Institutional controls prohibit or limit activities or uses of real property that may interfere with the integrity of engineered controls or result in exposure to contamination remaining at the site. For example, a property may be restricted to industrial land use at sites where cleanup standards are based on such use. Institutional controls may also obligate a person to operate, maintain, or monitor engineered controls to ensure the integrity of the cleanup action. Typically, institutional controls are implemented by recording a restrictive covenant on the property. For a cleanup action to remain protective, institutional controls must be maintained and enforced. See WAC 173-340-440.
- (c) Confirmation monitoring.** Confirmation monitoring is a type of compliance monitoring used to confirm the long-term effectiveness of a cleanup action after the cleanup is completed. See WAC 173-340-410. For example, confirmation monitoring may be used to confirm that engineered controls are operating properly and effectively limiting the movement of contamination remaining at the site. For a cleanup action to remain protective, confirmation monitoring must be conducted in accordance with the plan required under WAC 173-340-400. Ecology relies on the monitoring data during periodic reviews of post-cleanup site conditions.
- (d) Financial assurances.** Financial assurances are assurances made to ecology by a person that sufficient financial resources are available to provide for the long-term operation, maintenance, and monitoring of a cleanup action relying on engineered or institutional controls, and for any needed corrective measures. Ecology may require financial assurances under WAC 173-340-440(11).
- (e) Periodic reviews.** Ecology conducts periodic reviews of post-cleanup site conditions at least once every five years to determine whether they remain protective of human health and the environment. If ecology determines that conditions are not protective and that substantial changes to the cleanup action are necessary, ecology may relist the site on the contaminated sites list and revise the cleanup action plan. See WAC 173-340-420.

(13) Public notice and participation and tribal engagement.

- (a) Site-specific information and alerts.** For all sites on the contaminated sites list and the no further action sites list, ecology will:

 - (i)** Make key site information publicly available on ecology’s website under WAC 173-340-600(5), including the site’s listing, remedial action status, hazard rankings, and remedial action plans and reports;
 - (ii)** If requested, notify a person electronically under WAC 173-340-600(6) when the site information specified on ecology’s website is added or changed; and

- (iii) Provide notice of proposed actions available for public comment in the Contaminated Site Register.
- (b) Ecology-conducted and ecology-supervised remedial actions.** For ecology-conducted and ecology-supervised remedial actions, ecology provides the public with notice and opportunity to comment and invites tribal engagement on most steps in the cleanup process. For such sites, ecology prepares or requires site-specific public participation and tribal engagement plans. These and other requirements are described in WAC 173-340-600(8) through (19) and 173-340-620.
- (c) Independent remedial actions.** For independent remedial actions, ecology provides the public with notice of any reports of such actions received by ecology, the results of any ecology review of such actions, the results of any periodic review of the site, and any institutional controls at the site. These and other requirements are described in WAC 173-340-600(20).

WAC 173-340-130 Administrative principles.

- ~~(1)~~ **Introduction.** ~~The department shall~~Ecology will conduct or require remedial actions, ~~or provide technical assistance for independent remedial actions,~~ consistent with the provisions of this section.
- ~~(2)~~**(1) Sharing ~~information-sharing.~~ Ecology's** ~~It is the policy of the department is~~ to make information about releases or threatened releases available to owners, operators, or other persons with potential liability for a site in order to encourage them to conduct prompt remedial action. ~~It Ecology's policy is also the policy of the department~~ to make the same information available to interested members of the general public so they can follow the progress of site cleanup in the state.
- ~~(3)~~**(2) ~~Information-exchange~~ Providing technical assistance.** All persons are encouraged to contact ~~the department~~ecology and seek assistance on the general administrative and technical requirements of ~~this chapter~~the state cleanup law. ~~Through its technical consultation program described in WAC 173-340-515, the department may also provide informal advice and assistance to persons conducting or proposing remedial actions at a specific site at any time. Unless the department is providing formal guidance for the implementation of an order or decree, any comments by the department or its agents are advisory and not commitments or approvals binding on the department. A person may not represent this advice as an approval of a remedial action. If the person requesting the advice is seeking binding commitments or approvals, then an order or consent decree shall be used.~~Under ecology's voluntary cleanup program, persons planning or conducting independent remedial action may also request technical assistance on how to investigate and clean up a site and written opinions on whether a planned or completed remedial action meets the substantive requirements of the state cleanup law. Such technical assistance is advisory only and is not binding on ecology. Such technical assistance does not constitute, and may not be represented by a person as, an approval of a remedial action. See RCW 70A.305.170(1) and WAC 173-340-515(5). Ecology will only provide a binding commitment or approval under an order or decree.⁶
- ~~(5)~~**(3) ~~Scope of information~~Collecting adequate information.** ~~It is the department's intention~~Ecology intends that adequate information be gathered at a site to enable decisions on appropriate actions. ~~It is also the department's intention~~Ecology also intends that decisions be made and cleanups proceed expeditiously once adequate information is obtained. Studies can be performed and submittals made at varying levels of detail appropriate to the conditions at the site. Also, steps in the cleanup process may be combined to facilitate quicker cleanups, where appropriate. Flexibility in the scope of investigations and in combining steps may be particularly appropriate for routine cleanup actions. Once adequate information has been obtained, ecology will make decisions ~~shall be made~~ within the framework provided ~~in this chapter~~under the state cleanup law and in site-specific orders or decrees.
- ~~(6)~~**(4) ~~Preparation of~~Preparing documents.** Except for the initial investigation and the site hazard assessment and ranking,⁷ any of the studies, reports, or plans used in the cleanup process can

⁶ Clarified Ecology's policies related to providing technical assistance.

⁷ Consistent with changes to Section 320, emphasized that a site hazard assessment and ranking cannot be performed by a potentially liable person.

be prepared by either ~~the department~~ecology or the potentially liable person. ~~The department~~Ecology retains all authority to review and verify the documents submitted and to make decisions based on the documents and other relevant information.

- ~~(4)~~(5) **Scope of Encouraging and facilitating public participation.**⁸ For ecology-conducted and ecology-supervised remedial actions, ~~The department~~ecology seeks to encourage public participation and facilitate equitable participation in all steps of the cleanup process under WAC 173-340-600. ~~The department shall~~Ecology will encourage a level of participation appropriate to the ~~conditions at a facility~~threats posed by a site and the level of the public's interest in the site. When assessing public participation needs at a site, ecology will consider the interests of vulnerable populations and overburdened communities.
- (6) **Engaging and collaborating with Indian tribes.**⁹ For ecology-conducted and ecology-supervised remedial actions, ecology will seek to engage affected Indian tribes under WAC 173-340-620 by providing timely information, effective communication, continuous opportunities for collaboration and, when necessary, government-to-government consultation, as appropriate for each site.
- (7) **~~Interagency coordination~~Coordinating with agencies.**¹⁰
- (a) ~~If the department is conducting remedial actions or requiring remedial actions under an order or decree, the department shall~~For ecology-conducted and ecology-supervised remedial actions, ecology will ensure appropriate local, state, and federal agencies ~~and tribal governments~~are kept informed and, as appropriate, involved in the development and implementation of remedial actions. ~~The department~~Ecology may require a potentially liable person to undertake this responsibility. If the potentially liable person demonstrates that they are unable to obtain adequate involvement ~~to allow the remedial action to proceed~~by a particular government agency ~~or tribe~~to allow the remedial action to proceed, the department shallecology will request the involvement of the agency ~~or tribe~~.
- (b) The nature and degree of coordination and consultation ~~shall~~must be commensurate with the other agencies' ~~and tribes'~~interests and needs at the site. Interested agencies ~~and tribes shall~~must also be included in the ~~mailing lists~~ for public notices under WAC 173-340-600. To facilitate coordination, it is important that agencies ~~and tribes~~provide specific comments, including the identification of other applicable state and federal laws and any additional information ~~needed~~or mitigating measures that are necessary or desirable to satisfy their concerns.

⁸ Clarified that public participation (opportunity to comment) is limited to Ecology-conducted and Ecology-supervised remedial actions. Added policy that Ecology seeks to provide equitable participation. Also emphasized that Ecology will consider the interests of vulnerable populations and overburdened communities when assessing public participation needs at a site.

⁹ Consistent with changes in Part 6, separated discussion of tribal engagement and collaboration in new subsection (6) from discussion of interagency coordination in subsection (7).

¹⁰ See comment on subsection (6) above.

- (c) In order to provide for expeditious cleanup actions, all federal, state, and local agencies, ~~and tribes~~ are encouraged to coordinate with ecology when providing notices, holding meetings and hearings, and preparing documents. Whenever reasonable, ~~the department shall~~ ecology will coordinate and combine its activities with other agencies ~~and tribes~~ to minimize the duplication of notices, hearings and preparation of documents, unless otherwise prohibited.
- (8) **Integrating State Environmental Policy Act.** See chapter 197-11 WAC for the State Environmental Policy Act requirements pertaining to the implementation of ~~the Model Toxics Control Act~~ the state cleanup law.
- (9) **Ecology decisions.**¹¹ Ecology retains all authority to determine compliance with state cleanup law requirements, including:
- (a) Whether a remedial action is necessary under state cleanup law;
 - (b) Whether a remedial action meets the requirements in state cleanup law; and
 - (c) Whether a remedial action plan or report meets the requirements in state cleanup law.
- (9)(10) **Appeals** ~~Appealing ecology decisions.~~ Unless otherwise indicated, all ~~department~~ ecology decisions made under this chapter are remedial decisions and may be appealed only as provided for in RCW ~~70.105D.060~~ 70A.305.070.

¹¹ Added provision describing Ecology's authority under the state cleanup law (MTCA and implementing regulations) to determine compliance with remedial action requirements, including whether remedial action is necessary and whether such action is sufficient.

~~WAC 173-340-140~~ **Deadlines.**¹²

- ~~(1) **Purpose.** It is the department's intent to move sites through the cleanup process as expeditiously as possible. However, the department is limited by the amount of personnel and funds it can expend in any given fiscal year. This section is intended to establish reasonable deadlines for remedying releases within these constraints. The department's process for ranking and setting site priorities is described in WAC 173-340-330 and 173-340-340, respectively.~~
- ~~(2) **Initial investigation.** Within ninety days of learning of a release or threatened release of a hazardous substance, the department shall complete an initial investigation under WAC 173-340-310.~~
- ~~(3) **Further investigation.** At least twice a year, the department shall determine which sites with completed initial investigations are a high priority for further investigation. At that time, the department shall schedule high priority sites for further investigations to begin within six months. This determination will be based on the best professional judgment of departmental staff. Sites may be scheduled for further investigation at any time if the department determines that the site warrants expedited action.~~
- ~~(4) **Site assessment and ranking.** For high priority sites, the department shall complete the site hazard assessment and hazard ranking within one hundred eighty days of the scheduled start date. These sites shall be identified in the department's *Site Register*. Sites not designated as a high priority shall be scheduled for future investigations and listed in the biennial report to the legislature (WAC 173-340-340). The department shall conduct at least thirty five site hazard assessments each fiscal year until the number of sites needing site hazard assessments are reduced below this number.~~
- ~~(5) **Site investigation.** Within thirty days of ranking, the department shall designate which sites are a high priority for a remedial investigation/feasibility study and which sites are a lower priority where further action can be delayed. The department shall review these lower priority sites and provide an opportunity for public comment as part of the biennial report to the legislature (WAC 173-340-340).~~
- ~~(6) **Remedial investigation/feasibility study.** For all sites designated as a high priority, the remedial investigation/feasibility study shall be completed under WAC 173-340-350 within eighteen months of signing the order or decree. The department may extend the deadline up to twelve months if the circumstances at the site merit a longer time frame. The department shall provide the public an opportunity to comment on any extension. The department shall initiate a remedial investigation/feasibility study on at least ten sites per fiscal year.~~
- ~~(7) **Cleanup action.** The department shall select the cleanup action under WAC 173-340-360 and file a consent decree or issue an order for cleanup action for all designated high priority sites within six months of the completion of the remedial investigation/feasibility study. The~~

¹² Eliminated Section 140, which specified schedules for "high priority" sites designated by Ecology. For such sites, Ecology was required to publish schedules, and any extensions to those schedules, in the *Site Register*. The concept of "high priority" sites is defunct. Ecology hasn't utilized this concept for over 20 years. Consistent with this change, also eliminated references to the concept throughout the rest of this chapter.

~~department may extend the deadline for up to four months for consent decree and order discussions. The department shall provide the public with an opportunity to comment on any deadline extension.~~

~~(8) **Site schedules.** The department shall publish site schedules for designated high priority sites in the *Site Register* according to WAC 173-340-600(6)~~

Part 2 – Definitions and Usage

WAC 173-340-200 Definitions.

For the purpose of this chapter, the following definitions apply unless the context clearly requires otherwise:

“Acute toxicity” means the ability of a hazardous substance to cause injury or death to an organism as a result of a short-term exposure to a hazardous substance.

“Agreed order” means an order issued by ~~the department~~ ecology under WAC 173-340-530 with which the potentially liable person receiving the order agrees to comply. An agreed order may be used to require or approve any cleanup or other remedial actions, but it is not a settlement under RCW ~~70.105D.040~~ 70A.305.040(4) and ~~shall~~ does not contain a covenant not to sue, or provide protection from claims for contribution, or provide eligibility for public funding of remedial actions under RCW ~~70.105D.070(2)(d)(xi)~~ 70A.305.190(4)(a)(v) and (vi).¹³

“Aliphatic hydrocarbons” or “aliphatics” means organic compounds that are characterized by a straight, branched, or cyclic (nonbenzene ring) arrangement of carbon atoms and that do not contain halogens (such as chlorine). See also "aromatic hydrocarbons."

“All practicable methods of treatment” means all technologies ~~and/or~~ methods currently available and demonstrated to work under similar site circumstances or through pilot studies, and applicable to the site at reasonable cost. These include "all known available and reasonable methods of treatment" (AKART) for discharges or potential discharges to waters of the state, and "best available control technologies" (BACT) for releases of hazardous substances into the air resulting from cleanup actions.

“Applicable state and federal laws” means all legally applicable requirements specified in WAC 173-340-710(3) and those requirements that ~~the department~~ ecology determines, based on the criteria in WAC 173-340-710~~(3)~~ (4), are relevant and appropriate requirements.

“Area background” means the concentrations of a hazardous substances ~~that are~~ consistently present in the environment in the vicinity of a site ~~which are~~ as the result of human activities unrelated to releases from that site. Compare “natural background.”

“Aromatic hydrocarbons” or “aromatics” means organic compounds that are characterized by one or more benzene rings, with or without aliphatic hydrocarbon substitutions of hydrogen atoms on the rings, and that do not contain halogens (such as chlorine). See also "aliphatic hydrocarbons."

“Averaging time” means the time over which the exposure is averaged. For noncarcinogens, the averaging time typically equals the exposure duration. For carcinogens, the averaging time equals the life expectancy of a person.

“Bioconcentration factor” means the ratio of the concentration of a hazardous substance in the tissue of an aquatic organism divided by the hazardous substance concentration in the ambient water in which the organism resides.

¹³ Updated definition of “agreed order” based on legislative changes to definition in MTCA.

“Carcinogen” means any substance or agent that produces or tends to produce cancer in humans. For implementation of this chapter, the term carcinogen applies to substances on the United States Environmental Protection Agency lists of A (known human) and B (probable human) carcinogens, and any substance that causes a significant increased incidence of benign or malignant tumors in a single, well conducted animal bioassay, consistent with the weight of evidence approach specified in the United States Environmental Protection Agency's Guidelines for Carcinogen Risk Assessment as set forth in 51 FR 33992 et seq.

“Carcinogenic potency factor” or “CPF” means the upper 95th percentile confidence limit of the slope of the dose-response curve and is expressed in units of (mg/kg-day)⁻¹. When derived from human epidemiological data, the carcinogenic potency factor may be a maximum likelihood estimate.

“Chronic reference dose” means an estimate (with an uncertainty spanning an order of magnitude or more) of a daily exposure level for the human population, including sensitive subpopulations, that is likely to be without an appreciable risk of adverse effects during a lifetime.

“Chronic toxicity” means the ability of a hazardous substance to cause injury or death to an organism resulting from repeated or constant exposure to the hazardous substance over an extended period of time.

“Cleanup” means the implementation of a cleanup action or interim action.

“Cleanup action” means any remedial action, except interim actions, taken at a site to eliminate, render less toxic, stabilize, contain, immobilize, isolate, treat, destroy, or remove a hazardous substance that complies with WAC 173-340-350 through 173-340-390.

“Cleanup action alternative” means one or more treatment technology, containment action, removal action, engineered control, institutional control or other type of remedial action (**“cleanup action components”**) that, individually or, in combination, achieves a cleanup action at a site.

“Cleanup action plan” means the document prepared ~~by the department~~ under WAC 173-340-380 that ~~selects~~documents the selected cleanup action and specifies the cleanup standards and other requirements ~~for~~ the cleanup action must meet.

“Cleanup level” means the concentration of a hazardous substance in soil, water, air, or sediment that is determined to be protective of human health and the environment under specified exposure conditions.

“Cleanup standards” means the standards adopted under RCW ~~70.105D.030(2)(d)~~70A.305.030(2)(e). Establishing cleanup standards requires specification of the following:

- (a) Hazardous substance concentrations that protect human health and the environment ("cleanup levels");
- (b) The location on the site where those cleanup levels must be attained ("points of compliance"); and

(c) Additional regulatory requirements that apply to a cleanup action because of the type of action and/or the location of the site. These requirements are specified in applicable state and federal laws and are generally established in conjunction with the selection of a specific cleanup action.

“Cohen’s method” means the maximum likelihood estimate of the mean and standard deviation accounting for data below the method detection limit or practical quantitation limit using the method described in the following publications:

(a) Cohen, A.C., 1959. "Simplified estimators for the normal distribution when samples are singly censored or truncated." *Technometrics*. Volume 1, pages 217-237.

(b) Cohen, A.C., 1961. "Tables for maximum likelihood estimates: Singly truncated and singly censored samples." *Technometrics*. Volume 3, pages 535-541.

“Compliance monitoring” means a remedial action that consists of the monitoring as described in WAC 173-340-410, including protection monitoring, performance monitoring, and confirmation monitoring.¹⁴

“Conceptual site model”¹⁵ means a conceptual understanding of a site that identifies known or suspected:

(a) ~~potential or suspected sources of hazardous substances~~ sources and release mechanisms;

(b) Hazardous substance types and concentrations ~~of hazardous substances;~~

(c) Hazardous substance transport, including preferential pathways;

(d) ~~potentially contaminated~~ environmental media, including the general extent and distribution of contamination within the media; ~~and~~

(e) ~~actual~~ Current and potential human and ecological receptors and exposure pathways and receptors (complete and incomplete); and

(f) Physical and habitat features, including current and potential future land and water uses.

This model is typically ~~initially~~ developed during the scoping of ~~the~~ remedial investigation and further refined as additional information is collected ~~on~~ about the site during the remedial investigation. ~~The model~~ is a tool used to assist in making decisions at a site.

“Conducting land use planning under chapter 36.70A RCW,” as used in the definition of "industrial properties," means having adopted a comprehensive plan and development regulations for the site under chapter 36.70A RCW (Growth Management Act).

¹⁴ Clarified that “compliance monitoring” includes protection monitoring, performance monitoring, and confirmation monitoring. For ease of reference, also added definitions of these three specific types of compliance monitoring in Section 200. Those definitions also refer to Section 410.

¹⁵ Updated and clarified definition of “conceptual site model.” Changed Section 350 to just refer to the definition of this term instead of repeating some or all of the description.

“Confirmation monitoring”¹⁶ means a type of compliance monitoring described in WAC 173-340-410.

“Containment” means a container, vessel, barrier, or structure, whether natural or constructed, that confines a hazardous substance within a defined boundary and prevents or minimizes its release into the environment.

“Contaminant” means any hazardous substance that does not occur naturally or occurs at greater than natural background levels.

“Contaminated site”¹⁷ means a site for which ecology or PLIA has determined further remedial action is necessary under the state cleanup law to:

- (a)** Confirm whether there is a threat to human health or the environment posed by a release or threatened release; or
- (b)** Address the threat posed by a release or threatened release, based on the criteria in WAC 173-340-330(5).

A contaminated site is referred to as hazardous waste site in chapter 70A.305 RCW.

“Contaminated sites list”¹⁸ means a list of contaminated sites maintained by ecology under WAC 173-340-330. For each listed site, the list also identifies the site’s current remedial action status. This list is referred to as the hazardous sites list in chapter 70A.305 RCW.

“Curie” means the measure of radioactivity defined as that quantity of radioactive material which decays at the rate of 3.70×10^{10} transformations per second. This decay rate is nearly equivalent to that exhibited by 1 gram of radium in equilibrium with its disintegration products.

“Day” means calendar day; however, any document due on the weekend or a holiday may be submitted on the first working day after the weekend or holiday.

“Decree” means a consent decree issued under WAC [173-340-520](#). "Consent decree" is synonymous with decree.

“Degradation by-products” or “decomposition by-products” means the secondary product of biological or chemical processes that break down chemicals into other chemicals. The decomposition by-products may be more or less toxic than the parent compound.

~~**“Department”¹⁹** means the department of ecology.~~

¹⁶ Added definition of term “confirmation monitoring” for ease of reference. The definition refers to the description in Section 410. Also changed term from “confirmational” to “confirmation.”

¹⁷ Replaced term “hazardous waste site” with term “contaminated site.” Clarified that includes sites where further remedial action is necessary to confirm or address a threat. Updated definition to recognize that PLIA may also determine whether further remedial action is necessary (see RCW [70A.330.040](#)(7) and (12)). Clarified that the delisting criteria in WAC 173-340-330(5) are used to determine whether further remedial action is necessary. If a site doesn’t meet the criteria, then the site is a “contaminated site” and placed on the “contaminated sites list.”

¹⁸ Replaced “hazardous sites list” with “contaminated sites list” and identified what information about a site is included on the list. Ecology already maintains such a list, which is currently referred to as the “confirmed and suspected contaminated sites list.” The list is publicly available on Ecology’s website at:

<https://apps.ecology.wa.gov/tcpwebreporting/reports/cleanup/contaminated>.

“Developmental reference dose” means an estimate (with an uncertainty of an order of magnitude or more) of an exposure level for the human population, including sensitive subgroups, that is likely to be without an appreciable risk of developmental effects.

“Direct contact” means exposure to hazardous substances through ingestion and/or dermal contact.

“Director” means the director of the department of ecology or the director's designee.

“Disposal”²⁰ means the discharging, discarding, or abandoning of hazardous substances or the treatment, decontamination, or recycling of such substances once they have been discarded or abandoned. This includes the discharge, discard, or abandonment of any hazardous substances into or on any land, air, or water.

“Drinking water fraction” means the fraction of drinking water that is obtained or has the potential to be obtained from the site.

“Ecology” or **“department”** means the department of ecology.²¹

“Ecology-conducted remedial action”²² means a remedial action conducted by ecology.

“Ecology-supervised remedial action”²³ means a remedial action conducted by a potentially liable person or prospective purchaser and supervised by ecology under an order or decree.

“Engineered controls” means a containment ~~and/or~~ treatment systems that ~~are~~is designed and constructed to prevent or limit the movement of, or the exposure to, a hazardous substances. An engineered control is a type of remedial action.²⁴ Examples of engineered controls include:

- (a) a layer of clean soil, asphalt or concrete paving, or other materials placed over contaminated soils to limit contact with contamination;
- (b) a groundwater flow barrier such as a bentonite slurry trench;
- (c) A groundwater gradient control systems such as a French drains or a pump and treat systems; and
- (d) A vapor control systems.

“Environment” means any plant, animal, natural resource, surface water (including underlying sediments), groundwater, drinking water supply, land surface (including tidelands and

¹⁹ Replaced “department” with “Ecology” to refer to the department of ecology. This is intended to make it easier for readers to identify to which agency the rule is referring. See note on definition of “Ecology.”

²⁰ Added definition of “disposal.” The definition is based on the definition of the term in the dangerous waste regulations, except that we replaced the term “dangerous waste” with the term “hazardous substance” in the definition. See WAC [173-303-040](#).

²¹ Replaced the term “department” with “Ecology” to refer to the department of ecology. This is intended to make it easier for readers to identify to which agency the rule is referring. However, we are updating the MTCA Cleanup Regulations in phases. So, some parts of the chapter will continue to refer to the “department” until the final phase is completed.

²² Added definition of “Ecology-conducted remedial action.”

²³ Added definition of “Ecology-supervised remedial action.”

²⁴ Clarified that an “engineered control” is a type of “remedial action.”

shorelands) or subsurface strata, or ambient air within the state of Washington or under the jurisdiction of the state of Washington.

“Equivalent carbon number” or “EC” means a value assigned to a fraction of a petroleum mixture, empirically derived from the boiling point of the fraction normalized to the boiling point of n-alkanes or the retention time of n-alkanes in a boiling point gas chromatography column.

“Exposure” means subjection of an organism to the action, influence, or effect of a hazardous substance (chemical agent) or physical agent.

“Exposure duration” means the period of exposure to a hazardous substance.

“Exposure frequency” means the portion of the exposure duration that an individual is exposed to a hazardous substance, expressed as a fraction. For example, if a person is exposed ~~260~~250 days (five days per week for ~~52~~50 work weeks) over a year (365 days), the exposure frequency would be equal to: $(5 \times 50)/365 = 0.7$.²⁵

“Exposure parameters” means those parameters used to derive an estimate of the exposure to a hazardous substance.

“Exposure pathway” means the path a hazardous substance takes or could take from a source to an exposed organism. An exposure pathway describes the mechanism by which an individual or population is exposed or has the potential to be exposed to hazardous substances at or originating from a site. Each exposure pathway includes an actual or potential source or release from a source, an exposure point, and an exposure route. If the exposure point differs from the source of the hazardous substance, the exposure pathway also includes a transport/exposure medium.

“Facility” means (a) any building, structure, installation, equipment, pipe or pipeline (including any pipe into a sewer or publicly owned treatment works), well, pit, pond, lagoon, impoundment, ditch, landfill, storage container, motor vehicle, rolling stock, vessel, or aircraft; or (b) any site or area where a hazardous substance, other than a consumer product in consumer use, has been deposited, stored, disposed of, or placed, or otherwise come to be located.

“Feasibility study”²⁶ means a remedial action conducted under WAC 173-340-351 that consists of developing and evaluating cleanup action alternatives to enable selection of a cleanup action.

“Federal cleanup law” means the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended ~~by the Superfund Amendments and Reauthorization Act of 1986,~~ (42 U.S.C. 9601 et seq.).²⁷

“Financial assurance”²⁸ means a remedial action that consists of an assurance provided to ecology under WAC 173-340-440(11) that sufficient financial resources are available to provide for the long-term effectiveness of engineered or institutional controls.

²⁵ In definition of “exposure frequency,” corrected numbers in example calculation.

²⁶ Added separate definition of term “feasibility study” consistent with statement of purpose in Section 351.

²⁷ Updated definition of “federal cleanup law” to include any amendments, not just those in the Superfund Amendments and Reauthorization Act of 1986.

“Fish diet fraction” means the percentage of the total fish and/or shellfish in an individual's diet that is obtained or has the potential to be obtained from the site.

“Food crop” means any domestic plant that is produced for the purpose of, or may be used in whole or in part for, consumption by people or livestock. This ~~shall~~ includes nursery, root, or seedstock to be used for the production of food crops.

“Free product” means a nonaqueous phase liquid that is present in the soil, bedrock, groundwater or surface water as a ~~distinct~~ separate layer. Under the right conditions, if sufficient free product is present, free product is capable of migrating independent of the direction of flow of the groundwater or surface water.

“Gastrointestinal absorption fraction” means the fraction of a substance transported across the gastrointestinal lining and taken up systemically into the body.

“Groundwater” means water in a saturated zone or stratum beneath the surface of land or below a surface water.

“Hazard index” means the sum of two or more hazard quotients for multiple hazardous substances and/or multiple exposure pathways.

~~“Hazardous sites list”²⁹ means the list of hazardous waste sites maintained under WAC 173-340-330.~~

“Hazardous substance” means:

- (a) ~~a~~Any dangerous or extremely hazardous waste as defined in RCW ~~70.105.010(5) and (6)~~ 70A.300.010(1) and (7), or any dangerous or extremely dangerous waste as designated by rule under chapter ~~70.105~~ 70A.300 RCW;
- (b) ~~a~~Any hazardous substance as defined in RCW ~~70.105.010~~ 70A.300.010(14)(10) or any hazardous substance as defined by rule under chapter ~~70.105~~ 70A.300 RCW;
- (c) ~~a~~Any substance that, on the effective date of this section, is a hazardous substance under section 101(14) of the federal cleanup law, 42 U.S.C., Sec. 9601(14);
- (d) ~~p~~Petroleum or petroleum products; and
- (e) ~~a~~Any substance or category of substances, including solid waste decomposition products, determined by the director by rule to present a threat to human health or the environment if released into the environment.

The term hazardous substance does not include any of the following when contained in an underground storage tank from which there is not a release: Crude oil or any fraction thereof or petroleum, if the tank is in compliance with all applicable federal, state, and local law.

~~“Hazardous waste site”³⁰ means any facility where there has been confirmation of a release or threatened release of a hazardous substance that requires remedial action.~~

²⁸ Added definition of term “financial assurance” consistent with statement of purpose in Section 440(11).

²⁹ Replaced term “hazardous sites list” with term “contaminated sites list.” See note above about “contaminated sites list.”

“Hazard quotient” or “HQ” means the ratio of the dose of a single hazardous substance over a specified time period to a reference dose for that hazardous substance derived for a similar exposure period.

“Health and safety plan”³¹ means a plan prepared under WAC 173-340-810.

“Health effects assessment summary tables” or “HEAST” means a database developed by the United States Environmental Protection Agency that provides a summary of information on the toxicity of hazardous substances.

“Henry's law constant” means the ratio of a hazardous substance's concentration in the air to its concentration in water. Henry's law constant can vary significantly with temperature for some hazardous substances. The dimensionless form of this constant is used in the default equations in this chapter.

“Highest beneficial use” means the beneficial use of a resource generally requiring the highest quality in the resource. For example, for many hazardous substances, providing protection for the beneficial use of drinking water will generally also provide protection for a great variety of other existing and future beneficial uses of groundwater.

“Inadvertent discovery plan” means a plan prepared under WAC 173-340-815 that describes procedures for responding to a discovery of archaeological materials or human remains in accordance with applicable state and federal laws.³²

“Independent remedial actions” means a remedial actions conducted without ~~department~~ecology oversight or approval and not under an order, ~~agreed order~~, or ~~consent~~decree.³³

“Indian tribe” means the term as defined in RCW 43.376.010(1).³⁴

“Indicator hazardous substances” means the subset of hazardous substances present at a site selected under WAC 173-340-708 for monitoring and analysis during any phase of remedial action for the purpose of characterizing the site or establishing cleanup requirements for that site.

“Indigenous peoples” means individual members of Indian tribes; other individual Native Americans; individual Native Alaskans, Native Hawaiians, and Native Pacific Islanders; and indigenous and tribal community-based organizations.³⁵

³⁰ Replaced term “hazardous waste site” with term “contaminated site.” See note about “contaminated site.”

³¹ Replaced term “safety and health plan” with term “health and safety plan,” and updated usage throughout chapter to be consistent. The current rule uses both terms.

³² Added definition of “inadvertent discovery plan.” The contents of the plan are defined in new Section 815.

³³ Corrected definition of term “independent remedial action.” The term “order” is defined in this section to mean both enforcement orders and agreed orders.

³⁴ Added term “Indian tribe” and defined to mean the same as specified in chapter [43.376](#) RCW, Government-to-government relationship with Indian tribes.

³⁵ Added definition of term “indigenous peoples” to refer to individual members of Indian tribes and other native peoples, in contrast to tribal governments. The term is used in the rule when discussing public participation planning in Section 600(9).

“Industrial properties” means properties that are or have been characterized by, or are to be committed to, traditional industrial uses such as processing or manufacturing of materials, marine terminal and transportation areas and facilities, fabrication, assembly, treatment, or distribution of manufactured products, or storage of bulk materials, that are either:

(a) Zoned for industrial use by a city or county conducting land use planning under chapter [36.70A](#) RCW (Growth Management Act); or

(b) For counties not planning under chapter [36.70A](#) RCW (Growth Management Act) and the cities within them, zoned for industrial use and adjacent to properties currently used or designated for industrial purposes.

See WAC 173-340-745 for additional criteria to determine if a land use not specifically listed in this definition would meet the requirement of "traditional industrial use" and for evaluating if a land use zoning category meets the requirement of being "zoned for industrial use."

“Inhalation absorption fraction” means the percent of a hazardous substance (expressed as a fraction) that is absorbed through the respiratory system.

“Inhalation correction factor” means a multiplier that is used to adjust exposure estimates based on ingestion of drinking water to take into account exposure to hazardous substances that are volatilized and inhaled during use of the water.

“Initial investigation” means a remedial action that consists of an investigation conducted under WAC 173-340-310.

“Institutional controls” means a measures undertaken to limit or prohibit activities that may interfere with the integrity of an interim action or a cleanup action or result in exposure to hazardous substances at the site. An institutional control is a type of remedial action.³⁶ For examples of institutional controls, see WAC 173-340-440(1).

“Integrated risk information system” or “IRIS” means a database developed by the United States Environmental Protection Agency that provides a summary of information on hazard identification and dose-response assessment for specific hazardous substances.

“Interim action” means a remedial action conducted under WAC 173-340-430.

“Interspecies scaling factor” means the conversion factor used to take into account differences between animals and humans.

“Land's method” means the method for calculating an upper confidence limit for the mean of a lognormal distribution, described in the following publications:

(a) Land, C.E., 1971. "Confidence intervals for linear functions of the normal mean and variance." *Annals of Mathematics and Statistics*. Volume 42, pages 1187-1205.

³⁶ Clarified that an “institutional control” is a type of “remedial action.”

(b) Land, C.E., 1975. "Tables of confidence limits for linear functions of the normal mean and variance." In: *Selected Tables in Mathematical Statistics*, Volume III, pages 385-419. American Mathematical Society, Providence, Rhode Island.

"Legally applicable requirements" means those cleanup standards, standards of control, and other human health and environmental protection requirements, criteria, or limitations adopted under state or federal law that specifically address a hazardous substance, cleanup action, location, or other circumstances at the site.

"Lowest observed adverse effect level" or "LOAEL" means the lowest concentration of a hazardous substance at which there is a statistically or biologically significant increase in the frequency or severity of an adverse effect between an exposed population and a control group.

~~"Mail" means delivery through the United States Postal Service or an equivalent method of delivery or transmittal, including private mail carriers, or personal delivery.³⁷~~

"Maximum contaminant level" or "MCL" means the maximum concentration of a contaminant established by either the Washington state board of health or the United States Environmental Protection Agency under the ~~Federal~~ Safe Drinking Water Act (42 U.S.C. 300f et seq.) and published in chapter ~~248-54~~ 246-290 WAC³⁸ or 40 C.F.R. Part 141.

"Maximum contaminant level goal" or "MCLG" means the maximum concentration of a contaminant established by either the Washington state board of health or the United States Environmental Protection Agency under the ~~Federal~~ Safe Drinking Water Act (42 U.S.C. 300f et seq.) and published in chapter ~~248-54~~ 246-290 WAC³⁹ or 40 C.F.R. Part 141 for which no known or anticipated adverse effects on human health occur, including an adequate margin of safety.

"Method detection limit" or "MDL" means the minimum concentration of a compound that can be measured and reported with ~~ninety-nine~~99 percent (~~99%~~) confidence that the value is greater than zero.

"Millirem" or "mrem" means the measure of the dose of any radiation to body tissue in terms of its estimated biological effect relative to a dose received from an exposure to one roentgen (R) of X-rays. One millirem equals 0.001 rem.

"Mixed funding" means any funding provided to a potentially liable persons from the ~~state~~model toxics control capital account under WAC 173-340-560.⁴⁰

"Model remedy"⁴¹ means a set of technologies, procedures, and monitoring protocols identified by ecology for use in routine types of cleanup projects at facilities that have common features and lower risk to human health and the environment.

³⁷ Eliminated definition of term "mail," and replaced usage throughout rule with "written notice" to simplify and acknowledge use of electronic means of communication, such as email.

³⁸ Updated rule citation.

³⁹ Updated rule citation.

⁴⁰ Updated definition of term "mixed funding" to reflect legislative changes to the MTCA account structure in SB 5993 (2019). See RCW 70A.305.190.

“Model Toxics Control Act” or **“act”** means chapter ~~70.105D~~ 70A.305 RCW, first passed by the voters in the November 1988 general election as Initiative 97 and as since amended by the legislature.

“National priorities list” or **“NPL”**⁴² means the list of sites designated as a national priority by the United States Environmental Protection Agency under Section 105(a)(8)(B) of the federal cleanup law, 42 U.S.C. 9605(a)(8)(B).

“Natural attenuation” means a variety of physical, chemical or biological processes that, under favorable conditions, act without human intervention to reduce the mass, toxicity, mobility, volume, or concentration of hazardous substances in the environment. These in situ processes include: Natural biodegradation; dispersion; dilution; sorption; volatilization; and, chemical or biological stabilization, transformation, or destruction of hazardous substances. See WAC 173-340-370(7) for a description of the expected role of natural attenuation in site cleanup. A cleanup action that includes natural attenuation and conforms to the expectation in WAC 173-340-370(7) can be considered an active remedial measure.

“Natural background” means the concentration of a hazardous substance consistently present in the environment that has not been influenced by localized human activities. For example, several metals and radionuclides naturally occur in the bedrock, sediments, and soils of Washington state due solely to the geologic processes that formed these materials, ~~and the~~ The concentration of these hazardous substances would be considered natural background. Also, low concentrations of some particularly persistent organic compounds such as polychlorinated biphenyls (PCBs) can be found in surficial soils and sediment throughout much of the state due to global distribution of these hazardous substances. These low concentrations would be considered natural background. Similarly, concentrations of various radionuclides that are present at low concentrations throughout the state due to global distribution of fallout from bomb testing and nuclear accidents would be considered natural background. Compare “area background.”

“Natural biodegradation” means ~~in-situ~~ in situ biological processes such as aerobic respiration, anaerobic respiration, and cometabolism, that occur without human intervention and that break down hazardous substances into other compounds or elements. The process is typically a multiple step process and may or may not result in organic compounds being completely broken down or mineralized to carbon dioxide and water.

“Natural person” means any unincorporated individual or group of individuals. The term "individual" is synonymous with "natural person."

“Nonaqueous phase liquid” or **“NAPL”** means a hazardous substance that is present in the soil, bedrock, groundwater, or surface water as a liquid not dissolved in water. The term includes both light nonaqueous phase liquid (LNAPL) and dense nonaqueous phase liquid (DNAPL).

“No further action sites list”⁴³ means a list of sites for which ecology or PLIA has determined no further remedial action is necessary under state cleanup law to meet the criteria in WAC 173-340-

⁴¹ Added definition of term “model remedy” to reflect legislative changes to MTCA in SB [5296](#) (2013). See RCW [70A.305.020](#)(20).

⁴² Added definition of term “national priorities list.”

330(5). For each listed site, the list also identifies whether institutional controls or periodic reviews remain necessary at the site. Ecology maintains the list under WAC 173-340-335.

“No observed adverse effect level” or “NOAEL” means the exposure level at which there are no statistically or biologically significant increases in frequency or severity of adverse effects between the exposed population and its appropriate control; ~~s~~ Some effects may be produced at this level, but they are not considered to be adverse, nor precursors to specific adverse effects.

“Nonpotable” means not a current or potential source of drinking water. See WAC 173-340-720 and 173-340-730 for criteria for determining if groundwater or surface water is a current or potential source of drinking water.

“Null hypothesis” means an assumption about hazardous substance concentrations at a site when evaluating compliance with cleanup levels established under this chapter. The null hypothesis is that the site is contaminated at concentrations that exceed cleanup levels. This ~~shall~~does not apply to cleanup levels based on background concentrations where other appropriate statistical methods supported by a power analysis would be more appropriate to use.

“Oral RFD conversion factor” means the conversion factor used to adjust an oral reference dose (which is typically based on an administered dose) to a dermal reference dose (which is based on an absorbed dose).

“Order” means an enforcement order issued under WAC 173-340-540 or an agreed order issued under WAC 173-340-530.

“Overburdened community”⁴⁴ means the term as defined in RCW 70A.02.010(11).

“Owner or operator” means any person that meets the definition of this term in RCW ~~70.105D.020(12)~~ 70A.305.020(22).

“PAHs (carcinogenic)” or “cPAHs” means those polycyclic aromatic hydrocarbons substances, PAHs, identified as A (known human) or B (probable human) carcinogens by the United States Environmental Protection Agency. These include benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, chrysene, dibenzo(a,h)anthracene, and indeno(1,2,3-cd)pyrene.

“Performance monitoring”⁴⁵ means a type of compliance monitoring described in WAC 173-340-410.

“Periodic review”⁴⁶ means a remedial action that consists of a review conducted by ecology under WAC 173-340-420.

⁴³ Added definition of term “no further action sites list.” Ecology currently maintains and makes available the list on Ecology’s website at: <https://apps.ecology.wa.gov/tcpwebreporting/reports/cleanup/nfa>. Clarified that the no further action determination is based on the delisting criteria in WAC 173-340-330(5). If the site meets the criteria, the site is placed on the “no further action sites list.” Identified what information about a site is included on the “no further action sites list.”

⁴⁴ Added definition of term “overburdened community” from the HEAL Act, RCW [70A.02.010](#)(11).

⁴⁵ Added definition of term “performance monitoring” for ease of reference. The definition refers to the description in Section 410.

“Permanent solution” or “permanent cleanup action” means a cleanup action in which cleanup standards of ~~WAC 173-340-700 through 173-340-760~~ Part 7 of this chapter can be met without further action being required at the site being cleaned up or any other site involved with the cleanup action, other than the approved disposal of any residue from the treatment of hazardous substances.

“Person” means an individual, firm, corporation, association, partnership, consortium, joint venture, commercial entity, state government agency, unit of local government, federal government agency, or Indian tribe.

“Picocurie” or “pCi” means 10^{-12} curie.

“PLIA”⁴⁷ means the pollution liability insurance agency.

“Point of compliance” means the point or points where cleanup levels established in accordance with WAC 173-340-720 through 173-340-760 ~~shall~~must be attained. This term includes both standard and conditional points of compliance. A conditional point of compliance for particular environmental media is only available as provided in WAC 173-340-720 through 173-340-760.

“Polychlorinated biphenyls” or “PCB mixtures” means those aromatic compounds containing two benzene nuclei with two or more substituted chlorine atoms. For the purposes of this chapter, PCB includes those congeners which are identified using the appropriate analytical methods ~~as~~ specified ~~in~~by ecology under WAC 173-340-830.⁴⁸

“Polycyclic aromatic hydrocarbons” or “PAH” means those hydrocarbon molecules composed of two or more fused benzene rings. For the purpose of this chapter, PAH includes those compounds which are identified and quantified using the appropriate analytical methods ~~as~~ specified ~~in~~by ecology under WAC 173-340-830.⁴⁹ The specific compounds generally included are acenaphthene, acenaphthylene, fluorene, naphthalene, anthracene, fluoranthene, phenanthrene, benzo[a]anthracene, benzo[b]fluoranthene, benzo[k]fluoranthene, pyrene, chrysene, benzo[a]pyrene, dibenzo[a,h]anthracene, indeno[1,2,3-cd]pyrene, and benzo[ghi]perylene.

“Potentially liable person” means any person who ~~the department~~ecology finds, based on credible evidence, to be liable under RCW ~~70-105D.040~~ 70A.305.040.

“Practicable” means capable of being designed, constructed, and implemented in a reliable and effective manner including consideration of cost. ~~When considering cost under this analysis,~~ ~~a~~An alternative ~~shall~~is not ~~be considered~~ practicable if ~~the~~its incremental costs ~~of the alternative~~ are disproportionate to ~~the~~its incremental degree of benefits, ~~provided by the alternative over~~ compared to other another lower cost alternatives. Whether a cleanup action uses permanent

⁴⁶ Added definition of term “periodic review” for ease of reference. The definition refers to the description in Section 420.

⁴⁷ Added definition of term “PLIA” to refer to the pollution liability insurance agency.

⁴⁸ Updated to conform to changes in Section 830. See notes on Section 830.

⁴⁹ Updated to conform to changes in Section 830. See notes on Section 830.

solutions to the maximum extent practicable is determined using the procedures in WAC 173-340-360(6).⁵⁰

“Practical quantitation limit” or **“PQL”** means the lowest concentration that can be reliably measured within specified limits of precision, accuracy, representativeness, completeness, and comparability during routine laboratory operating conditions, using ~~department~~ecology approved methods.

“Probabilistic risk assessment” means a mathematical technique for assessing the variability and uncertainty in risk calculations. This is done by using distributions for model input parameters, rather than point values, where sufficient data exists to justify the distribution. These distributions are then used to compute various simulations using tools such as Monte Carlo analysis to examine the probability that a given outcome will result (such as a level of risk being exceeded). When using probabilistic techniques under this chapter for human health risk assessment, distributions ~~shall~~may not be used to represent dose response relationships (reference dose, reference concentration, cancer potency factor).

“Prospective purchaser”⁵¹ means a person who is not currently liable for remedial action at a site and who proposes to purchase, redevelop, or reuse the site.

“Protection monitoring”⁵² means a type of compliance monitoring described in WAC 173-340-410.

“Public notice” means, ~~at a minimum, adequate notice mailed to all persons who have made a timely request of the department and to persons residing in the potentially affected vicinity of the proposed action; mailed to appropriate news media; published in the newspaper of largest circulation in the city or county of the proposed action; and opportunity for interested persons to comment~~ the notice and opportunity to comment required under WAC 173-340-600(2).⁵³

“Public participation plan” means a plan prepared under WAC 173-340-600 to encourage coordinated and effective public involvement tailored to the public's needs at a particular site.

“Rad” means that quantity of ionizing radiation that results in the absorption of 100 ergs of energy per gram of irradiated material, regardless of the source of radiation.

“Radionuclide” means a type of atom that spontaneously undergoes radioactive decay. Radionuclides are hazardous substances under the act.

⁵⁰ Clarified definition of “practicable” and its relationship to the determination that a cleanup action “uses permanent solutions to the maximum extent practicable.”

⁵¹ Added definition of term “prospective purchaser” from MTCA. The definition was added to MTCA in 2013 in SB [5296](#).

⁵² Added definition of term “protection monitoring” for ease of reference. The definition refers to the description in Section 410.

⁵³ Replaced definition of term “public notice” with a reference to the requirements governing public notice in Section 600(2). The definition and requirements need to be consistent. The rule includes additional and more specific requirements than the MTCA statute. See notes on Section 600(2).

“Reasonable maximum exposure” means the highest exposure that can be reasonably expected to occur for a human or other living organisms, including a vulnerable population or an overburdened community,⁵⁴ at a site under current and potential future site use.

“Reference dose” or “RFD” means a benchmark dose, derived from the NOAEL or LOAEL for a hazardous substance by consistent application of uncertainty factors used to estimate acceptable daily intake doses and an additional modifying factor, which is based on professional judgment when considering all available data about a substance, expressed in units of milligrams per kilogram body weight per day. This includes chronic reference doses, subchronic reference doses, and developmental reference doses.

“Regulated substance”⁵⁵ means the term as defined in chapter 173-360A WAC. All regulated substances are hazardous substances, as defined in this chapter.

“Release” means any intentional or unintentional entry of any hazardous substance into the environment, including but not limited to the abandonment or disposal of containers of hazardous substances.

“Relevant and appropriate requirements” means those cleanup standards, standards of control, and other human health and environmental requirements, criteria, or limitations established under state and federal law that, while not legally applicable to the hazardous substance, cleanup action, location, or other circumstance at a site, ~~the department~~ecology determines address problems or situations sufficiently similar to those encountered at the site that their use is well suited to the particular site. The criteria specified in WAC 173-340-710 ~~(3)(4)~~ shall be used to determine if a requirement is relevant and appropriate.

“Rem” means the unit of radiation dose equivalent that is the dosage in rads multiplied by a factor representing the different biological effects of various types of radiation.

“Remedial investigation”⁵⁶ means a remedial action conducted under WAC 173-340-350 that consists of collecting and evaluating sufficient information about a site, including the distribution of hazardous substances and the threat they pose to human health and the environment, to enable:

(a) Cleanup standards to be established under Part 7 of this chapter; and

(b) Cleanup action alternatives to be developed and evaluated in a feasibility study under WAC 173-340-351.

“Remedial investigation/feasibility study” means a remedial action that consists of ~~activities conducted under WAC 173-340-350 to collect, develop, and evaluate sufficient information regarding a site~~

⁵⁴ Emphasized that “reasonable maximum exposure” includes that of a vulnerable population or an overburdened community.

⁵⁵ Added definition of term “regulated substance,” which is used in Sections 300 and 450 when referring to the release reporting requirements for UST systems under chapter 173-360A WAC. Also clarified that all regulated substances under chapter 173-360A WAC are hazardous substances under this chapter.

⁵⁶ Added separate definition of term “remedial investigation” consistent with statement of purpose in Section 350.

~~to select a cleanup action under WAC 173-340-360 through 173-340-390~~both a remedial investigation and a feasibility study.⁵⁷

“Remediation level (REL)” means a concentration (or other method of identification) of a hazardous substance in soil, water, air, or sediment ~~above which~~used to identify where a particular cleanup action component ~~will be~~is required as part of a cleanup action at a site. Other methods of identification include physical appearance or location. A cleanup action selected in accordance with WAC 173-340-350 through 173-340-390 that includes remediation levels constitutes a cleanup action which is protective of human health and the environment. See WAC 173-340-355 for a description of the purpose of remediation levels and the requirements and procedures for developing a cleanup action alternative that includes remediation levels.

“Remedy” or **“remedial action”** means any action or expenditure consistent with the purposes of chapter ~~70.105D~~ 70A.305 RCW to identify, eliminate, or minimize any threat posed by hazardous substances to human health or the environment including any investigative and monitoring activities with respect to any release or threatened release of a hazardous substance and any health assessments or health effects studies conducted in order to determine the risk or potential risk to human health.

“Restoration time frame” means the period of time needed to achieve the required cleanup levels at the points of compliance established for the site.

“Risk” means the probability that a hazardous substance, when released into the environment, will cause an adverse effect in exposed humans or other living organisms.

“Routine cleanup action” means a remedial action meeting all of the following criteria:

- Cleanup standards for each hazardous substance addressed by the cleanup are obvious and undisputed, and allow for an adequate margin of safety for protection of human health and the environment;
- It involves an obvious and limited choice among cleanup action alternatives and uses an alternative that is reliable, has proven capable of accomplishing cleanup standards, and with which ~~the department~~ecology has experience;
- The cleanup action does not require preparation of an environmental impact statement; and
- The site qualifies under WAC 173-340-7491 for an exclusion from conducting a simplified or site-specific terrestrial ecological evaluation, or if the site qualifies for a simplified ecological evaluation, the evaluation is ended under WAC 173-340-7492(2) or the values in Table 749-2 are used.

Routine cleanup actions consist of, or are comparable to, one or more of the following remedial actions:

⁵⁷ Updated definition of combined term “remedial investigation/feasibility study” to reflect addition of definitions for the separate terms “remedial investigation” and “feasibility study.”

- Cleanup of above-ground structures;
- Cleanup of below-ground structures;
- Cleanup of contaminated soils where the action would restore the site to cleanup levels; or
- Cleanup of solid wastes, including containers.

~~“Safety and health plan”⁵⁸ means a plan prepared under WAC 173-340-810.~~

“Sampling and analysis plan” means a plan prepared under WAC 173-340-820.

“Saturated zone” means the area below the water table in which all interstices are filled with water.

“Schools” means preschools, elementary schools, middle schools, high schools, and similar facilities, both public and private, used primarily for the instruction of minors.

~~“Science advisory board” means the advisory board established by the department under RCW 70.105D.030(4).⁵⁹~~

~~“Secondary maximum contaminant level”⁶⁰ means the maximum concentration of a secondary contaminant in water established by the United States Environmental Protection Agency under the Federal Safe Drinking Water Act (42 U.S.C. 300f et seq.) and published in 40 C.F.R. 143.~~

“Sediment”⁶¹ means the term as defined in WAC 173-204-505.

“Sensitive environment” means an area of particular environmental value, where a release could pose a greater threat than in other areas including: Wetlands; critical habitat for endangered or threatened species; national or state wildlife refuge; critical habitat, breeding or feeding area for fish or shellfish; wild or scenic river; rookery; riparian area; big game winter range.

“Site” means the same as “facility.”

“Site hazard assessment and ranking”⁶² means a remedial action that consists of an ~~investigation performed~~ assessment and ranking conducted under WAC 173-340-320.

“Soil” means a mixture of organic and inorganic solids, air, water, and biota that exists on the earth's surface above bedrock, including materials of anthropogenic sources such as slag, sludge, etc.

“Soil biota” means invertebrate multicellular animals that live in the soil or in close contact with the soil.

⁵⁸ Replaced term “safety and health plan” with term “health and safety plan,” and updated usage throughout chapter to be consistent. The current rule uses both terms.

⁵⁹ Deleted definition of term “science advisory board.” Also eliminated all requirements related to the SAB throughout the chapter. In 2009, the Legislature eliminated the statutory authority for the science advisory board SB 5995. See Section 10 in [Laws of 2009, Chapter 560](#).

⁶⁰ Deleted definition of term “secondary maximum contaminant level” because the term is not used anywhere in the chapter.

⁶¹ Added definition of term “sediment.” Made definition consistent with the definition in Chapter 173-204 WAC, Sediment Management Standards.

⁶² Replaced term “site hazard assessment” with “site hazard assessment and ranking.” Changed definition to reflect changes in purpose identified under WAC 173-340-320 and to integrate the concept of ranking.

“State cleanup law”⁶³ means the Model Toxics Control Act, chapter 70A.305 RCW, and the cleanup regulations adopted under that Act, chapters 173-340 and 173-204 WAC.

“Subchronic reference dose” means an estimate (with an uncertainty of an order of magnitude or more) of a daily exposure level for the human population, including sensitive subgroups, that is likely to be without appreciable risk of adverse effects during a portion of a lifetime.

“Surface water” means lakes, rivers, ponds, streams, inland waters, salt waters, and all other surface waters and water courses within the state of Washington or under the jurisdiction of the state of Washington.

“Technically possible” means capable of being designed, constructed, and implemented in a reliable and effective manner, regardless of cost.

“Terrestrial ecological receptors” means plants and animals that live primarily or entirely on land.

“Threatened or endangered species” means species listed as threatened or endangered under the federal Endangered Species Act 16 U.S.C. Section 1533, or classified as threatened or endangered by the state fish and wildlife commission under ~~WAC 232-12-011(1) and 232-12-014~~ WAC 220-200-100 or 220-610-010.⁶⁴

“Total excess cancer risk” means the upper bound on the estimated excess cancer risk associated with exposure to multiple hazardous substances and multiple exposure pathways.

“Total petroleum hydrocarbons” or “TPH” means any fraction of crude oil that is contained in plant condensate, crankcase motor oil, gasoline, aviation fuels, kerosene, diesel motor fuel, benzol, fuel oil, and other products derived from the refining of crude oil. For the purposes of this chapter, TPH ~~will~~ generally means those fractions of the above products that are the total of all hydrocarbons quantified by analytical methods NWTPH-Gx; NWTPH-Dx; volatile petroleum hydrocarbons (VPH) for volatile aliphatic and volatile aromatic petroleum fractions; and extractable petroleum hydrocarbons (EPH) for nonvolatile aliphatic and nonvolatile aromatic petroleum fractions, as appropriate, or other test methods approved by ~~the department~~ ecology.

“Type I error” means the error made when it is concluded that an area of a site is below cleanup levels when it actually exceeds cleanup levels. This is the rejection of a true null hypothesis.

“Underground storage tank” or “UST” means ~~an underground storage tank and connected underground piping as defined in the rules adopted under chapter 90.76 RCW~~ the term as defined in chapter 173-360A WAC.⁶⁵

“Unrestricted site use conditions” means restrictions on the use of the site or natural resources affected by releases of hazardous substances from the site are not required to ensure continued protection of human health and the environment.

⁶³ Added definition of term “state cleanup law” to refer to both the Model Toxics Control Act and all cleanup regulations adopted that state law. Those regulations include both Chapter 173-340 WAC, MTCA Cleanup Regulations, and Chapter 173-204 WAC, Sediment Management Standards.

⁶⁴ Updated rule citations in definition of term “threatened or endangered species.”

⁶⁵ Updated definition of “underground storage tank” to reflect adoption of Chapter 173-360A WAC.

“Upper bound on the estimated excess cancer risk of one in ~~one hundred thousand~~100,000” means the upper ~~ninety-fifth~~95th percent confidence limit on the estimated risk of one additional cancer above the background cancer rate per ~~one hundred thousand~~100,000 individuals.

“Upper bound on the estimated excess cancer risk of one in ~~one million~~1,000,000” means the upper ~~ninety-fifth~~95th percent confidence limit on the estimated risk of one additional cancer above the background cancer rate per ~~one million~~1,000,000 individuals.

“UST system”⁶⁶ means the term as defined in chapter 173-360A WAC.

“UST system operator”⁶⁷ means the same as “operator” in chapter 173-360A WAC.

“UST system owner”⁶⁸ means the same as “owner” in chapter 173-360A WAC.

“Volatile organic compound” means those carbon-based compounds listed in ~~EPA~~United States Environmental Protection Agency methods 502.2, 524.2, 551, 601, 602, 603, 624, 1624C, 1666, 1671, 8011, 8015B, 8021B, 8031, 8032A, 8033, 8260B, and those with similar vapor pressures or boiling points. ~~See WAC 173-340-830(3) for references describing these methods.~~⁶⁹ For petroleum, volatile means aliphatic and aromatic constituents up to and including EC12, plus naphthalene, 1-methylnaphthalene and 2-methylnaphthalene.

“Vulnerable population”⁷⁰ means the term as defined in RCW 70A.02.010(14).

“Wastewater facility” means all structures and equipment required to collect, transport, treat, reclaim, or dispose of domestic, industrial, or combined domestic/industrial wastewaters.

“Wetlands” means ~~lands transitional between terrestrial and aquatic systems where the water table is usually at or near the surface or the land is covered by shallow water. For the purposes of this classification, wetlands must have one or more of the following attributes at least periodically, the land supports predominantly hydrophytes; the substrate is predominately undrained hydric soil; and the substrate is nonsoil and saturated with water or covered by shallow water at some time during the growing season each year~~the term as defined in WAC 173-201A-020.⁷¹

“Wildlife” means any nonhuman vertebrate animal other than fish.

“Zoned for (a specified) use” means the use is allowed as a permitted or conditional use under the local jurisdiction's land use zoning ordinances. A land use that is inconsistent with the current zoning but allowed to continue as a nonconforming use or through a comparable designation is not considered to be zoned for that use.

⁶⁶ Added definitions for the terms “UST system,” “UST system owner,” and “UST system operator” to clarify applicability of the requirements in WAC 173-340-450. The terms have the same meaning as in the UST Regulations, Chapter [173-360A](#) WAC.

⁶⁷ See note about “UST system.”

⁶⁸ See note about “UST system.”

⁶⁹ Eliminated reference to Section 830. Sampling and analysis methods are no longer listed in Section 830. See notes on Section 830.

⁷⁰ Added definition of term “vulnerable population” from the HEAL Act, RCW [70A.02.010](#)(14).

⁷¹ Updated definition of term “wetland” to be consistent with definition in WAC [173-201A-020](#).

WAC 173-340-210 Usage.

For the purposes of this chapter, the following ~~shall~~ apply:

- (1) Unless the context clearly requires otherwise, the use of the singular ~~shall~~ includes the plural and conversely.
- (2) The terms **“applicable,” “appropriate,” “relevant,” “unless otherwise directed by the department ecology” and similar terms implying discretion** mean as determined by ~~the department ecology~~, with the burden of proof on other persons to demonstrate that the requirements are or are not necessary.
- (3) **“Approved”** means for ~~department conducted or ordered remedial actions, or for potentially liable person conducted cleanups agreed to by the department in an agreed order or decree governing remedial actions at the site~~ ecology-conducted or ecology-supervised remedial actions.
- (4) **“Conduct”** means to perform or undertake whether directly or through an agent or contractor, unless this chapter expressly provides otherwise.
- (5) **“Include”** means included, but not limited to.
- (6) **“May” or “should”** means the provision is optional and permissive, and does not impose a requirement.
- (7) **“Shall,” “must,” or “will”** means the provision is mandatory.
- (8) **“Threat”** means threat or potential threat.
- (9) **“Under”** means pursuant to, subject to, required by, established by, in accordance with, and similar expressions of legislative or administrative authorization or direction.

Part 3 – Site Reports and Cleanup Decisions

WAC 173-340-300 Site discovery and reporting.

- (1) **Purpose.** ~~As part of a program to identify hazardous waste sites, t~~This section sets forth the requirements for reporting a release or threatened release of a hazardous substance to the environment that may pose a threat to human health or the environment~~due to past activities, whether discovered before or after the effective date of this regulation.~~⁷² ~~It also sets forth the requirements for reporting independent remedial actions.~~⁷³ ~~The department may take any other actions it deems appropriate to identify potential hazardous waste sites consistent with chapter 70.105D RCW.~~⁷⁴
- (2) **Release report**~~Applicability and timing.~~⁷⁵ Except as provided under (a) of this subsection,⁷⁶ within 90 days of discovering a release or threatened release of a hazardous substance to the environment that may pose a threat to human health or the environment,⁷⁷ an owner or operator must report the release to ecology. All other persons are encouraged to report such a release to ecology.
- ~~(a) — Any owner or operator who has information that a hazardous substance has been released to the environment at the owner or operator's facility and may be a threat to human health or the environment shall report such information to the department within ninety days of discovery. Releases from underground storage tanks shall be reported by the owner or operator of the underground storage tank within twenty-four hours of release confirmation, in accordance with WAC 173-340-450.~~⁷⁸ ~~To the extent known, the report shall include:~~
- ~~(i) — The identification and location of the hazardous substance;~~
 - ~~(ii) — Circumstances of the release and the discovery; and~~
 - ~~(iii) — Any remedial actions planned, completed, or underway. All other persons are encouraged to report such information to the department.~~⁷⁹
- (a) Exemptions.⁸⁰ An owner or operator does not need to report the following releases under this section:

⁷² Eliminated limitation “due to past activities” since releases due to current activities must also be reported under MTCA unless exempt under subsection (2)(a). Also eliminated defunct provision about releases discovered before effective date of the regulation.

⁷³ Independent remedial action reporting requirements are specified in Section 515. This section cross-references those requirements.

⁷⁴ Moved to subsection (5).

⁷⁵ Restructured release reporting requirements by consolidating applicability and timing provisions in subsection (2) and moving content provisions to subsection (3).

⁷⁶ Clarified relationship of applicability provision to exemption provision in subsection (2)(a).

⁷⁷ Changed and clarified timing of release reporting in cases where independent remedial actions are completed within 90 days of release discovery. In such cases, releases must still be reported within 90 days of discovery instead of within 90 days of completing the independent remedial action. See also notes on Section 515(4).

⁷⁸ Moved discussion of UST release reporting requirements under Chapter 173-360A WAC to subsection (4).

⁷⁹ Moved content of release report to subsection (3).

⁸⁰ Moved exemptions from subsection (3). Changes to the exemptions are noted.

- (i) A release previously reported to ecology in fulfillment of a reporting requirement in this chapter or in another law or regulation, including a release previously reported to ecology under chapter 173-360A WAC;⁸¹
- (ii) A release from a heating oil tank previously reported to PLIA under WAC 374-45-030;⁸²
- (iii) A release previously reported to the United States Environmental Protection Agency under CERCLA, Section 103(c) (42 U.S.C. Sec. 9603(c));
- (iv) A release previously reported to the state division of emergency management under RCW 90.56.280;⁸³
- (v) Application of pesticides and fertilizers for their intended purposes and according to label instructions;
- (vi) Lawful and nonnegligent use of hazardous substances by a natural person for personal or domestic purposes;
- (vii) A release in accordance with a permit that authorizes the release;
- (viii) Except for a release specified under (b)(iii) of this subsection, a release to the air;
- (ix) A release discovered in a public water system regulated by the department of health; or
- (x) A release to a permitted wastewater facility.

An exemption from the reporting requirements in this section does not imply a release from liability under the state cleanup law.

- (b) Examples.** ~~Persons~~An owner or operator should use best professional judgment in deciding whether a release or threatened release of a hazardous substance to the environment may ~~be pose~~ a threat ~~or potential threat~~ to human health or the environment. The following, which is not an exhaustive list, are examples of situations that an owner or operator should generally ~~should be reported~~ under this section:

- (i) Contamination in a water supply well;
- (ii) Contaminated seeps, sediment or surface water;

⁸¹ Emphasized that releases from regulated UST systems previously reported under chapter 173-360A WAC do not need to be reported again under the MTCA cleanup rule.

⁸² Added exemption for releases from heating oil tanks previously reported to the Pollution Liability Insurance Agency (PLIA) under WAC 374-45-030. The reporting requirement was added by the Legislature in 2017 in House Bill 1266. Any releases reported to Ecology is referred to PLIA for initial investigation.

⁸³ Added exemption for releases previously reported to the emergency management division (EMD) under RCW 90.56.280. In practice, such releases are either reported to EMD or Ecology. Any release reported to EMD is referred to Ecology. Releases previously reported to Ecology are already exempt from reporting under (a)(i) of this subsection.

- (iii) Vapors in a building, utility vault or other structure that appear to be entering the structure from nearby contaminated soil or ground water;^z
- (iv) ~~Free product~~Non-aqueous phase liquid, such as a petroleum product or ~~other organic liquids~~chlorinated solvent, on the surface of the ground or in the groundwater (free product).^{z, 84}
- (v) Any contaminated soil or unpermitted disposal of waste materials that would be classified as a hazardous waste under federal or state law;^z
- (vi) Any abandoned containers such as drums or tanks, above ground or buried, still containing more than trace residuals of hazardous substances;^z
- (vii) Sites where unpermitted industrial waste disposal has occurred;^z
- (viii) Sites where hazardous substances have leaked or been dumped on the ground;^z
and
- (ix) Leaking underground petroleum storage tanks not already reported under ~~WAC 173-340-450~~chapter 173-360A WAC.

~~(3) Exemptions.~~⁸⁵ The following releases are exempt from these notification requirements:

- ~~(a) Application of pesticides and fertilizers for their intended purposes and according to label instructions;~~
- ~~(b) Lawful and nonnegligent use of hazardous substances by a natural person for personal or domestic purposes;~~
- ~~(c) A release in accordance with a permit that authorizes the release;~~
- ~~(d) A release previously reported to the department in fulfillment of a reporting requirement in this chapter or in another law or regulation;~~
- ~~(e) A release previously reported to the United States Environmental Protection Agency under CERCLA, Section 103(c) (42 U.S.C. Sec. 9603(c));~~
- ~~(f) Except for releases under subsection (2)(b)(iii) of this section, a release to the air;~~
- ~~(g) Releases discovered in public water systems regulated by the department of health; or~~
- ~~(h) A release to a permitted wastewater facility.~~

~~An exemption from the notification requirements in this section does not imply a release from liability under this chapter.~~

~~(4) Report of independent remedial actions.~~⁸⁶ See ~~WAC 173-340-515~~ for additional reporting requirements for independent remedial actions. See ~~WAC 173-340-450~~ for reporting requirements for independent remedial actions for releases from underground storage tanks.

⁸⁴ Clarified what free product means. Also added chlorinated solvent as another example.

⁸⁵ Moved to subsection (2)(a).

~~(5) **Department response.**⁸⁷ Within ninety days of receiving information under this section, the department shall conduct an initial investigation in accordance with WAC 173-340-310. For sites on the hazardous sites list, the department shall, as resources permit, review reports that document independent cleanup actions. The review shall include an evaluation of whether the site qualifies for removal from the hazardous sites list or whether further remedial action is required.~~

(3) Content of release report.⁸⁸ An owner or operator must include the following information in a release report, to the extent known:

(a) The identity and location of the hazardous substance;

(b) The circumstances of the hazardous substance release and its discovery; and

(c) Any planned, ongoing, or completed independent remedial actions to investigate or clean up the release.

(i) See WAC 173-340-515(4) and 173-340-450 for additional reporting requirements for independent remedial actions.⁸⁹

(ii) See WAC 173-340-310(5) for ecology's authority to defer completing an initial investigation of a release to review independent remedial actions completed within 90 days of release discovery.⁹⁰

~~(6)(4) **Other obligations**~~**release reporting requirements.** Nothing in this section ~~shall~~ eliminates any obligations to comply with reporting requirements ~~that may exist in a permit or under~~ other laws ~~or permits including, but not limited to, the following:~~⁹¹

(a) Releases from regulated UST systems. Under chapter 173-360A WAC, UST system owners and operators and regulated service providers must report a confirmed release of a regulated substance from an UST system to ecology within 24 hours. As specified in subsection (2)(a)(i) of this section, a release previously reported to ecology under chapter 173-360A WAC is exempt from the release reporting requirements in this section; however, the release must still be investigated and cleaned up in accordance

⁸⁶ Moved to subsection (3)(c)(i).

⁸⁷ Eliminated duplicative provisions regarding Ecology's duty to conduct an initial investigation under Section 310. Replaced in part by provision in subsection (3)(c)(ii).

⁸⁸ Moved content of release report from former subsection (2)(a). Changes are noted.

⁸⁹ Moved reference to independent remedial action reporting requirements from former subsection (4). Independent remedial investigations, interim actions, and cleanup actions must be reported to Ecology within 90 days of completion. We expanded the reporting requirement to include independent remedial investigations. See notes on Sections 350(4)(b) and 515(4).

⁹⁰ Added reference to Section 310(5)(b), which allows Ecology to defer completing an initial investigation when an independent remedial investigation, interim action, or cleanup action is completed within 90 days of release discovery. See notes on Section 310(5).

⁹¹ Expanded references and descriptions of release reporting requirements under other state laws for regulated UST systems and for non-regulated heating oil tanks formerly in subsection (2). Also noted that releases reported under those laws are exempt from the reporting requirements of the MTCA cleanup rule. Also added references to specific interim actions for regulated UST systems in Section 450.

with the state cleanup law. WAC 173-340-450 specifies interim actions that UST system owners and operators must perform immediately or shortly after confirming a release to reduce the threats posed by the release, prevent any further release, and characterize the nature and extent of the release;

(b) Releases from heating oil tanks. Under chapter 374-45 WAC, owners and operators of a heating oil tank and owners of the property where the tank is located must report a suspected or confirmed release from the tank to PLIA within 90 days. As specified in subsection (2)(a)(ii) of this section, a release previously reported to ecology under chapter 374-45 WAC is exempt from the release reporting requirements in this section; however, the release must still be investigated and cleaned up in accordance with the state cleanup law.

(5) Reservation of rights.⁹² Nothing in this section precludes ecology from taking any actions it deems appropriate to identify contaminated sites consistent with chapter 70A.305 RCW.

⁹² Moved from subsection (1).

WAC 173-340-310 Initial investigation.

- (1) **Purpose.** ~~An initial investigation is an inspection of a suspected site by the department and documentation of conditions observed during that site inspection.~~ The purpose of the initial investigation is to determine ~~whether a release or threatened release of a hazardous substance may have occurred that warrants further action under this chapter.;~~
- (a) Whether there has been a release or threatened release of a hazardous substance to the environment;
 - (b) Whether the release or threatened release may pose a threat to human health or the environment;
 - (c) Whether the population that may be threatened may include a vulnerable population or an overburdened community;⁹³
 - (d) Whether further remedial action is necessary under state cleanup law to confirm whether there has been a release or threatened release that poses a threat to human health or the environment;⁹⁴
 - (e) Whether further remedial action is necessary under state cleanup law to address the threat to human health and the environment posed by the release or threatened release. This determination is based on the criteria in WAC 173-340-330(5).⁹⁵
 - (f) Whether an emergency remedial action or an interim action is necessary under state cleanup law to address the threat, and whether persons in the potentially affected vicinity need to be notified of such action;⁹⁶
 - (g) Whether action under another state or federal law is appropriate;⁹⁷ and
 - (h) The current owners and operators of the site.⁹⁸

⁹³ Added as one of the purposes of an initial investigation to determine whether the population threatened may include a vulnerable population or an overburdened community. This is needed to complete an initial SHARP assessment under Section 320 and help prioritize sites for further action under Section 340. This initial determination will likely be based on the site's location and the environmental health disparities map or other readily available information.

⁹⁴ Clarified that one of the purposes of the initial investigation is to determine whether further remedial action is necessary to confirm a suspected site. This reflects actions under the current rule.

⁹⁵ Clarified that a further action determination based on an initial investigation is based on the delisting criteria in WAC 173-340-330(5). If the site meets the applicable criteria, the site is placed on the no further action sites list. If the site does not meet the criteria, the site is placed on the contaminated sites list.

⁹⁶ Clarified that one of the purposes of an initial investigation is to determine whether an emergency action or an interim action is necessary, and whether persons in the potentially affected vicinity need to be notified of such action. This reflects actions under the current rule.

⁹⁷ Clarified that one of the purposes of an initial investigation is to determine whether action under another state or federal law is appropriate. This reflects actions under the current rule.

⁹⁸ Added identifying current owners and operators as one of the purposes of the initial investigation. This reflects Ecology's current practice and policy, as specified in Toxics Cleanup Program Policy 310A, Section 5.

- ~~(2)~~ **Applicability and timing.**⁹⁹ ~~Whenever the department receives information and has a reasonable basis to believe that there may be a release or a threatened release of a hazardous substance that may pose a threat to human health or the environment, the department shall conduct an initial investigation within ninety days.~~
- ~~(3)~~**(2) ExemptionsApplicability.**¹⁰⁰ ~~The department shall not be required to conduct an initial investigation when~~Ecology will complete an initial investigation unless:
- ~~(a)~~ The release is exempt from reporting under WAC 173-340-300(2)(a);
 - ~~(a)~~**(b)** The circumstances associated with the release or threatened release are known to the department~~ecology~~ and have previously been or currently are being evaluated by the department~~ecology~~ or other~~another~~ government agency; or
 - ~~(b)~~ ~~The release is permitted;~~¹⁰¹ ~~or~~
 - ~~(c)~~ ~~The release is exempt from reporting under WAC 173-340-300(3).~~
 - (c)** Ecology does not have a reasonable basis to believe that there has been a release or threatened release of a hazardous substance that may pose a threat to human health or the environment.
- (3) Performance.**¹⁰² To make the determinations specified in subsection (1) of this section, ecology will review readily available information and may collect, or request other persons to collect, additional information.¹⁰³
- (4) Department deferral toReliance on others.** ~~The department~~Ecology may rely on another government agency or a contractor to ~~the department~~ecology to conduct an initial investigation on its behalf, provided:
- (a)** ~~the department determines such an~~The agency or contractor is not suspected to have of having contributed to the release or threatened release ~~of a hazardous substance;~~ and
 - (b)** ~~that~~The agency or contractor has no conflict of interest ~~exists.~~
- (5) Timing.**¹⁰⁴

⁹⁹ Restructured applicability and timing provisions. Consolidated applicability provisions in subsection (2) and consolidated timing provisions in subsection (5).

¹⁰⁰ In subsection (2), consolidated applicability provisions in former subsections (2) and (3). Changes are noted.

¹⁰¹ Eliminated separate exemption for permitted releases. Such releases are exempt from reporting under Section 300(2)(a) and therefore are covered by the exemption in (a) of this subsection.

¹⁰² In subsection (3), moved performance provisions from subsection (1). Changes noted.

¹⁰³ Changed what must be done when performing an initial investigation. Ecology is no longer required to inspect the site before making a determination. If sufficient information has already been reported, Ecology may not need to collect additional information to make a determination. Ecology may also be able to collect additional information without visiting the site. Also clarified that Ecology may request other persons, such as owners or operators, to collect information about the site. This reflects current practice.

¹⁰⁴ In subsection (5), consolidated timing and extension provisions.

- (a) Except as provided under (b) of this subsection, ecology will complete an initial investigation within 90 days of discovering a release or threatened release or receiving a release report under WAC 173-340-300.¹⁰⁵
- (b) If an independent investigation, interim action, or cleanup action is completed within 90 days of the discovery of a release or threatened release, ecology will complete an initial investigation by the earlier of the following:¹⁰⁶
 - (i) Ninety days after receiving the independent remedial action report required under WAC 173-340-515(4); or
 - (ii) One hundred eighty days after discovering a release or threatened release or receiving a release report.
- ~~(5) **Department decision.**¹⁰⁷ Based on the information obtained about the site, the department shall within thirty days of completion of the initial investigation make one or more of the following decisions:~~
 - ~~(a) A site hazard assessment is required;~~
 - ~~(b) Emergency remedial action is required;~~
 - ~~(c) Interim action is required; or~~
 - ~~(d) The site requires no further action under this chapter at this time because either:~~
 - ~~(i) There has been no release or threatened release of a hazardous substance; or~~
 - ~~(ii) A release or threatened release of a hazardous substance has occurred, but in the department's judgment, does not pose a threat to human health or the environment; or~~
 - ~~(iii) Action under another authority is appropriate.~~

~~A decision for a particular follow-up action does not preclude the department from requiring some other action in the future based on reevaluation of the site or additional information.~~
- ~~(6) **Notification.**¹⁰⁸~~
 - ~~(a) Sites requiring an emergency remedial action or interim action. If the department determines that an emergency remedial action or interim action is required, then~~

¹⁰⁵ In subsection (5)(a), included the general rule that Ecology must complete an initial investigation within 90 days (3 months) of receiving a release report. This is consistent with the current rule.

¹⁰⁶ In subsection (5)(b), added a provision to allow Ecology to extend an initial investigation in cases where an independent investigation, interim action, or cleanup action is completed within 90 days of release discovery. This provision replaces the current provision in Section 515(4) that allowed owners and operators to delay reporting releases to Ecology until 90 days after completing such remedial actions (up to 180 days after release discovery). Under the proposed rule, all releases must be reported to Ecology within 90 days of discovery, even if remedial action is underway. See changes in Sections 300(2) and (3) and Section 515(4).

¹⁰⁷ Consolidated in new subsection (6).

¹⁰⁸ Consolidated in new subsection (6).

~~notification of the threat to the potentially affected vicinity may be required by the department. The method and nature of the notification shall be determined on a case-by-case basis using the methods specified in WAC 173-340-600. Such notification shall be the responsibility of the site owner or operator if required in writing by the department.~~

~~(b) Sites requiring further remedial action. For sites requiring further remedial action under chapter 70.105D RCW, the department shall notify the owner, operator, and any potentially liable person known to the department of its decision. This notification shall be a letter ("Early Notice Letter") mailed to the person which includes:~~

~~(i) The basis for the department's decision;~~

~~(ii) Information on the cleanup process provided for in this chapter;~~

~~(iii) A statement that it is the department's policy to work cooperatively with persons to accomplish prompt and effective cleanups;~~

~~(iv) A person or office of the department to contact regarding the contents of the letter; and~~

~~(v) A statement that the letter is not a determination of liability and that cooperating with the department in planning or conducting a remedial action is not an admission of guilt or liability.~~

~~(c) Sites not requiring further remedial action. For sites requiring no further remedial action under chapter 70.105D RCW, if requested by the owner or operator, the department shall notify the owner or operator of the department's conclusion. This notification shall be in writing and may be combined with the determination of status letter in WAC 173-340-500.~~

(6) Determinations and next steps.¹⁰⁹ Within 30 days of completing the initial investigation, ecology will make one of the following determinations and take the applicable steps:

(a) No release or threatened release occurred. In this case, ecology will notify the owner and operator in writing of its determination;¹¹⁰

(b) A release or threatened release occurred, but does not pose a threat to human health or the environment that requires remedial action under state cleanup law. This determination must be based on factors other than performance of remedial action. In this case, ecology will notify the owner and operator in writing of its determination;¹¹¹

¹⁰⁹ Combined former subsection (5), department decision, and former subsection (6), notifications, to clarify what must be done based on the determination made.

¹¹⁰ For cases where Ecology has confirmed no release occurred, changed notification requirement. Instead of providing notice to owners and operators only when requested, Ecology will always provide such notice.

¹¹¹ Changed notification requirement. Instead of providing notice to owners and operators only when requested, Ecology will always provide such notice.

- (c) A release or threatened release occurred that posed a threat to human health or the environment, but no further remedial action is necessary under state cleanup law to address that threat based on the criteria in WAC 173-340-330(5).¹¹² In this case, ecology will take the following steps:
- (i) Perform a site hazard assessment and ranking in accordance with WAC 173-340-320.¹¹³
 - (ii) List the site on ecology's no further action sites list in accordance with WAC 173-340-335(2);
 - (iii) Make any initial investigation report publicly available on ecology's website;¹¹⁴
 - (iv) Notify the owner and operator in writing of ecology's determination;¹¹⁵ and
 - (v) Notify the public of ecology's determination in the *Contaminated Site Register* under WAC 173-340-600(7). The notice must include instructions on how to sign up for the site-specific electronic alerts provided by ecology under WAC 173-340-600(6);¹¹⁶
- (d) A release or threatened release may have occurred that poses a threat to human health or the environment, and further remedial action is necessary under state cleanup law to confirm the threat. In this case, ecology will take the steps specified under (e) of this subsection.¹¹⁷
- (e) A release or threatened release occurred that poses a threat to human health or the environment, and further remedial action is necessary under state cleanup law to address the threat based on the criteria in WAC 173-340-330(5).¹¹⁸ In this case, ecology will take the following steps:
- (i) Perform a site hazard assessment and ranking in accordance with WAC 173-340-320.¹¹⁹

¹¹² Clarified that no further action determination is based on delisting criteria in Section 330(5). If the site meets those criteria, the site is placed on the no further action sites list.

¹¹³ Added requirement that Ecology conduct a site hazard assessment and ranking under Section 320.

¹¹⁴ Added requirement that Ecology make any initial investigation report, such as a field report, publicly available on Ecology's website. Note the provision does not require that Ecology prepare an initial investigation report.

¹¹⁵ Changed requirement to notify owners and operators of Ecology's determination. Instead of providing such notice only when requested, Ecology will always provide such notice.

¹¹⁶ Added requirement that Ecology notify the public in the *Contaminated Site Register* when Ecology initially adds a site to one of Ecology's site lists, either the contaminated sites list or the no further action sites list (this case), based on initial investigation. Specified that the notice must include instructions for how to sign up for site-specific electronic alerts.

¹¹⁷ Separated the determination that further action is necessary to confirm a threat from the determination that further action is necessary to address a threat. Note that the next steps are the same for both determinations.

¹¹⁸ Clarified that further action determination is based on delisting criteria in WAC 173-340-330(5). If the site does not meet those criteria, the site is placed on the contaminated sites list.

¹¹⁹ Added requirement that Ecology conduct a site hazard assessment and ranking under Section 320.

- (ii) List the site on the contaminated sites list in accordance with WAC 173-340-330(2);
- (iii) Make any initial investigation report publicly available on ecology's website;¹²⁰
- (iv) Notify the owner and operator, and any person who ecology has preliminarily determined to be liable under WAC 173-340-500(1),¹²¹ in writing of ecology's determination.¹²² The notice may be combined with the potentially liable person status letter in WAC 173-340-500. The notice must include:
 - (A) The basis for ecology's determination;
 - (B) The site's hazard rankings;¹²³
 - (C) Information on the cleanup process provided for in this chapter;
 - (D) A statement that it is ecology's policy to work cooperatively with persons to accomplish prompt and effective cleanups;
 - (E) A statement that the notice is not a determination of liability and that cooperating with ecology in planning or conducting a remedial action is not an admission of guilt or liability;
 - (F) An ecology website where information about the site is publicly available, and instructions on how to sign up for the site-specific electronic alerts provided by ecology under WAC 173-340-600(6);¹²⁴ and
 - (G) An ecology staff or office to contact about the contents of the notice;
- (v) Notify the public of ecology's determination in the *Contaminated Site Register* under WAC 173-340-600(7). The notice must include instructions on how to sign up for the site-specific electronic alerts provided by ecology under WAC 173-340-600(6);¹²⁵

¹²⁰ Added requirement that Ecology make any initial investigation report, such as a field report, publicly available on Ecology's website. Note the provision does not require that Ecology prepare an initial investigation report.

¹²¹ Clarified that Ecology must notify persons who Ecology has preliminarily determined to be liable under Section 500. The current rule language ("PLP known to Ecology") was unclear as to whether Ecology needed to have made a preliminary or also a final determination.

¹²² Changed the method of notifying owners and operators. Ecology needs to provide such notice in writing, but the notice does not need to be in the form of a letter.

¹²³ Added requirement that Ecology include in the notice to owners and operators the site's hazard rankings. The new site hazard assessment and ranking process specified in Section 320 makes this possible.

¹²⁴ Added requirement that Ecology include in the notice to owners and operators a link to the site's webpage and instructions for how to sign up for site-specific electronic alerts. See Section 600(6).

¹²⁵ Added requirement that Ecology notify the public in the *Contaminated Site Register* when Ecology initially adds a site to one of Ecology's site lists, either the contaminated sites list (this case) or the no further action sites list, based on initial investigation. Specified that the notice must include instructions for how to sign up for site-specific electronic alerts.

- (vi) Notify persons within the potentially affected vicinity of the threat, if ecology determines that an emergency remedial action or an interim action is necessary under state cleanup law and that such notice is needed.¹²⁶

 - (A) Ecology may require the owner or operator to provide the notice on ecology's behalf. If required in writing by ecology, the owner or operator must provide the notice.
 - (B) Ecology will determine the method and nature of the notice on a case-by-case basis using the methods specified in WAC 173-340-600.
- (f) A release or threatened release occurred that poses a threat to human health or the environment, but action under another state or federal law¹²⁷ is appropriate. The steps ecology will take depend on the other authority identified by ecology.

 - (i) For all sites where ecology determines action is appropriate under another state or federal law, ecology will:

 - (A) Refer the site to the applicable government agency or program; and
 - (B) Notify the owner and operator in writing of its determination.¹²⁸
 - (ii) For sites where ecology determines action is appropriate under the federal cleanup law, the federal Solid Waste Disposal Act (42 U.S.C. 6901 et seq.), the state Hazardous Waste Management Act (chapter 70A.300 RCW), the state Solid Waste Management Act (chapter 70A.205 RCW), or the state Pollution Liability Protection Act (chapter 70A.330 RCW), ecology will also:¹²⁹

 - (A) Perform a site hazard assessment and ranking in accordance with WAC 173-340-320;¹³⁰
 - (B) List the site on ecology's contaminated sites list in accordance with WAC 173-340-330(2);
 - (C) Make any initial investigation report publicly available on ecology's website;¹³¹and

¹²⁶ Regarding emergency actions, clarified what determinations Ecology must make and who is responsible for providing notice to people in the potentially affected vicinity. Ecology retains the authority to provide or require additional notice on a site-specific basis. We are also enhancing a person's ability to find sites in their vicinity and obtain more information about sites if they are interested, including signing up to receive site-specific electronic alerts when something changes about a site.

¹²⁷ Clarified that other authorities are state and federal laws.

¹²⁸ Changed requirement to notify owners and operators of Ecology's determination. Instead of providing such notice only when requested, Ecology will always provide such notice.

¹²⁹ For sites managed in part or all under the specified authorities, added these four steps to reflect current practice and the applicability of the new SHARP assessment and notification methods. We already track these sites in our database (about 300) and list the sites, as per Toxics Cleanup Program Policy 310A.

¹³⁰ Added requirement that Ecology conduct a site hazard assessment and ranking under Section 320.

- (D) Notify the public of ecology’s determination in the *Contaminated Site Register* under WAC 173-340-600(7). The notice must include instructions on how to sign up for the site-specific electronic alerts provided by ecology under WAC 173-340-600(6).¹³²
- (7) **Reservation of rights.** Nothing in this section ~~shall preclude~~ ~~the department~~ ecology from taking or requiring appropriate remedial action at any time.

¹³¹ Added requirement that Ecology make any initial investigation report, such as a field report, publicly available on Ecology’s website. Note the provision does not require that Ecology prepare an initial investigation report.

¹³² Added requirement that Ecology notify the public in the *Contaminated Site Register* when Ecology initially adds a site to one of Ecology’s site lists, either the contaminated sites list (this case) or the no further action sites list, based on initial investigation. Specified that the notice must include instructions for how to sign up for site-specific electronic alerts.

WAC 173-340-320 Site hazard assessment and ranking.¹³³

- ~~(1) **Purpose.** The purpose of the site hazard assessment is to provide sufficient sampling data and other information for the department to:~~
- ~~(a) Confirm or rule out that a release or threatened release of a hazardous substance has occurred;~~
 - ~~(b) Identify the hazardous substance and provide some information regarding the extent and concentration of the substance;~~
 - ~~(c) Identify site characteristics that could result in the hazardous substance entering and moving through the environment;~~
 - ~~(d) Evaluate the potential for the threat to human health and the environment; and~~
 - ~~(e) Determine the hazard ranking of the site under WAC 173-340-330, if appropriate.~~
- ~~(2) **Timing.** Generally, a site hazard assessment shall be completed before proceeding to any subsequent phase of remedial action, other than an emergency or interim action.~~
- ~~(3) **Administrative options.** The site hazard assessment may be conducted under any of the procedures described in WAC 173-340-510. The department may rely on another government agency or a contractor to the department to conduct a site hazard assessment on its behalf, provided the department determines such an agency or contractor is not suspected to have contributed to the release or threatened release of a hazardous substance and that no conflict of interest exists.~~
- ~~(4) **Scope and content.** A site hazard assessment is an early study to provide preliminary data regarding the relative potential hazard of the site. A site hazard assessment is not intended to be a detailed site characterization; however, it shall include sufficient sampling, site observations, maps, and other information needed to meet the purposes specified in subsection (1) of this section. To fulfill this requirement, a site hazard assessment shall include, as appropriate, the following information:~~
- ~~(a) Identification of hazardous substances, including what was released and is threatened to be released and/or, if known, what products of decomposition, recombination, or chemical reaction are currently present on site, and an estimate of their quantities and concentrations;~~
 - ~~(b) Evidence confirming a release or threatened release of hazardous substances to the environment;~~
 - ~~(c) Description of facilities containing releases, if any, and their condition;~~
 - ~~(d) Identification of the location of all areas where a hazardous substance is known or suspected to be, indicated on a site map;~~

¹³³ Combined the ranking provisions in Section 330 with the assessment provisions in Section 320.

- ~~(e) — Consideration of surface water run-on and runoff and the hazardous substances leaching potential;~~
 - ~~(f) — Preliminary characterization of the subsurface and groundwater actually or potentially affected by the release, including vertical depth to groundwater and distance to nearby wells, bodies of surface water, and drinking water intakes;~~
 - ~~(g) — Preliminary evaluation of receptors, including: Human population, food crops, recreation areas, parks, sensitive environments, irrigated areas, and aquatic resources currently or potentially affected by groundwater, air, or surface water containing the release of hazardous substances at the site, including distances to these receptors; and~~
 - ~~(h) — Any other physical factors which may be significant in estimating the potential or current exposure to sensitive biota.~~
- ~~(5) — **Guidance.** The department shall make available guidance for how to conduct a site hazard assessment to meet the requirements of this section. Persons are encouraged to contact the department to obtain a copy of the latest guidance.~~
- ~~(6) — **Department decision.** Based on the results of the site hazard assessment and other available information about the site, the department shall either determine the site warrants no further action using the criteria in WAC 173-340-310(5)(d) or proceed with ranking and placing the site on the hazardous sites list under WAC 173-340-330.~~
- ~~(7) — **Notification.** The department shall make available the results of the site hazard assessment to the site's owner and operator and any person who has received a potentially liable person status letter under WAC 173-340-500 regarding the site. If the department finds after a site hazard assessment that the site requires no further action, it shall publish this decision in the *Site Register*.~~
- (1) **Purpose.** The site hazard assessment and ranking process provides a method for ecology to assess and rank threats to human health and the environment posed by a site based on information readily available at the time of assessment.¹³⁴ The site hazard assessment and ranking process satisfies the requirements of RCW 70A.305.030(2)(b),¹³⁵ and is not a substitute for a remedial investigation.¹³⁶ Ecology uses site hazard assessments and rankings to:¹³⁷
- (a) Support decisions to add or remove sites from the contaminated sites list under WAC 173-340-330 or the no further action sites list under WAC 173-340-335;
 - (b) Prioritize remedial actions and allocate agency resources among and within sites under WAC 173-340-340;

¹³⁴ Changed purpose of site hazard assessment and ranking process from collecting additional information to evaluating available information to assess and rank the hazards posed by a site.

¹³⁵ Added reference to the requirement in the MTCA statute to establish a hazard ranking system.

¹³⁶ Clarified that the SHARP process is not a substitute for a remedial investigation. If questions should arise during implementation, Ecology may include appropriate disclaimers on site hazard rankings.

¹³⁷ Specified how Ecology will use site hazard rankings, which are the results of SHARP assessments. That is distinguished from what Ecology does as part of SHARP (assess threats).

- (c) Inform the public and the legislature about the threats posed by contaminated sites;
 - (d) Reflect changes in threats posed by a site based on new information or changes in site conditions; and
 - (e) Identify whether the population threatened may include a vulnerable population or an overburdened community.
- (2) Development.** Ecology will establish and maintain a site hazard assessment and ranking process.¹³⁸
- (a) Functional requirements.**¹³⁹ The site hazard assessment and ranking process must enable ecology to use readily available information¹⁴⁰ to:
 - (i) Rank the potential exposure of human and environmental receptors to confirmed or suspected releases of hazardous substances through each environmental medium;
 - (ii) Rank the severity of such exposures to human health and the environment;
 - (iii) Identify whether the population exposed may include a vulnerable population or an overburdened community,¹⁴¹ and
 - (iv) Report the assessor's level of confidence in the information used for the assessment.
 - (b) Performance standards.**¹⁴² Ecology will establish performance standards for assessing the technical validity, efficiency, consistency, and practical utility of the site hazard assessment and ranking process.
 - (c) Quality assurance.**¹⁴³ Ecology will periodically assess whether the site hazard assessment and ranking process meets the performance standards established under (b) of this subsection, and update the process as appropriate.

¹³⁸ Replaced the current Washington Ranking Method (WARM) specified in the rule with a requirement that Ecology establish, implement, and maintain a new site hazard assessment and ranking process (SHARP) outside of the rule, but subject to performance standards and public comment opportunities specified in the rule.

¹³⁹ Specified functional requirements for SHARP to reflect change in purpose (compared to current WARM). The process must assess and rank potentials for exposure and relative severity of threats and report the evaluator's level of confidence. The process must also identify whether the population exposed may include a vulnerable population or an overburdened community. This could include both on-site populations and off-site populations that use the site. Initial assessments (based on initial investigations) will likely be limited to environmental health disparities map or other readily available information.

¹⁴⁰ Emphasized that SHARP is based on readily available information with a confidence evaluation.

¹⁴¹ Specified that SHARP must enable Ecology to identify adversely affected by a site based on their use of the site (such as fishing), not just where they live. As part of the initial investigation of a site, Ecology will try to determine whether vulnerable populations or overburdened communities may be located at the site, using the environmental health disparities map or other readily available information. Subsequent remedial investigations of the site will help identify any off-site populations and their site uses.

¹⁴² Specified that Ecology must establish performance standards for assessing the technical validity and practical utility of SHARP.

(d) Public participation.¹⁴⁴ When establishing the site hazard assessment and ranking process or making any change to the process that could affect hazard rankings, ecology will provide the public with notice and an opportunity to comment. The public comment period must be at least 30 days.

(3) Implementation.

(a) Applicability and timing.¹⁴⁵

(i) Ecology will perform a site hazard assessment and ranking before adding or removing a site from the contaminated sites list under WAC 173-340-330 or the no further action sites list under WAC 173-340-335.

(ii) For sites on the contaminated sites list on the effective date of this section, ecology will conduct a site hazard assessment and ranking as resources permit. As part of the strategic plan required under WAC 173-340-340, ecology will develop goals and strategies for completing a site hazard assessment and ranking of such sites.¹⁴⁶

(iii) Ecology may also conduct a site hazard assessment and ranking when new information becomes available or when site conditions change.

(b) Performance. Ecology will review readily available information when conducting a site hazard assessment and ranking.

(c) Reliance on others.¹⁴⁷ Ecology may rely on another government agency or a contractor to ecology to perform a site hazard assessment and ranking on its behalf, provided:

(i) The agency or contractor is not suspected of having contributed to the release or threatened release; and

(ii) The agency or contractor has no conflict of interest.

(d) Notification.¹⁴⁸ Upon completing a site hazard assessment and ranking, ecology will:

¹⁴³ Specified that Ecology must periodically assess whether SHARP meets the performance standards established by Ecology.

¹⁴⁴ Specified that Ecology must provide the public with notice and an opportunity to comment when developing the new SHARP or making any changes to SHARP that could affect site hazard rankings.

¹⁴⁵ Changed applicability and timing of when Ecology must assess and rank the hazards posed by a site. Currently, Ecology is only required to conduct assessment once, sometime after the initial investigation is completed. Under the proposal, Ecology would be required to perform before listing, de-listing, or re-listing a contaminated site. Ecology may also perform at other times based on new information or changed conditions. Ecology plans to develop policies and procedures that outline when Ecology will or may conduct a SHARP assessment and what factors Ecology should consider before doing so.

¹⁴⁶ For sites on the contaminated sites list on the effective date of this section, Ecology will conduct a site hazard assessment and ranking as resources permit in accordance with plans developed under Section 340.

¹⁴⁷ As under the current rule, Ecology may rely on another government agency or a contractor to Ecology to perform a SHARP assessment on its behalf.

- (i) Make the site's current hazard rankings publicly available on ecology's website under WAC 173-340-600(5). The hazard rankings will include the results specified in subsection (2)(a) of this section;¹⁴⁹ and
- (ii) If requested, notify a person electronically under WAC 173-340-600(6).

¹⁴⁸ Replaced requirements to provide written notice to regulated persons and notice to the public in the *Contaminated Site Register* about changes to the site's listing, ranking, or status, with the requirement to provide site-specific electronic alerts to any person who requests such notice. See similar changes in Sections 330 and 335.

¹⁴⁹ Specified that the hazard rankings made publicly available must include the results specified in the functional requirements in subsection (2)(a).

WAC 173-340-330 ~~Hazard ranking~~¹⁵⁰ ~~and the hazardous~~ Contaminated sites list.

- (1) **Purpose.** ~~The department shall maintain a list of sites where remedial action has been determined by the department to be necessary. This list, called the hazardous sites list, shall fulfill the department's responsibilities under RCW 70.105D.030(2)(b) and (3). From this list, the department shall select those sites where action is anticipated and include those in the biennial program report under WAC 173-340-340. The purpose of the contaminated sites list¹⁵¹ is to identify:~~
- (a) All sites for which ecology or PLIA¹⁵² has determined further remedial action is necessary under state cleanup law to:¹⁵³
 - (i) Confirm whether there is a threat to human health or the environment posed by a release or threatened release; or
 - (ii) Address the threat posed by a release or threatened release, based on the criteria in subsection (5) of this section;¹⁵⁴ and
 - (b) For each listed site, the site's current remedial action status.
- ~~(2) **Hazard ranking.**¹⁵⁵~~
- ~~(a) The department shall give a hazard ranking to sites placed on the list. The purpose of hazard ranking is to estimate, based on the information compiled during the site hazard assessment, the relative potential risk posed by the site to human health and the environment. This assessment considers air, groundwater, and surface water migration pathways, human and nonhuman exposure targets, properties of the substances present, and the interaction of these variables.~~
 - ~~(b) The department shall evaluate each site on a consistent basis using the procedure described in the "Washington Ranking Method Scoring Manual," publication number 90-14, dated April 1992. The sediment component of a site shall be scored using the procedures described in "Sediment Ranking System," publication number 97-106, dated January 1990, and "Status Report: Technical Basis for SEDRANK Modifications,"~~

¹⁵⁰ Combined ranking provisions in former Section 330 with assessment provisions in Section 320.

¹⁵¹ Replaced the "hazardous sites list" with the "contaminated sites list." The "contaminated sites list" includes all suspected and confirmed contaminated sites. Ecology already maintains such a list, which is currently referred to as the "confirmed and suspected contaminated sites list." The list is publicly available on Ecology's website at: <https://apps.ecology.wa.gov/tcpwebreporting/reports/cleanup/contaminated>. The current "hazardous sites list" is a subset of the sites on the "contaminated site list" that have been ranked. See also definitions of "contaminated site" and "contaminated sites list" in Section 200.

¹⁵² Reflected that PLIA may also determine whether further remedial action is necessary (see RCW [70A.330.040](#)(7) and (12), WAC [374-45-040](#), and Chapter [374-80](#) WAC).

¹⁵³ Specified that contaminated sites include sites where Ecology or PLIA have determined further remedial action is necessary to either confirm a suspected threat or to address a confirmed threat.

¹⁵⁴ Clarified that the delisting criteria in subsection (5) are used to determine whether further remedial action is necessary. If a site doesn't meet the criteria, then the site is a "contaminated site" and placed on the "contaminated sites list."

¹⁵⁵ Combined ranking provisions in former Section 330 with assessment provisions in Section 320.

~~publication number 97-107, dated June 1991. The ranking procedure and major amendments to the manual shall be reviewed by the science advisory board established under chapter 70.105D RCW. Information obtained in the site hazard assessment, plus any additional data specified in these publications, shall be included in the hazard ranking evaluation.~~

- ~~(3) **Site Register.**¹⁵⁶ The department shall periodically provide notification of the results of hazard ranking in the *Site Register*. The department shall make available hazard ranking results for each site to the site owner and operator and any potentially liable person known to the department before publication in the *Site Register*.~~
- ~~(4) **Reranking.**¹⁵⁷ The department may at its discretion re-rank a site if, before the initiation of state action at the site, the department receives additional information within the scope of the evaluation criteria which indicates that a significant change in rank may result.~~
- ~~(5) **Listing.**¹⁵⁸ Sites shall be ranked and placed on the hazardous sites list if, after the completion of a site hazard assessment, the department determines that further action is required at the site. The list shall be updated at least once per year. Placement of a site on the hazardous sites list does not, by itself, imply that persons associated with the site are liable under chapter 70.105D RCW.~~
- ~~(6) **Site status.**¹⁵⁹ The hazardous sites list shall reflect the current status of remedial action at each site. The department may change a site's status to reflect current conditions. The status for each site shall be identified as one of the following:~~
- ~~(a) Sites awaiting further remedial action;~~
 - ~~(b) Sites with remedial action in progress;~~
 - ~~(c) Sites where a cleanup action has been conducted but confirmational monitoring is underway;~~
 - ~~(d) Sites with independent remedial actions; or~~
 - ~~(e) Other categories established by the department.~~
- (2) **Adding a site to the list.**¹⁶⁰ After an initial investigation under WAC 173-340-310 or 374-45-040,¹⁶¹ ecology will add a site to the contaminated sites list if ecology or PLIA determines further remedial action is necessary under state cleanup law to:¹⁶²

¹⁵⁶ Moved notification requirements to subsection (9).

¹⁵⁷ Combined ranking provisions in former Section 330 with assessment provisions in Section 320.

¹⁵⁸ Moved listing requirements to subsection (2), and statement on effect of listing on liability to subsection (10).

¹⁵⁹ Moved site status tracking requirements to subsection (3).

¹⁶⁰ Moved from former subsection (5). Changes noted separately.

¹⁶¹ Added reference to PLIA's authority regarding heating oil tanks to conduct initial investigations and determine whether further remedial action is necessary.

¹⁶² Clarified that contaminated sites include sites where Ecology or PLIA have determined further remedial action is necessary to either confirm a suspected threat or to address a confirmed threat.

- (a) Confirm whether there is a threat to human health or the environment posed by a release or threatened release; or
- (b) Address the threat posed by a release or threatened release, based on the criteria in subsection (5) of this section.¹⁶³
- (3) Tracking the remedial action status of a site.¹⁶⁴ For each site on the contaminated sites list, ecology will track and include on the list the site’s remedial action status. Ecology may change the remedial action status of a site to reflect current conditions.¹⁶⁵
- (4) Splitting or combining sites on the list.¹⁶⁶ Ecology may split or combine sites on the contaminated sites list consistent with its authority under chapter 70A.305 RCW.
- ~~(7)~~(5) Removing sites a site from the list.¹⁶⁷ Ecology will remove a site from the contaminated sites list if, and only if, ecology or PLIA¹⁶⁸ determines that the listing is erroneous or that the site meets the applicable criteria in this subsection. A person does not need to submit a petition under subsection (6) of this section for ecology to remove a site from the contaminated sites list.¹⁶⁹

 - ~~(a) — The department may remove a site from the list only after it has determined that:~~

 - ~~(i) — For sites where the selected cleanup action does not include containment,¹⁷⁰ all remedial actions except confirmational monitoring have been completed and compliance with the cleanup standards has been achieved at the site;~~
 - ~~(ii) — The listing was erroneous;¹⁷¹ or~~

¹⁶³ Clarified that the delisting criteria in subsection (5) are used to determine whether further remedial action is necessary. If a site doesn’t meet the criteria, then the site is a “contaminated site” and placed on the “contaminated sites list.”

¹⁶⁴ Moved from former subsection (6). Changes noted separately.

¹⁶⁵ Removed from the rule the current list of remedial action status categories. Replaced list with a requirement in subsection (9)(a) that Ecology will make the current list of remedial action status categories available to the public on Ecology’s website.

¹⁶⁶ Clarified that Ecology retains its authority to split or combine sites consistent with authority under MTCA. As provided under subsection (9)(c)(ii), Ecology will provide site-specific electronic alerts to interested persons if Ecology splits or combines sites.

¹⁶⁷ Restructured the requirements governing the removal of sites from the contaminated sites list. Split up into 3 subsections: duty and criteria for removal (subsection (5)), petitions for removal (subsection (6)), and public participation during removal (subsection (7)). Also restructured the criteria for removal in subsection (5).

¹⁶⁸ Updated to recognize that PLIA may also determine whether further remedial action is necessary based on reviews of independent remedial actions, either during an initial investigation of a heating oil tank release (see RCW [70A.330.040](#)(12) and WAC [374-45-040](#)) or under their technical assistance program (see RCW [70A.330.040](#)(7) and Chapter [374-80](#) WAC).

¹⁶⁹ Emphasized that it is Ecology’s duty to remove a site from the contaminated sites list if Ecology or PLIA determine the site meets the delisting criteria. In such cases, a person does not need to submit a petition for Ecology to remove a site from the list.

¹⁷⁰ Split this category of sites (where cleanup action does not include containment) into two categories and moved to subsections (5)(a) and (b).

¹⁷¹ Moved discussion of erroneous site listings to introductory paragraph under subsection (5).

- (a) Permanent cleanup action.**¹⁷² For sites where the selected cleanup action is permanent, a site must meet the following criteria to be removed from the list:
- (i)** All cleanup standards have been achieved; and
 - (ii)** All necessary remedial actions under state cleanup law have been completed.
- (b) Nonpermanent cleanup action without containment.**¹⁷³ For sites where the selected cleanup action is not permanent and does not include containment, a site must meet the following criteria to be removed from the list:
- (i)** All cleanup standards have been achieved; and
 - (ii)** All necessary remedial actions under state cleanup law, except confirmation monitoring and periodic reviews, have been completed.
- ~~(iii)~~**(c) Nonpermanent cleanup action with containment.** For sites where the selected cleanup action is not permanent and includes containment, ~~if all of the following conditions have been met~~ a site must meet the following criteria to be removed from the list:
- (i)** All cleanup standards have been achieved;¹⁷⁴
 - (ii)** All necessary construction has been completed;¹⁷⁵
- ~~(A)~~**(iii)** All ~~construction and operation of remedial actions~~ necessary operation and maintenance activities have been ~~adequately~~ completed ~~and~~, except for the following:
- ~~(A)~~**(A)** ~~Only~~ passive maintenance activities, such as monitoring, inspections, ~~and~~ or periodic repairs ~~remain~~; or
 - ~~(B)~~**(B)** For ~~municipal~~ solid waste landfills ~~only~~ permitted under chapter 173-304, 173-350, or 173-351 WAC, ~~a closure plan meeting the substantive requirements in chapter 173-351 WAC has been approved by the department as part of a remedial action under this chapter and the only remaining active maintenance activities are methane gas control, the operation of leachate collection and treatment systems, and/or surface water diversion~~ any operation or maintenance activities of systems for

¹⁷² Split the current site category where cleanup action does not include containment into two separate site categories, one where the cleanup action is permanent and the other where the cleanup action is not permanent but does not involve containment.

- If the cleanup action is permanent, there are no post-cleanup controls or monitoring, including periodic reviews. This case is addressed in subsection (5)(a).
- If the cleanup action is not permanent, but does not involve containment, post-cleanup controls and monitoring are required, including periodic reviews. This case is addressed in subsection (5)(b).

¹⁷³ See note regarding subsection (5)(a).

¹⁷⁴ For sites where the cleanup action includes containment, clarified that all cleanup standards must be achieved. The current rule required indirectly by requiring completion of performance monitoring.

¹⁷⁵ Separated the criteria for construction from the criteria for operation and maintenance.

explosive gas control, leachate collection, or surface water run-on or runoff management;¹⁷⁶

(iv) All necessary performance monitoring has been completed;¹⁷⁷

~~(B)(v)~~ Sufficient confirmation~~al~~ monitoring has been ~~done~~completed to demonstrate that the ~~remedy~~cleanup action ~~has~~ effectively contained~~s~~ the hazardous substances of concern at the site;

~~(C) All required performance monitoring has been completed;~~¹⁷⁸

~~(D)(vi)~~ Any required institutional controls are in place and have been demonstrated to be effective in protecting public health and the environment ~~from exposure to hazardous substances~~ and ~~protecting~~ the integrity of the cleanup action;

(vii) Any required financial assurances are in place;¹⁷⁹ and

~~(E)(viii)~~ Written documentation is present in ~~the department~~ecology files that describes what hazardous substances ~~have been left~~remain on site, where they are located, and the long-term monitoring and maintenance obligations at the site;

~~(F) When required under WAC 173-340-440, financial assurances are in place;~~¹⁸⁰
and

~~(G) For sites with releases to groundwater, it has been demonstrated the site meets groundwater cleanup levels at the designated point of compliance.~~¹⁸¹

~~(b) A site owner, operator, or potentially liable person may request that a site be removed from the list by submitting a petition to the department. The petition shall include thorough documentation of all investigations performed, all cleanup actions taken, and adequate compliance monitoring to demonstrate to the department's satisfaction that one of the conditions in (a) of this subsection has been met. The department may require payment of costs incurred, including an advance deposit, for review and verification of the work performed. The department shall review such petitions; however, the timing of the review shall be at its discretion and as resources may allow.~~¹⁸²

¹⁷⁶ For solid waste landfills, updated the operation and maintenance (O&M) criteria to allow a site to be delisted even when active O&M of some specified systems is needed, provided that the landfill is permitted under either chapter [173-304](#), [173-350](#), or [173-351](#) WAC. Such landfills are subject to closure and post-closure plans that have been approved by the permitting authority. For landfills permitted under the older chapter 173-304 WAC, Ecology may require compliance with any more stringent requirements in chapter 173-350 or 173-351 WAC as part of a cleanup action plan if it determines they are relevant and appropriate. See Section 710(9)(c).

¹⁷⁷ Moved performance monitoring criteria up from lower in criteria list. Also edited to simplify.

¹⁷⁸ Moved to subsection (5)(c)(iv).

¹⁷⁹ Moved financial assurance criteria up from lower in criteria list.

¹⁸⁰ Moved to subsection (5)(c)(vii).

¹⁸¹ Replaced with more general criteria in subsection (5)(c)(i) that all cleanup standards (not just groundwater cleanup standards) have been achieved. See also note on subsection (5)(c)(i).

¹⁸² Moved petition for removal requirements to subsection (6).

- (6) Petitions for removing a site from the list.**¹⁸³ A site owner, operator, or potentially liable person may petition ecology to remove a site from the contaminated sites list if ecology has not removed the site from the list under subsection (5) of this section.¹⁸⁴
- (a) Content.** A petition must be in writing and include the following:¹⁸⁵
- (i)** For claims the listing of the site is erroneous, sufficient documentation of investigations to demonstrate to ecology’s satisfaction that the listing is erroneous;
 - (ii)** For claims based on independent remedial action, a written opinion from ecology or PLIA that no further remedial action is necessary at the site to meet the criteria in subsection (5) of this section. A person may request such an opinion from ecology under WAC 173-340-515(5) or from PLIA under chapter 374-80 WAC, as applicable;¹⁸⁶ or
 - (iii)** For claims based on ecology-supervised or ecology-conducted remedial action, sufficient documentation of remedial actions, including investigations, feasibility studies, interim actions,¹⁸⁷ cleanup actions, and compliance monitoring, to demonstrate to ecology's satisfaction that no further remedial action is necessary at the site to meet the criteria in subsection (5) of this section.
- (b) Response.** Ecology will review the petition as resources permit. Unless ecology determines that the listing is erroneous or that the site meets the criteria in subsection (5) of this section,¹⁸⁸ ecology may collect from the petitioner all costs incurred by ecology in reviewing the petition. Ecology may require a deposit in advance of reviewing the petition.
- (7) Public participation when removing a site from the list.**¹⁸⁹ For an ecology-conducted or ecology-supervised remedial action, ecology will provide public notice in accordance with WAC

¹⁸³ Moved petition for removal requirements from former subsection (5)(b). Changes are noted separately.

¹⁸⁴ Emphasized that a petition is not necessary for Ecology to remove a site from the contaminated sites list.

¹⁸⁵ Separated the requirements for what must be included in a petition based on the type of claim (whether erroneous listing or whether no further action, and if the latter, whether based on an independent remedial action or an Ecology-conducted or supervised remedial action).

¹⁸⁶ For petitions to delist based on independent remedial action, added requirement that the petitioner must include a written no further action (NFA) opinion from Ecology or PLIA, as applicable, under their relevant technical assistance programs. This requirement would likely eliminate the need for a petition except in cases where Ecology or PLIA made an administrative mistake. That’s because, if the petitioner got an NFA opinion from Ecology or PLIA, Ecology would automatically delist the site upon issuance of the NFA opinion.

¹⁸⁷ For petitions to delist based on Ecology-conducted or Ecology-supervised remedial action, emphasized that the documentation needs to include documentation of feasibility studies and interim actions.

¹⁸⁸ Eliminated Ecology’s authority to recover its costs in cases where Ecology determines the listing is erroneous or where Ecology determines the site meets the delisting criteria.

¹⁸⁹ Moved public participation requirements from former subsection (10).

173-340-600(17) before removing a site from the contaminated sites list.¹⁹⁰ Ecology may recover the costs of providing such public participation in accordance with WAC 173-340-550.¹⁹¹

~~(8) **Record of sites.**¹⁹² The department shall maintain a record of sites that have been removed from the list under subsection (7) of this section. The record shall identify which sites have institutional controls under WAC 173-340-440 and which sites are subject to periodic review under WAC 173-340-420. This record will be made available to the public upon request.~~

~~(9)~~**(8) Relisting of sites.** ~~The department may relist a site that has previously been removed if it determines that the site requires further remedial action.~~Ecology may relist a site on the contaminated sites list that it previously removed from the list if ecology or PLIA¹⁹³ determines further remedial action is necessary at the site to meet the criteria in subsection (5) of this section.

~~(10)~~**(9) Notice Notification.** ~~The department shall provide public notice and an opportunity to comment when the department proposes to remove a site from the list.¹⁹⁴ Additions to the list, changes in site status, and removal from the list shall be published in the *Site Register*.~~

~~(a)~~ Ecology will make the contaminated sites list and the current list of remedial action status categories publicly available on ecology's website.¹⁹⁵

~~(b)~~ Ecology will make a site's current listing and remedial action status publicly available on ecology's website under WAC 173-340-600(5).¹⁹⁶

~~(c)~~ If requested, ecology will notify a person electronically under WAC 173-340-600(6) upon.¹⁹⁷

¹⁹⁰ Limited public participation requirement to Ecology-conducted and Ecology-supervised remedial actions, consistent with other steps in the cleanup process. Under the current rule, this opportunity is limited to sites on the hazardous sites list (HSL), which is a small subset of sites on the contaminated sites list. Since most independent cleanup sites are not currently on the HSL (since they are not ranked), this opportunity does not currently exist for most independent cleanup sites. As specified in subsection (10), Ecology will still make the site's listing and remedial action status publicly available on Ecology's website and, if requested, notify a person electronically of any change in the site's listing or remedial action status, including any decision to delist the site.

¹⁹¹ For an Ecology-conducted or Ecology-supervised remedial action, emphasized that Ecology may recover the costs of providing public participation, just as for any other remedial action.

¹⁹² Moved requirements governing the no further action sites list to the new Section 335.

¹⁹³ Updated to recognize that PLIA may also determine whether further remedial action is necessary based on reviews of independent remedial actions, either under their technical assistance program or during a periodic review (see RCW [70A.330.040](#)(7) and (14) and Chapter [374-80](#) WAC).

¹⁹⁴ Moved public participation requirements to subsection (7).

¹⁹⁵ Added requirement that Ecology will make the contaminated sites list available on Ecology's website. This reflects current practice and is in place of publishing a hard copy. Also added requirement that Ecology will make the current list of remedial action status categories available to the public on Ecology's website. This is in place of listing those status categories in the rule (see subsection (3)).

¹⁹⁶ Added requirement that Ecology will make a site's current listing and remedial action status publicly available on its website.

¹⁹⁷ Replaced requirements to provide written notice to regulated persons and notice to the public in the *Contaminated Site Register* about changes to the site's listing, ranking, or status, with the requirement to provide site-specific electronic alerts to any person who requests such notice. See similar changes in Sections 320 and 335.

(i) Any change in a site’s remedial action status;

(ii) Splitting or combining a site on the contaminated sites list; or

(iii) Removing or relisting a site on the contaminated sites list.

(10) Liability.¹⁹⁸ Placement of a site on the contaminated sites list does not, by itself, imply that persons associated with the site are liable under chapter 70A.305 RCW.

¹⁹⁸ Moved from former subsection (5).

WAC 173-340-335 No further action sites list.¹⁹⁹

- (1) Purpose.** The purpose of the no further action sites list is to identify:
- (a)** All sites where ecology or PLIA has determined no further remedial action is necessary under state cleanup law to meet the criteria in WAC 173-340-330(5);²⁰⁰ and
 - (b)** For each listed site, whether institutional controls or periodic reviews remain necessary at the site.
- (2) Adding a site to the list.** Ecology will add a site to the no further action sites list if, and only if:
- (a)** After completing an initial investigation, ecology or PLIA determines that no further remedial action is necessary under state cleanup law to meet the criteria in WAC 173-340-330(5);²⁰¹ or
 - (b)** Ecology removes the site from the contaminated sites list based on the criteria in WAC 173-340-330(5).
- (3) Tracking institutional controls and periodic reviews.** For each site on the no further action sites list, ecology will identify on the list whether the site requires:
- (a)** Institutional controls under WAC 173-340-440; or
 - (b)** Periodic reviews under WAC 173-340-420.²⁰²
- (4) Removing a site from the list.** If ecology relists a site on the contaminated sites list under WAC 173-340-330(8), ecology will remove the site from the no further action sites list.²⁰³
- (5) Notification.**
- (a)** Ecology will make the no further action sites list publicly available on ecology's website.²⁰⁴
 - (b)** If requested, ecology will notify a person electronically under WAC 173-340-600(6) upon adding or removing a site on the no further action sites list.²⁰⁵

¹⁹⁹ Moved requirements governing the no further action sites list from Section 330 to new Section 335 to clearly communicate the different purposes and requirements for the two lists. Ecology currently maintains such a list. See <https://apps.ecology.wa.gov/tcpwebreporting/reports/cleanup/nfa>. See also definition in Section 200.

²⁰⁰ Clarified that the further action determination is based on the delisting criteria in WAC 173-340-330(5). If the site meets the criteria, the site is placed on the "no further action sites list."

²⁰¹ Clarified that the no further action sites list includes sites where Ecology makes a no further action determination based on an initial investigation.

²⁰² While Ecology currently tracks and records the need for periodic reviews at a site, Ecology does not currently document that need on the no further action sites list. Ecology will add that to the list.

²⁰³ Clarified that, if Ecology relists a site on the contaminated sites list, Ecology will remove the site from the no further action sites list.

²⁰⁴ Added requirement that Ecology will make list publicly available on its website. This reflects current practice.

²⁰⁵ Replaced requirements to provide written notice to regulated persons and notice to the public in the *Contaminated Site Register* about changes to a site's listing, ranking, or status, with the requirement to provide site-specific electronic alerts to any person who requests such notice. See similar changes in Sections 320 and 330.

WAC 173-340-340 ~~Biennial program report~~Program planning and assessment.²⁰⁶

- ~~(1) — **Timing.** Before November 1 of each even-numbered year, the department shall prepare a biennial program report for the legislature containing its plan for conducting remedial actions for the following two fiscal years. This report shall identify the projects and expenditures recommended for appropriation from both the state and local toxics control accounts.²⁰⁷ In determining which sites the department shall consider for planned action, emphasis shall be given to sites posing the highest risk to human health and the environment, as indicated by a site's hazard ranking. The department may also consider other factors in setting site priorities.²⁰⁸ After legislative action and any revisions, this report shall become the department's biennial program plan.~~
- ~~(2) — **Public notice.** The department shall provide public notice and a hearing on the proposed plan. For purposes of this subsection only, public notice shall consist of mailings to all persons who have made a timely request and to the appropriate news media, and publication in the state register. Notice shall also be provided in the *Site Register*. The public comment period on the proposed plan shall run for at least thirty days from the date of the publication in the *Site Register*.²⁰⁹~~
- (1) **Strategic plan.**²¹⁰ Ecology will develop and periodically update a comprehensive and integrated strategic plan for cleaning up contaminated sites. The strategic plan must prioritize vulnerable populations and overburdened communities that may be impacted by a contaminated site,²¹¹ and consider the resource allocation factors in subsection (2) of this section.²¹² The strategic plan must include:²¹³
- (a) Goals and strategies for all core program functions and major initiatives;
 - (b) Metrics to track and measure progress in accomplishing the goals and implementing the strategies; and
 - (c) Staffing and capital funds needed to accomplish the goals and implement the strategies.

²⁰⁶ Refocused Section 340 on Ecology's strategic planning and performance assessment for cleaning up contaminated sites. This planning and assessment will inform Ecology's budget requests and biennial legislative planning and expenditure reports.

²⁰⁷ Removed from the rule reference to the biennial program plan previously mandated by statute in RCW [70.105D.030](#). In 2007, the Legislature replaced this plan with a ten-year financing plan to identify capital funding needs and eliminated the public comment requirement. See [Laws of 2007, Chapter 446](#). This legislative report is still mandated by statute. See RCW [70.105D.030](#)(4). Ecology's strategic plan for cleanup, required under new subsection (1), will inform this legislative report.

²⁰⁸ Moved resource allocation factors to subsection (2), and revised.

²⁰⁹ Consistent with legislative changes in RCW [70.105D.030](#) noted above, eliminated requirement that Ecology provide opportunity to comment on proposed plan. See [Laws of 2007, Chapter 446](#).

²¹⁰ Added requirement for Ecology to prepare and periodically update a comprehensive and strategic plan for cleaning up contaminated sites.

²¹¹ Specified that the strategic plan must prioritize vulnerable populations and overburdened communities, consistent with the goals of the HEAL act, Chapter [70A.02](#) RCW.

²¹² Specified that the strategic plan must consider the resource allocation factors in subsection (2).

²¹³ Specified that the strategic plan must identify goals and strategies, performance metrics, and needed staffing and capital funds.

- (2) Resource allocation.**²¹⁴ In fulfilling the objectives of this chapter, ecology will allocate staffing and capital funds based on the following factors:
- (a)** The threats posed by a contaminated site to human health and the environment;
 - (b)** Whether the population threatened by a contaminated site may include a vulnerable population or an overburdened community;²¹⁵
 - (c)** The land reuse potential and planning for a contaminated site;²¹⁶ and
 - (d)** Other factors specified by the legislature²¹⁷ or ecology.
- (3) Performance assessment.**²¹⁸ Ecology will periodically assess its progress in accomplishing its goals and implementing its strategies for cleaning up contaminated sites, including its progress in cleaning up sites that may impact vulnerable populations and overburdened communities,²¹⁹ using the metrics established under subsection (1)(b) of this section.
- (4) Notification.**
- (a)** Ecology will make the strategic plans and performance assessments required under subsections (1) and (3) of this section publicly available on ecology's website.²²⁰
 - (b)** Ecology will provide notice in the *Contaminated Site Register* of the following:
 - (i)** Any update to the strategic plans or performance assessments required under subsections (1) and (3) of this section; and
 - (ii)** Any additional resource allocation factors specified by the legislature or ecology under subsection (2)(d) of this section.²²¹

²¹⁴ Moved resource allocation factors from former subsection (1) and amended as noted.

²¹⁵ Consistent with the goals of the HEAL Act, Chapter [70A.02](#) RCW, added as a resource allocation factor whether the population threatened may include a vulnerable population or an overburdened community.

²¹⁶ Consistent with legislative changes to RCW [70.105D.030](#)(1)(i), added as a resource allocation factor the land reuse potential and planning for the site. See [Laws of 2013 2nd Special Session, Chapter 1](#).

²¹⁷ Recognized that the Legislature may also specify additional factors, either in a budget or otherwise.

²¹⁸ Added requirement that Ecology must periodically assess its progress in accomplishing its goals and implementing its strategies for cleaning up contaminated sites.

²¹⁹ Specified that Ecology's performance assessment must track its progress in cleaning up sites that may impact vulnerable populations or overburdened communities.

²²⁰ Added requirement that Ecology must make its strategic plans and performance assessments for cleaning up contaminated sites publicly available on its website.

²²¹ Added requirement that Ecology must provide notice in the *Contaminated Site Register* when it updates its strategic plans and performance assessments and when the Legislature or Ecology specifies additional resource allocation factors.

WAC 173-340-350 Remedial investigation and feasibility study.²²²

- ~~(1) — **Purpose.** The purpose of a remedial investigation/feasibility study is to collect, develop, and evaluate sufficient information regarding a site to select a cleanup action under WAC 173-340-360 through 173-340-390.~~
- ~~(2) — **Timing.** Unless otherwise directed by the department, a remedial investigation/feasibility study shall be completed before selecting a cleanup action under WAC 173-340-360 through 173-340-390, except for an emergency or interim action.~~
- ~~(3) — **Administrative options.** A remedial investigation/feasibility study may be conducted under any of the procedures described in WAC 173-340-510 and 173-340-515.~~
- ~~(4) — **Submittal requirements.** For a remedial action conducted by the department or under a decree or order, a report shall be prepared at the completion of the remedial investigation/feasibility study. Additionally, the department may require reports to be submitted for discrete elements of the remedial investigation/feasibility study. Reports prepared under this section and under an order or decree shall be submitted to the department for review and approval. See also subsection (7)(c)(iv) of this section for information on the sampling and analysis plan and the safety and health plan. See WAC 173-340-515(4) for submittal requirements for independent remedial actions.~~
- ~~(5) — **Public participation.** Public participation will be accomplished in a manner consistent with WAC 173-340-600.~~
- ~~(6) — **Scope.** The scope of a remedial investigation/feasibility study varies from site to site, depending on the informational and analytical needs of the specific facility. This requires that the process remain flexible and be streamlined when possible to avoid the collection and evaluation of unnecessary information so that the cleanup can proceed in a timely manner. Where information required in subsections (7)(c) and (8)(c) of this section is available in other documents for the site, that information may be incorporated by reference to avoid unnecessary duplication. However, in all cases sufficient information must be collected, developed, and evaluated to enable the selection of a cleanup action under WAC 173-340-360 through 173-340-390. In addition, for facilities on the federal national priorities list, a remedial investigation/feasibility study shall comply with federal requirements.~~
- ~~(7) — **Procedures for conducting a remedial investigation.**
 - ~~(a) — **Purpose.** The purpose of the remedial investigation is to collect data necessary to adequately characterize the site for the purpose of developing and evaluating cleanup action alternatives. Site characterization may be conducted in one or more phases to focus sampling efforts and increase the efficiency of the remedial investigation. Site characterization activities may be integrated with the development and evaluation of alternatives in the feasibility study, as appropriate.~~~~

²²² Split Section 350 into two sections, one focusing on remedial investigations (Section 350) and the other focusing on feasibility studies (Section 351).

- ~~(b) — **Scoping activities.** To focus the collection of data and to assist the department in making the preliminary evaluation required under the State Environmental Policy Act (see WAC 197-11-256), the following scoping activities may be taken before conducting a remedial investigation:~~
- ~~(i) — Assemble and evaluate existing data on the site, including the results of any interim or emergency actions, initial investigations, site hazard assessments, and other site inspections;~~
 - ~~(ii) — Develop a preliminary conceptual site model as defined in WAC 173-340-200;~~
 - ~~(iii) — Begin to identify likely cleanup levels for the site;~~
 - ~~(iv) — Begin to identify likely cleanup action components that may address the releases at the site;~~
 - ~~(v) — Consider the type, quality and quantity of data necessary to support selection of a cleanup action; and~~
 - ~~(vi) — Begin to identify likely applicable state and federal laws under WAC 173-340-710.~~
- ~~(c) — **Content.** A remedial investigation shall include the following information as appropriate:~~
- ~~(i) — **General facility information.** General information, including: Project title; name, address, and phone number of project coordinator; legal description of the facility location; dimensions of the facility; present owner and operator; chronological listing of past owners and operators and operational history; and other pertinent information.~~
 - ~~(ii) — **Site conditions map.** An existing site conditions map that illustrates relevant current site features such as property boundaries, proposed facility boundaries, surface topography, surface and subsurface structures, utility lines, well locations, and other pertinent information.~~
 - ~~(iii) — **Field investigations.** Sufficient investigations to characterize the distribution of hazardous substances present at the site, and threat to human health and the environment. Where applicable to the site, these investigations shall address the following:
 - ~~(A) — **Surface water and sediments.** Investigations of surface water and sediments to characterize significant hydrologic features such as: Surface drainage patterns and quantities, areas of erosion and sediment deposition, surface waters, floodplains, and actual or potential hazardous substance migration routes towards and within these features. Sufficient surface water and sediment sampling shall be performed to adequately characterize the areal and vertical distribution and concentrations of hazardous substances. Properties of surface and~~~~

~~subsurface sediments that are likely to influence the type and rate of hazardous substance migration, or are likely to affect the ability to implement alternative cleanup actions shall be characterized.~~

~~(B) — **Soils.** Investigations to adequately characterize the areal and vertical distribution and concentrations of hazardous substances in the soil due to the release. Properties of surface and subsurface soils that are likely to influence the type and rate of hazardous substance migration, or which are likely to affect the ability to implement alternative cleanup actions shall be characterized.~~

~~(C) — **Geology and groundwater system characteristics.** Investigations of site geology and hydrogeology to adequately characterize the areal and vertical distribution and concentrations of hazardous substances in the groundwater and those features which affect the fate and transport of these hazardous substances. This shall include, as appropriate, the description, physical properties and distribution of bedrock and unconsolidated materials; groundwater flow rate and gradient for affected and potentially affected groundwaters; groundwater divides; areas of groundwater recharge and discharge; location of public and private production wells; and groundwater quality data.~~

~~(D) — **Air.** An evaluation of air quality impacts, including sampling, where appropriate, and information regarding local and regional climatological characteristics which are likely to affect the hazardous substance migration such as seasonal patterns of rainfall, the magnitude and frequency of significant storm events, temperature extremes, prevailing wind direction, variations in barometric pressure, and wind velocity.~~

~~(E) — **Land use.** Information regarding present and proposed land and resource uses and zoning for the site and potentially affected areas and information characterizing human and ecological populations that are reasonably likely to be exposed or potentially exposed to the release based on such use.~~

~~(F) — **Natural resources and ecological receptors.**~~

~~(I) — Information to determine the impact or potential impact of the hazardous substance from the facility on natural resources and ecological receptors, including any information needed to conduct a terrestrial ecological evaluation, under WAC 173-340-7492 or 173-340-7493, or to establish an exclusion under WAC 173-340-7491.~~

~~(II) — Where appropriate, a terrestrial ecological evaluation may be conducted so as to avoid duplicative studies of soil contamination that will be remediated to address other concerns, such as protection of human health. This may be accomplished by evaluating residual threats to the environment after cleanup action alternatives for human health protection have been developed. If this approach is used, the remedial investigation may be phased. Examples of sites where this approach may not be appropriate include: A site contaminated with a hazardous substance that is primarily an ecological concern and will not obviously be addressed by the cleanup action for the protection of human health, such as zinc; or a site where the development of a human health based remedy is expected to be a lengthy process, and postponing the terrestrial ecological evaluation would cause further harm to the environment.~~

~~(III) — If it is determined that a simplified or site-specific terrestrial ecological evaluation is not required under WAC 173-340-7491, the basis for this determination shall be included in the remedial investigation report.~~

~~(G) — **Hazardous substance sources.** A description of and sufficient sampling to define the location, quantity, areal and vertical extent, concentration within and sources of releases. Where relevant, information on the physical and chemical characteristics, and the biological effects of hazardous substances shall be provided.~~

~~(H) — **Regulatory classifications.** Regulatory designations classifying affected air, surface water and groundwater, if any.~~

~~(iv) — **Workplans.** A safety and health plan and a sampling and analysis plan shall be prepared as part of the remedial investigation/feasibility study. These plans shall conform to the requirements specified in WAC 173-340-810 and 173-340-820.~~

~~(v) — **Other information.** Other information may be required by the department.~~

~~(8) — **Procedures for conducting a feasibility study.**~~

~~(a) — **Purpose.** The purpose of the feasibility study is to develop and evaluate cleanup action alternatives to enable a cleanup action to be selected for the site. If concentrations of hazardous substances do not exceed the cleanup level at a standard point of compliance, no further action is necessary.~~

~~(b) — **Screening of alternatives.** An initial screening of alternatives to reduce the number of alternatives for the final detailed evaluation may be appropriate. The person conducting the feasibility study may initially propose cleanup action alternatives or components to be screened from detailed evaluation. The department shall make the final determina-~~

~~tion of which alternatives must be evaluated in the feasibility study. The following cleanup action alternatives or components may be eliminated from the feasibility study:~~

~~(i) — Alternatives that, based on a preliminary analysis, the department determines so clearly do not meet the minimum requirements specified in WAC 173-340-360 that a more detailed analysis is unnecessary. This includes those alternatives for which costs are clearly disproportionate under WAC 173-340-360(3)(c); and~~

~~(ii) — Alternatives or components that are not technically possible at the site.~~

~~(c) — **Content.** A feasibility study shall include the following information as appropriate.~~

~~(i) — **General requirements.**~~

~~(A) — The feasibility study shall include cleanup action alternatives that protect human health and the environment (including, as appropriate, aquatic and terrestrial ecological receptors) by eliminating, reducing, or otherwise controlling risks posed through each exposure pathway and migration route.~~

~~(B) — A reasonable number and type of alternatives shall be evaluated, taking into account the characteristics and complexity of the facility, including current site conditions and physical constraints.~~

~~(C) — Each alternative may consist of one or more cleanup action components, including, but not limited to, components that reuse or recycle the hazardous substances, destroy or detoxify the hazardous substances, immobilize or solidify the hazardous substances, provide for on-site or offsite disposal of the hazardous substances in an engineered, lined and monitored facility, on-site isolation or containment of the hazardous substances with attendant engineering controls, and institutional controls and monitoring.~~

~~(D) — Alternatives may, as appropriate, include remediation levels to define when particular cleanup action components will be used. Alternatives may also include different remediation levels for the same component. For example, alternatives that excavate and treat soils at varying concentrations may be appropriate to evaluate. See WAC 173-340-355 for detailed information on establishing potential remediation levels to be evaluated in the feasibility study.~~

~~(E) — If necessary, evaluate the residual threats that would accompany each alternative and determine if remedies that are protective of human health will also be protective of ecological receptors. See subsection (7)(c)(iii)(F) of this section.~~

~~(F) — The feasibility study shall include alternatives with the standard point of compliance for each environmental media containing hazardous substances, unless those alternatives have been eliminated under (b) of this subsection, and may include, as appropriate, alternatives with conditional points of compliance.~~

~~(G) — Each alternative shall be evaluated on the basis of the requirements and the criteria specified in WAC 173-340-360.~~

~~(H) — A preferred cleanup action may be identified in the feasibility study, where appropriate.~~

~~(I) — Other information may be required by the department.~~

~~(ii) — **Permanent alternatives.**~~

~~(A) — Except as provided in (c)(ii)(B) of this subsection, the feasibility study shall include at least one permanent cleanup action alternative, as defined in WAC 173-340-200, to serve as a baseline against which other alternatives shall be evaluated for the purpose of determining whether the cleanup action selected is permanent to the maximum extent practicable. The most practicable permanent cleanup action alternative shall be included.~~

~~(B) — The feasibility study does not need to include a permanent cleanup action alternative under any of the following circumstances:~~

~~(I) — Where a model remedy is the selected cleanup action;~~

~~(II) — Where a permanent cleanup action alternative is not technically possible; or~~

~~(III) — Where the cost of the most practicable permanent cleanup action alternative is so clearly disproportionate that a more detailed analysis is not necessary, as determined through the screening process in (b)(i) of this subsection.~~

~~(9) — **Additional requirements.**~~

~~(a) — **Cleanup levels.** Unless otherwise specified under this chapter, cleanup levels shall be established for hazardous substances in each medium and for each pathway where a release has occurred, using WAC 173-340-700 through 173-340-760. These are typically initially established during the scoping of the remedial investigation and may be further refined during the remedial investigation and/or feasibility study.~~

~~(b) — **Compliance with other laws.** The department may require that a remedial investigation/feasibility study include additional information or analyses to comply with the State Environmental Policy Act or other applicable laws. This includes information necessary to make a threshold determination (see WAC 197-11-335(1)), or information~~

~~necessary to integrate the remedial investigation/feasibility study with an environmental impact statement (see WAC [197-11-262](#)).~~

~~(c) **Treatability studies.** The department may require treatability studies as necessary to provide sufficient information to develop and evaluate cleanup action alternatives for a site.~~

~~(d) **Other information.** Other information may be required by the department.~~

(1) Purpose.²²³ The purpose of a remedial investigation is to adequately characterize a contaminated site, including the distribution of hazardous substances and the threat they pose to human health and the environment,²²⁴ to enable:

(a) Cleanup standards to be established under Part 7 of this chapter; and

(b) Cleanup action alternatives to be developed and evaluated in a feasibility study under WAC 173-340-351.

(2) Applicability.²²⁵

(a) Whether required. A remedial investigation of a contaminated site must be conducted regardless of which administrative option in WAC 173-340-510 is used to conduct remedial action at the site.²²⁶

(b) Requirements. A remedial investigation must comply with the requirements in this section and, as applicable, the following:

(i) For sites where there is a release or threatened release to sediment, the applicable requirements in WAC 173-204-550.²²⁷

(ii) For sites on the national priorities list, the applicable requirements under the federal cleanup law.²²⁸

(3) Timing and phasing.²²⁹

(a) Except as otherwise directed by ecology, a remedial investigation/feasibility study must be completed before cleanup standards are established and a cleanup action is selected.

²²³ Based on split of Section 350, updated purpose of section to focus only on remedial investigations. Consolidated relevant statements of purpose from the current rule.

²²⁴ Clause moved from investigation requirements in former subsection (6).

²²⁵ Added subsection (2) to clarify applicability of the section. Consolidated relevant statements of applicability from the current rule. See additional notes.

²²⁶ Clarified that requirement to conduct a remedial investigation (RI) applies to all contaminated sites, regardless of which administrative option in Section 510 is used to conduct remedial action at the site (Ecology-conducted, Ecology-supervised, or independent). Performing an RI is a substantive requirement, applicable to all sites. Reporting an RI is an administrative requirement, which depends on the administrative option for remedial action.

²²⁷ Added statement clarifying that, for sites threatening sediment, a remedial investigation must comply with the requirements both in this section and in WAC [173-204-550](#).

²²⁸ Moved from former subsection (6).

²²⁹ Consolidated and clarified timing and phasing provisions in former subsections (2), (4), and (7)(a). Also based on WAC [173-204-550](#)(3).

- An emergency remedial action or an interim action may be conducted before a remedial investigation/feasibility study is completed.
- (b)** A remedial investigation/feasibility study may be conducted, or required by ecology to be conducted, for the entire site or for separate parts of a site, such as a sediment cleanup unit as defined in WAC 173-204-505.
- (c)** A remedial investigation/feasibility study may be conducted, or required by ecology to be conducted, as a single step or as separate steps in the cleanup process.
- (d)** A remedial investigation may be conducted, or required by ecology to be conducted, in phases. For example, additional remedial investigation may be necessary to fill data gaps identified in earlier investigations or to determine the applicability of a model remedy at a site.
- (4) Administrative options and requirements.**²³⁰ A remedial investigation may be conducted under any of the administrative options for remedial action described in WAC 173-340-510. Reporting and public participation requirements depend on the administrative option used to conduct remedial action.
- (a) Ecology-conducted or ecology-supervised remedial actions.** For an ecology-conducted or ecology-supervised remedial investigation, ecology will provide or require:
- (i)** A remedial investigation work plan that complies with the requirements in subsection (5)(b) of this section and WAC 173-340-840. For ecology-supervised remedial actions, ecology may require submittal of a work plan for its review and approval;²³¹
- (ii)** A remedial investigation report that complies with the requirements in subsection (5)(g) of this section and WAC 173-340-840. For ecology-supervised remedial actions, ecology may require submittal of a report for its review and approval;²³² and
- (iii)** Public notice of a remedial investigation report in accordance with WAC 173-340-600(13).²³³
- (b) Independent remedial actions.**

²³⁰ Combined and clarified the administrative options and requirements in former subsections (3) through (5), including that the requirements (such as reporting and public participation) depend on the administrative option. Split up the administrative requirements for Ecology-conducted and Ecology-supervised remedial actions and independent remedial actions. See additional notes.

²³¹ Clarified work plan requirements to better reflect both the Ecology-conducted and Ecology-supervised scenarios. Added cross-reference to content requirements in subsection (5)(b) and submittal requirements in Section 840.

²³² Clarified report requirements to better reflect both the Ecology-conducted and Ecology-supervised scenarios. Added cross-reference to content requirements in subsection (5)(b) and submittal requirements in Section 840.

²³³ Made reference to public notice requirements more specific.

- (i) Independent remedial investigations of a site must be reported to ecology in accordance with WAC 173-340-515. Such investigations may need to be reported separately upon completion (see WAC 173-340-515(4)(a)). Reports must include, as appropriate, the information specified in subsection (5)(g) of this section.²³⁴
 - (ii) Ecology will notify the public of an independent investigation report in accordance with WAC 173-340-600(20).²³⁵
 - (5) **Steps.**²³⁶ Except as otherwise directed by ecology, a remedial investigation must be conducted in accordance with the following steps.
 - (a) **Step 1: Identify scope.**²³⁷ Identify the scope of the remedial investigation. The scope depends on many factors, including the nature and extent of contamination, the exposure pathways of concern, the human and ecological receptors potentially impacted by the contamination, the characteristics of the site, the type of cleanup action alternatives likely to be evaluated, and information previously obtained about the site.²³⁸ To determine the scope, do the following:
 - (i) Identify what information is needed about the site to comply with the requirements in (c) of this subsection and chapter 197-11 WAC, the State Environmental Policy Act rules (see WAC 197-11-250);²³⁹
 - (ii) Assemble and evaluate relevant information collected during any prior remedial actions at the site, such as an initial investigation or an interim action. Previously collected information may be relied upon in the investigation to avoid duplication;²⁴⁰ and
 - (iii) Identify what additional information needs to be collected during the investigation.

²³⁴ Added requirement that independent investigations of a site must be reported to Ecology within 90 days of completion. The current rule already requires that independent interim actions and cleanup action be reported to Ecology. For the purposes of this requirement, an investigation is considered complete if no remedial action other than compliance monitoring has occurred at the site for ninety days. This means that an investigation may need to be reported separate from an interim action or cleanup action. This also means that an individual investigation may need to be reported separate from other investigations of the site. See also WAC 173-340-515(4)(a)(i).

²³⁵ Consistent with change to reporting requirement in subsection (4)(b)(i), added requirement that Ecology notify the public of independent investigation reports submitted to Ecology. See also WAC 173-340-515(4)(d).

²³⁶ Restructured the rule to create steps for how to conduct a remedial investigation, including creating separate steps for conducting and reporting investigations. In general, the steps reflect current requirements and practice, and logical flow. Ecology retains discretion to modify steps.

²³⁷ Specified scoping step and distinguished from the work plan development step. The scoping step involves determining what is needed, what is already available, and then what data gaps need to be filled by the RI.

²³⁸ Moved provision regarding what factors may affect scope from former subsection (6).

²³⁹ Clarified role of SEPA in Steps 1 (scoping) and 2 (work plan). You conduct a SEPA preliminary evaluation based on available info. You then determine what additional info, if any, is needed to make SEPA determinations. That info is then collected in the RI.

²⁴⁰ Moved provisions regarding reliance on previously collected information from former subsections (6) and (7)(b)(i).

- (b) Step 2: Develop work plan.**²⁴¹ Develop a remedial investigation work plan to collect and evaluate the information identified in Step 1. If required by ecology under subsection (4)(a)(i) of this section, submit the work plan for ecology’s review and approval.
- (i) Content.**²⁴² Except as otherwise directed by ecology, include the following in the work plan:
- (A)** The scope of the investigation identified in Step 1, including a summary of available information about the site and data gaps needing to be addressed by the investigation.²⁴³
 - (B)** A preliminary conceptual site model, as defined in WAC 173-340-200;²⁴⁴
 - (C)** A target concentration for each hazardous substance in each contaminated environmental medium identified in the preliminary conceptual site model under (b)(i)(B) of this subsection.²⁴⁵
 - (D)** A sampling and analysis plan meeting the requirements in WAC 173-340-820, including the analytical methods that enable detection of the target concentrations identified in (b)(i)(C) of this subsection.²⁴⁶
 - (E)** A health and safety plan meeting the requirements in WAC 173-340-810.²⁴⁷
 - (F)** An inadvertent discovery plan meetings the requirements in WAC 173-340-815.²⁴⁸
 - (G)** Cleanup action alternatives likely to be considered in the feasibility study, based on available information.²⁴⁹

²⁴¹ Specified separate step for developing work plan based on results of scoping in Step 1. Consistent with former subsection (7)(c)(iv) and requirements for sediment-impacted sites in WAC [173-204-550\(4\)](#).

²⁴² Specified work plan contents. Moved from former subsection (7)(c)(iv) and expanded based on work plan requirements for sediment-impacted sites in WAC [173-204-550\(4\)](#). Other updates and clarifications noted.

²⁴³ Based on former (7)(b)(i) and WAC [173-204-550\(4\)\(b\)](#). Clarified that work plan should specify the scope of the investigation.

²⁴⁴ Based on former (7)(b)(ii) and WAC [173-204-550\(4\)\(c\)](#). Replaced duplicative descriptions of a conceptual site model with a reference to the definition in Section 200. Note changes to definition in Section 200.

²⁴⁵ Based on Section 820. See also former subsections (7)(b)(v) and (c)(iv), and WAC [173-204-550\(4\)\(e\)](#). Added target concentrations for sampling activities. Analytical methods specified in the sampling and analysis plan (see (b)(i)(D) of this subsection) need to be able to detect such concentrations.

²⁴⁶ Based on Section 820. See also former subsections (7)(b)(v) and (c)(iv), and WAC [173-204-550\(4\)\(e\)](#).

Emphasized that the sampling and analysis plan must include the analytical methods capable of detecting the target concentrations identified in (b)(i)(C) of this subsection.

²⁴⁷ Based on Section 810. See also former subsection (7)(c)(iv) and WAC [173-204-550\(4\)\(f\)](#).

²⁴⁸ Added requirement to include an inadvertent discovery plan (IDP) meeting the requirements in new Section 815 regarding cultural resources. An IDP will also be required as part of interim action plans and cleanup action implementation plans.

²⁴⁹ Based on former subsection (7)(b)(iv) and WAC [173-204-550\(4\)\(d\)](#).

- (H) Any studies needed to develop or evaluate cleanup action alternatives in the feasibility study, such as treatability or pilot studies.²⁵⁰
- (I) A proposed schedule for completing the remedial investigation/ feasibility study and, if required, submittal of a report for ecology review and approval;²⁵¹ and
- (J) Any other information required by ecology.²⁵²
- (ii) **Flexibility.** The work plan should remain flexible and be streamlined when possible to avoid collection and evaluation of unnecessary information. While it may be appropriate to phase investigations at some sites, ecology encourages expedited investigations. For example, using field screening methods to guide investigations and fast turnaround laboratory analyses to provide real-time feedback may be appropriate at some sites. However, in all cases, sufficient information must be collected and evaluated to meet the purposes in subsection (1) of this section.²⁵³
- (c) **Step 3: Conduct investigation.**²⁵⁴ Conduct the remedial investigation in accordance with the work plan developed in Step 2.
- (d) **Step 4: Complete conceptual site model.**²⁵⁵ Based on the results of the remedial investigation conducted in Step 3 and any previously obtained information about the site, complete the development of a conceptual site model, as defined in WAC 173-340-200.
- (e) **Step 5: Develop proposed cleanup levels.**²⁵⁶ Based on the conceptual site model completed in Step 4, develop a proposed cleanup level for each hazardous substance within each affected environmental medium at the site in accordance with Part 7 of this chapter.
- (f) **Step 6: Determine whether feasibility study is necessary.**²⁵⁷ Based on the results of the remedial investigation conducted in Step 3 and any previously obtained information about the site, determine whether a feasibility study is necessary under WAC 173-340-351(2)(a), including:

²⁵⁰ Based on former subsection (9)(c). See new subsection (6)(j)(iii).

²⁵¹ Based on WAC [173-204-550\(4\)\(g\)](#). Added schedule for submitting RI/FS report to Ecology, if required.

²⁵² Based on former subsection (7)(c)(v) and WAC [173-204-550\(4\)\(h\)](#).

²⁵³ Moved from former subsection (6).

²⁵⁴ Specified step for conducting investigation identified in work plan in Step 2. Separated from step of reporting investigation results. See subsection (6) and related notes for investigation requirements.

²⁵⁵ Specified step for completing conceptual site model (initially developed in Step 2) based on results of investigation conducted in Step 3. The model is needed to develop cleanup levels in Step 5.

²⁵⁶ Specified step for developing proposed cleanup levels based on conceptual site model. Based on former subsections (9) and (7)(c)(iii)(H), and on WAC [173-204-550\(6\)\(c\)](#).

²⁵⁷ Specified step for determining whether feasibility study is necessary based on investigation results. Based on former subsection (8). See new Section 351(2)(a).

- (i) Whether prior remedial actions conducted at the site constitute a permanent cleanup action; and
- (ii) Whether a model remedy may be used as a cleanup action or a cleanup action component at the site.
- (g) Step 7: Report results.**²⁵⁸ Report the results of the remedial investigation in accordance with subsection (4) of this section. Include the following information in the report:
 - (i) General information about the site, including:²⁵⁹
 - (A) Project title;
 - (B) Name, address, and phone number of project coordinator;
 - (C) Legal description and dimensions of the site;
 - (D) Current owners and operators; and
 - (E) Chronological listing of past owners and operators and operational history;
 - (ii) Maps, figures, or diagrams illustrating relevant existing and historic site features, including:²⁶⁰
 - (A) Sources of releases;
 - (B) Property boundaries;
 - (C) Proposed site boundaries, as defined by where hazardous substances exceed the proposed cleanup levels identified in (d)(iv) of this subsection;
 - (D) Surface topography;
 - (E) Surface and subsurface structures;
 - (F) Surface water, wetlands, and undeveloped areas; and
 - (G) Utility lines and well locations;
 - (iii) The conceptual site model completed in Step 4.²⁶¹
 - (iv) The proposed cleanup levels developed in Step 5, including:²⁶²

²⁵⁸ Specified step for reporting investigation results. Separated from conducting investigation step. This subsection specifies the reporting requirements. Edited several provisions to better describe what needs to be documented. Referenced administrative requirements in subsection (4), which depend on the administrative option used.

²⁵⁹ Based on former subsection (7)(c)(i) and WAC [173-204-550\(6\)\(a\)](#).

²⁶⁰ Based on former subsection (7)(c)(ii) and WAC [173-204-550\(6\)\(d\)](#). Added figures and diagrams as additional means of illustrating existing site conditions. Also added relevant historic features.

²⁶¹ Based on former subsection (7)(b)(ii) and WAC [173-204-550\(4\)\(c\)](#) and (7)(a)(i).

- (A) The basis for the proposed cleanup levels; and
 - (B) Any regulatory classifications for, or laws applicable to, each environmental medium (see WAC 173-340-710);
 - (v) A comparison of the proposed cleanup levels developed in Step 5 to the hazardous substance concentrations in each environmental medium;²⁶³
 - (vi) If a feasibility study is determined not to be necessary in Step 6, sufficient documentation to demonstrate the basis of the determination;²⁶⁴
 - (vii) The information collected in Step 3, and any information obtained from prior remedial actions relied on during the investigation. Previously obtained information may be summarized and referenced to avoid unnecessary duplication;²⁶⁵
 - (viii) Documentation of the proper management and disposal of any waste materials generated as a result of the remedial investigations in accordance with applicable state and federal laws;²⁶⁶ and
 - (ix) Any other information required by ecology.²⁶⁷
- (6) Investigations.²⁶⁸ A remedial investigation must collect and evaluate sufficient information about a site and the surrounding area to meet the purposes in subsection (1) of this section, including the following as applicable to the site.
- (a) Hazardous substance sources. Confirmed and suspected releases²⁶⁹ must be investigated to define the location, quantity, areal and vertical extent, concentration within, and sources of hazardous substances. Where relevant, information on the physical and chemical characteristics and the biological effects of hazardous substances must be collected.
 - (b) Soils. Soils must be investigated to adequately characterize:

 - (i) The areal and vertical distribution and concentrations of hazardous substances in soils; and

²⁶² Based on former subsections (9), (7)(b)(iii), and (7)(c)(iii)(H), and on WAC [173-204-550\(6\)\(c\)](#).

²⁶³ Based on former subsections (7)(c)(ii) and (iii), and on WAC [173-204-550\(6\)\(d\)](#) and (e), and (7)(a)(v).

²⁶⁴ Based on feasibility study requirements in former subsection (8) and new Section 351(2)(a).

²⁶⁵ Based on former subsections (6), (7)(b)(i), and (7)(c)(iii), and on WAC [173-204-550\(6\)\(e\)](#).

²⁶⁶ Added requirement that report include documentation of the proper management and disposal of any waste materials generated.

²⁶⁷ Based on former subsection (7)(c)(v) and WAC [173-204-550\(6\)\(h\)](#).

²⁶⁸ Restructured rule to separate out investigation requirements (what one must do) from reporting requirements (what one must report). This subsection specifies investigation requirements under Step 3. Changed the order of provisions in this subsection, starting with the source of the release, to create a more logical flow. Also edited several provisions to better describe what is needed to characterize the site. Substantive changes are noted.

²⁶⁹ For investigations of sources, clarified that both confirmed and suspected releases must be investigated.

- (ii) The properties of surface and subsurface soils that are likely to influence the type and rate of hazardous substance migration or to affect the ability to implement cleanup action alternatives.
- (c) Groundwater, geology, and hydrogeology. Groundwater, geology, and hydrogeology must be investigated to adequately characterize:

 - (i) The areal and vertical distribution and concentrations of hazardous substances in the groundwater;
 - (ii) The geologic features affecting the fate and transport of hazardous substances, such as the type, physical properties (such as permeability, density, and fracture characteristics),²⁷⁰ and distribution of bedrock and unconsolidated materials;
 - (iii) The hydrogeological features affecting the fate and transport of hazardous substances, such as:

 - (A) Groundwater flow direction, rate, and vertical and horizontal gradients for affected and potentially affected groundwater;²⁷¹
 - (B) Groundwater divides;
 - (C) Areas of groundwater recharge and discharge;
 - (D) Areas where groundwater interfaces with surface water;²⁷²
 - (E) Location of public and private water supply wells; and
 - (F) Groundwater quality data; and
 - (iv) The geologic and hydrogeologic features that are likely to affect the ability to implement cleanup action alternatives.²⁷³
- (d) Surface water, sediments, and hydrology.²⁷⁴ Surface water, sediments, and hydrology must be investigated to adequately characterize:

 - (i) The areal and vertical distribution and concentrations of hazardous substances in surface water and sediments;

²⁷⁰ For investigations of geology, added examples of the physical properties of bedrock and unconsolidated materials.

²⁷¹ For investigations of groundwater, emphasized that both horizontal and vertical groundwater flow needs to be identified.

²⁷² Emphasized that investigation of hydrogeological features include, as applicable, areas where groundwater interfaces with surface water. Such migration routes to surface water and sediment must be investigated under subsection (6)(d)(ii)(E).

²⁷³ Added requirement that investigation must include, as applicable, an assessment of the geologic and hydrogeologic features of the site that are likely to affect the ability to implement cleanup action alternatives. This requirement is consistent with the requirement for investigating other environmental media (see, e.g., subsection (6)(b)(ii) regarding soil).

²⁷⁴ For investigations of surface water, sediments, and hydrology, modified requirements to be consistent with changes to WAC [173-204-550\(6\)](#) in 2013.

- (ii) Significant hydrologic features, such as:

 - (A) Surface drainage patterns and quantities;
 - (B) Areas of erosion and sediment deposition, including estimates of sedimentation rates;
 - (C) Surface waters, including flow rates;
 - (D) Floodplains; and
 - (E) Actual or potential hazardous substance migration routes towards and within these features; and
- (iii) The properties of surface and subsurface sediments that are likely to affect the type and rate of hazardous substance migration, the potential for recontamination, or the ability to implement cleanup action alternatives.
- (e) Air and soil vapor.²⁷⁵ The air and soil vapor must be evaluated and, where appropriate, sampled to adequately characterize the potential impacts of vapor migration on subsurface soil gas, on air quality within current and future buildings or other structures, and on outdoor ambient air. Based on contaminant concentrations in soil gas or groundwater, ecology may require expedited sampling of indoor air quality to assess the threat to human health. If the measured indoor air concentrations are higher than applicable cleanup levels, ecology may require an emergency action or an interim action to mitigate the threat to human health.
- (f) Climate.²⁷⁶ Sufficient information, based on best available science, must be collected on current and projected local and regional climatological characteristics to determine which could affect the migration of hazardous substances or the resilience of cleanup action alternatives. Relevant characteristics can include temperature extremes, sea level, seasonal patterns of rainfall, the magnitude and frequency of extreme storm events (such as flooding), the potential for landslides, prevailing wind direction and velocity, variations in barometric pressure, and the potential for wildfires.
- (g) Land and resource use.²⁷⁷ Sufficient information must be collected on the present and proposed land and resource uses, comprehensive plan,²⁷⁸ and zoning for the site and

²⁷⁵ Split former “air” category into two separate categories, one for investigating “air and soil vapor” and the other for investigating “climate.” For investigations of air and soil vapor, added more specific requirements to reflect increased understanding of vapor pathway. The investigation must adequately characterize the potential impacts of vapor migration on subsurface soil gas, on air quality within current and future buildings or other structures, and on outdoor ambient air. Also emphasized that Ecology may require expedited sampling of indoor air quality to assess threats to human health and require emergency action or interim action to mitigate any such threats.

²⁷⁶ For investigations of climate, highlighted the potential impact of climate change on the resilience and long-term effectiveness of cleanup action alternatives. Added specific characteristics relevant to climate change, such as sea level rise and potential for wildfires. Specified that information must be based on best available science.

²⁷⁷ Restructured the requirements for investigating land and resource uses (paragraph (g)), human receptors (paragraph (h)), and ecological receptors (paragraph (i)).

potentially affected areas to determine the exposure or potential exposure of human and ecological receptors, including vulnerable populations and overburdened communities,²⁷⁹ to hazardous substances at the site.

(h) Human receptors. Sufficient information must be collected on human receptors, including vulnerable populations and overburdened communities,²⁸⁰ that are reasonably likely to be exposed or potentially exposed to hazardous substances based on the land and resource uses identified in (g) of this subsection to determine the impact or potential impact of such exposure.

(i) Natural resources and ecological receptors. Sufficient information must be collected on natural resources and ecological receptors that are reasonably likely to be exposed or potentially exposed to hazardous substances based on the land and resource uses identified in (g) of this subsection to determine the impact or potential impact of such exposure. This includes any information needed to conduct a sediment evaluation under chapter 173-204 WAC²⁸¹ and any information needed to conduct a terrestrial ecological evaluation or establish an exclusion under WAC 173-340-7490 through 173-340-7494.

(i) Where appropriate, a terrestrial ecological evaluation may be conducted so as to avoid duplicative studies of soil contamination that will be remediated to address other concerns, such as protection of human health or aquatic ecological receptors. This may be accomplished by evaluating residual threats to the environment after cleanup action alternatives for human health or aquatic ecological protection have been developed. If this approach is used, the remedial investigation may be phased. This approach may not be appropriate at a site where a hazardous substance is primarily an ecological concern and will not obviously be addressed by the cleanup action for the protection of human health, such as zinc; or at a site where the development of a human health based cleanup action is expected to be a lengthy process, and postponing the terrestrial ecological evaluation would cause further harm to the environment.

(ii) If a simplified or site-specific terrestrial ecological evaluation is not required under WAC 173-340-7491, the basis for the determination must be included in the remedial investigation report.

²⁷⁸ Added requirement that investigations of land and resources uses must include information from comprehensive plans on potential future land and resource uses.

²⁷⁹ Emphasized that investigations of land and resource uses must include the uses of vulnerable populations and overburdened communities.

²⁸⁰ Emphasized that investigations of affected human populations must include vulnerable populations and overburdened communities.

²⁸¹ Clarified that investigations of natural resources and ecological receptors must include sufficient information to conduct necessary sediment evaluations under chapter [173-204](#) WAC.

- (j) Feasibility study.**²⁸² Sufficient information must be collected to:
- (i)** Determine whether prior remedial actions at the site constitute a permanent cleanup action and meet the criteria in WAC 173-340-330(5)(a);
 - (ii)** Determine whether a model remedy established by ecology may be used as a cleanup action or a cleanup action component at the site under WAC 173-340-390; and
 - (iii)** Develop and evaluate cleanup action alternatives in the feasibility study under WAC 173-340-351, such as treatability or pilot studies.

²⁸² Added requirement to collect sufficient information to determine whether a feasibility study is necessary and to develop and evaluate cleanup action alternatives in a feasibility study. Based on former subsection (8) and new Section 351(2)(a).

WAC 173-340-351 Feasibility study.²⁸³

(1) Purpose.²⁸⁴ The purpose of the feasibility study is to develop and evaluate cleanup action alternatives to enable the selection of a cleanup action that meets the requirements in WAC 173-340-360 and conforms, as appropriate, to the expectations in WAC 173-340-370.

(2) Applicability.²⁸⁵

(a) Whether required. A feasibility study of cleanup action alternatives must be conducted, regardless of which administrative option in WAC 173-340-510 is used to conduct remedial action,²⁸⁶ except in the following circumstances.²⁸⁷

(i) Permanent cleanup action completed. A feasibility study is not required if prior remedial actions at the site constitute a permanent cleanup action and meet the criteria in WAC 173-340-330(5)(a). To qualify for this exemption, sufficient information must be collected and included in the remedial investigation report to demonstrate the site meets the criteria (see WAC 173-340-350(6)(j)(i) and (5)(f)(i) and (g)(vi)).

(ii) Model remedy selected. A feasibility study is not required to select a model remedy as the cleanup action or as a component of the cleanup action for a site (see WAC 173-340-390). However, a feasibility study is still required to select any remaining cleanup action components for the site. To qualify for this exemption or partial exemption, sufficient information must be collected and included in the remedial investigation report to demonstrate the site meets the conditions established by ecology for using the model remedy (see WAC 173-340-350(6)(j)(ii) and (5)(f)(ii) and (g)(vi)).

(b) Requirements.²⁸⁸ A feasibility study must comply with the requirements in this section and, as applicable, the following:

²⁸³ Split Section 350 into two sections, one focusing on remedial investigations (Section 350) and the other focusing on feasibility studies (Section 351).

²⁸⁴ Based on split of Section 350, updated purpose of Section 351 to focus only on feasibility studies. Merged relevant statements of purpose from the current rule.

²⁸⁵ Added subsection (2) to clarify applicability of the section. Consolidated relevant statements of applicability from the current rule. See additional notes.

²⁸⁶ Clarified that requirement to conduct a feasibility study applies to all contaminated sites, regardless of which administrative option in Section 510 is used to conduct remedial action at the site (Ecology-conducted, Ecology-supervised, or independent). Performing a study is a substantive requirement, applicable to all sites. Reporting a study is an administrative requirement, which depends on the administrative option for remedial action.

²⁸⁷ Consolidated and clarified current exemptions from conducting feasibility study. A study is not required when prior remedial actions constitute a permanent cleanup action or when selecting a model remedy as the cleanup action or a component of a cleanup action. Studies are still required to select any remaining cleanup action components. Sufficient information must be collected and evaluated in the remedial investigation to demonstrate that a study is not required.

²⁸⁸ Duplicated relevant applicability provisions for feasibility studies consistent with those for remedial investigations.

- (i) For sites where there is a release or threatened release to sediment, the applicable requirements in WAC 173-204-550;²⁸⁹ and
 - (ii) For sites on the national priorities list, the applicable requirements under the federal cleanup law.²⁹⁰
- (3) Timing and phasing.²⁹¹**
 - (a) Except as otherwise directed by ecology, a remedial investigation/feasibility study must be completed before cleanup standards are established and a cleanup action is selected. An emergency remedial action or an interim action may be conducted before a remedial investigation/feasibility study is completed.
 - (b) A remedial investigation/feasibility study may be conducted, or required by ecology to be conducted, for the entire site or for separate parts of a site, such as a sediment cleanup unit as defined in WAC 173-204-505.
 - (c) A remedial investigation/feasibility study may be conducted, or required by ecology to be conducted, as a single step or as separate steps in the cleanup process.
 - (d) A feasibility study may be conducted, or required by ecology to be conducted, in phases. For example, additional study may be necessary to evaluate the feasibility of a cleanup action alternative.
- (4) Administrative options and requirements.²⁹²** A feasibility study may be conducted under any of the administrative options for remedial action described in WAC 173-340-510. Reporting and public participation requirements depend on the administrative option used to conduct remedial action.
 - (a) Ecology-conducted or ecology-supervised remedial actions.** For an ecology-conducted or ecology-supervised feasibility study, ecology will provide or require:
 - (i) A feasibility study report that complies with the requirements in subsection (6)(f) of this section and WAC 173-340-840. For ecology-supervised remedial actions, ecology may require submittal of a report for its review and approval;²⁹³ and

²⁸⁹ Clarified that, for sites threatening sediment, a feasibility must comply with the requirements both in this section and in WAC [173-204-550](#).

²⁹⁰ Moved provision from former Section 350(6).

²⁹¹ Duplicated relevant timing and phasing provisions for feasibility studies consistent with those for remedial investigations. See former Sections 350(2), (4), and (7)(a) and WAC [173-204-550](#)(3).

²⁹² Combined and clarified the administrative options and requirements in former Section 350(3) through (5), including that the requirements (such as reporting and public participation) depend on the administrative option. Split up the administrative requirements for Ecology-conducted and Ecology-supervised remedial actions and independent remedial actions. See additional notes.

²⁹³ Clarified report requirements to better reflect both the Ecology-conducted and Ecology-supervised scenarios. Added cross-reference to content requirements in subsection (6)(f) and submittal requirements in Section 840.

- (ii) Public notice of a feasibility study report in accordance with WAC 173-340-600(13).²⁹⁴
- (b) Independent remedial actions. Independent feasibility studies must be reported to ecology in accordance with WAC 173-340-515. Unlike for investigations conducted under WAC 173-340-350, such studies do not need to be reported separately upon completion (see WAC 173-340-515(4)(a)). Reports must include, as appropriate, the information specified in subsection (6)(f) of this section.²⁹⁵
- (5) Scope.²⁹⁶ A feasibility study must adequately evaluate a reasonable number and type of cleanup action alternatives to meet the purposes in subsection (1) of this section.
- (a) The scope of the study depends on many factors, including the nature and extent of contamination, the exposure pathways of concern, the human and ecological receptors potentially impacted by the contamination, the characteristics of the site, the type of cleanup action alternatives being evaluated, and any previous evaluations of cleanup action alternatives.
- (b) The study may rely on previously collected information about the site and previous evaluations of cleanup action alternatives, such as treatability or pilot studies. Such information may be summarized and incorporated by reference in the feasibility study report to avoid unnecessary duplication.
- (6) Steps.²⁹⁷ Except as otherwise directed by ecology, a feasibility study of cleanup action alternatives must be conducted in accordance with the following steps. The study should remain flexible to avoid collecting unnecessary information or conducting unnecessary evaluations.²⁹⁸
- (a) Step 1: Identify cleanup goals.²⁹⁹ Identify the goals for the cleanup action, in addition to compliance with the requirements in WAC 173-340-360. Include any planned future uses of the site.

²⁹⁴ Made reference to public notice requirements more specific.

²⁹⁵ Clarified that, unlike for independent remedial investigations, independent feasibility studies do not need to be reported separately to Ecology upon completion. The studies can be reported together with interim actions or cleanup actions. Also clarified that reports of feasibility studies must include, as appropriate, the information specified in subsection (6)(f).

²⁹⁶ Duplicated relevant scoping provisions for feasibility studies consistent with those for remedial investigations. See former Section 350(6).

²⁹⁷ Restructured the rule to create steps for how to conduct a feasibility study, including creating separate steps for conducting and reporting studies. In general, the steps reflect logical flow and current requirements and practice. Ecology retains discretion to modify steps on site-specific basis.

²⁹⁸ Duplicated relevant streamlining provision for feasibility study consistent with that for remedial investigations. See former Section 350(6).

²⁹⁹ Specified step for identifying goals of the cleanup action apart from meeting the requirements in WAC 173-340-360. The goals include any planned future uses of the site.

- (b) Step 2: Identify alternatives.**³⁰⁰ Identify cleanup action alternatives for evaluation in the study. The alternatives must achieve the goals identified in Step 1 and comply with the requirements in WAC 173-340-360. Include:
- (i)** A reasonable number and type of alternatives, taking into account:
 - (A)** The characteristics and complexity of the site, including current site conditions and physical constraints; and
 - (B)** The threats posed by the site to human health and the environment, including vulnerable populations and overburdened communities;³⁰¹
 - (ii)** At least one permanent cleanup action alternative;
 - (iii)** For each environmental medium, at least one alternative with a standard point of compliance (see Part 7 of this chapter);
 - (iv)** As appropriate, alternatives with a conditional point of compliance for one or more environmental media (see Part 7 of this chapter); and
 - (v)** As appropriate, alternatives relying on a combination of cleanup action components for an environmental medium (such as treatment of some soil contamination and containment of the remainder). The alternatives must specify remediation levels for each component (see WAC 173-340-355).
- (c) Step 3: Screen alternatives and components.**³⁰² Based on a preliminary analysis, eliminate from further evaluation the following cleanup action alternatives or components identified in Step 2:
- (i)** Alternatives that clearly do not meet the requirements for a cleanup action in WAC 173-340-360, including alternatives for which costs are clearly disproportionate to benefits under WAC 173-340-360(5);
 - (ii)** Alternatives or components that are not technically possible at the site.
- (d) Step 4: Evaluate remaining alternatives.**³⁰³ Conduct a detailed evaluation of each remaining cleanup action alternative to determine whether it meets the requirements in WAC 173-340-360 and conforms to the expectations in WAC 173-340-370.³⁰⁴ If necessary, conduct additional remedial investigations under WAC 173-340-350 to

³⁰⁰ Specified step for identifying alternatives. Based on former Section 350(8)(c)(i)(A) through (D) and (F), and (8)(c)(ii).

³⁰¹ Emphasized that the number and type of alternatives needs to account for threats posed by the site, including the threats posed to vulnerable populations and overburdened communities.

³⁰² Specified step for screening alternatives. Based on former Section 350(8)(b).

³⁰³ Specified step for evaluating screened alternatives. Base on former Section 350(8)(c)(i)(G).

³⁰⁴ Added requirement that the cleanup action expectations in Section 370 must be considered when evaluating cleanup action alternatives in the feasibility study. See Section 370. See also related requirement in Step 6 that any non-conformance of the preferred cleanup action alternative to the expectations must be documented and explained in the feasibility study report. See Section 351(6)(f)(vii)(A) and Section 370.

complete the evaluation, including any investigations needed to complete a terrestrial ecological evaluation;³⁰⁵

- (e) Step 5: Select preferred alternative.**³⁰⁶ Based on the detailed evaluation in Step 4, select a preferred cleanup action alternative that meets the requirements in WAC 173-340-360 and conforms, as appropriate, to the expectations in WAC 173-340-370.
- (f) Step 6: Report results.**³⁰⁷ Report the results of the feasibility study in accordance with subsection (4) of this section. Include the following information in the report:
- (i)** If the remedial investigation report is not combined with the feasibility study report, a summary of remedial investigation results, including:³⁰⁸
 - (A)** The conceptual site model used to develop and evaluate cleanup action alternatives;
 - (B)** The proposed cleanup level for each hazardous substance within each affected environmental medium at the site, and the basis for the cleanup level; and
 - (C)** Maps, cross-sections, and calculations illustrating the location, estimated amount, and concentration distribution of hazardous substances above the proposed cleanup levels for each affected environmental medium at the site;
 - (ii)** Results of any additional investigations conducted after completing the remedial investigation report;³⁰⁹
 - (iii)** Results of any treatability or pilot studies needed to develop or evaluate cleanup action alternatives;³¹⁰
 - (iv)** The cleanup goals identified in Step 1 of the feasibility study;³¹¹
 - (v)** The cleanup action alternatives identified in Step 2 of the feasibility study. For each alternative, include:³¹²

³⁰⁵ Moved from former Section 350(8)(c)(i)(E).

³⁰⁶ Moved from former Section 350(8)(c)(i)(H). See note on Step 4 about conformance with cleanup action expectations.

³⁰⁷ Specified step for reporting study results. Restructured rule to separate out study requirements (what one must do) in Steps 3 and 4 from reporting requirements (what one must report) in Step 6. Edited provisions to better describe what needs to be documented. Referenced administrative requirements in subsection (4), which depend on the administrative option used. Substantives changes are noted.

³⁰⁸ Added requirement to include a summary of relevant investigation results if remedial investigation report is not combined with feasibility study report. Based on requirements for sediment-impacted sites in WAC [173-204-550\(7\)\(a\)](#).

³⁰⁹ Based on requirements for reporting remedial investigations in Section 350, and on requirements for sediment-impacted sites in WAC [173-204-550\(7\)\(b\)](#).

³¹⁰ Based on former Section 350(9)(c) and requirements for sediment-impacted sites in WAC [173-204-550\(7\)\(b\)](#).

³¹¹ Added requirement to include cleanup goals identified in Step 1.

- (A) The cleanup action components relied on to clean up each affected environmental medium;
- (B) For alternatives relying on a combination of cleanup action components to clean up an environmental medium, the proposed remediation levels and the basis for those levels;
- (C) The proposed point of compliance for each hazardous substance within each affected environmental medium at the site, and the basis for any conditional points of compliance (see Part 7 of this chapter);
- (D) The location and estimated amount of each hazardous substance to be removed or treated by the alternative and the estimated time frame in which removal or treatment will occur;³¹³ and
- (E) The location, estimated amount, and projected concentration distribution of each hazardous substance remaining above proposed cleanup levels after implementing the alternative;³¹⁴
- (vi) The cleanup action alternatives eliminated from further evaluation during the screening process in Step 3 of the feasibility study, and the basis for elimination;³¹⁵
- (vii) Documentation of the detailed evaluation process in Step 4 of the feasibility study, including how impacts on vulnerable populations and overburdened communities were considered in the evaluation, and the basis for eliminating any alternative from further evaluation;³¹⁶
- (viii) The preferred cleanup action alternative selected in Step 5 of the feasibility study,³¹⁷ including:
 - (A) The basis for selecting the alternative and for any nonconformance to the expectations in WAC 173-340-370;³¹⁸

³¹² Based on former Section 350(8)(c)(i) and requirements for sediment-impacted sites in WAC [173-204-550\(7\)\(c\)](#) through (f).

³¹³ Added requirement to include the location and estimated amount of hazardous substances removed or treated by the alternative and the restoration time frame for the alternative. This information is needed to conduct the required evaluations in the study. Based on requirements for sediment-impacted sites in WAC [173-204-550\(7\)\(f\)\(i\)](#).

³¹⁴ Added requirement to include the location, estimated amount, and projected concentration distribution of each hazardous substance remaining above proposed cleanup levels after implementing the alternative. This information is needed to conduct the required evaluations in the study. Based on requirements for sediment-impacted sites in WAC [173-204-550\(7\)\(f\)\(ii\)](#).

³¹⁵ Based on former Section 350(8)(c)(i) and requirements for sediment-impacted sites in WAC [173-204-550\(7\)\(e\)](#).

³¹⁶ Based on former Section 350(8)(c)(i) and requirements for sediment-impacted sites in WAC [173-204-550\(7\)\(f\)](#). Added requirement to include documentation of how impacts on vulnerable populations and overburdened communities were considered in the evaluation required in Step 4.

³¹⁷ Based on former Section 350(8)(c)(i)(H) and requirements for sediment-impacted sites in WAC [173-204-550\(7\)\(g\)](#), (h), and (k).

- (B) Any local, state, or federal laws applicable to the alternative, including any known permits or approval conditions (see WAC 173-340-710);³¹⁹
- (C) As appropriate, proposed indicator hazardous substances for the alternative (see WAC 173-340-703);³²⁰ and
- (D) Sufficient information about the alternative to enable ecology to conduct the evaluations and make the determinations required under chapter 43.21C RCW, the State Environmental Policy Act, and chapter 197-11 WAC, the State Environmental Policy Act Rules;³²¹
- (ix) Documentation of the proper management and disposal of any waste materials generated as a result of the feasibility study in accordance with applicable state and federal laws;³²² and
- (x) Any other information required by ecology.³²³

³¹⁸ Added requirement to specify any non-conformance of preferred alternative with the expectations for cleanup actions in Section 370 and the basis for such non-conformance. See Section 370.

³¹⁹ Based on former Sections 350(9)(b), (7)(b)(vi), and (7)(c)(iii)(H). Also based on requirements for sediment-impacted sites in WAC [173-204-550\(7\)\(h\)](#).

³²⁰ Added requirement to include any indicator hazardous substances for the preferred alternative.

³²¹ Based on former Sections 350(9)(b) and (7)(b). Also based on requirements for sediment-impacted sites in WAC [173-204-550\(7\)\(h\)](#).

³²² Added requirement to include documentation of the proper management and disposal of any waste materials generated by study.

³²³ Specified that report include any other information required by ecology. Based on former subsection (7)(c)(v) and WAC [173-204-550\(7\)\(l\)](#).

WAC 173-340-355 Development of cleanup action alternatives that include remediation levels.

- (1) **Purpose.**³²⁴ A cleanup action ~~selected for a site will~~ often ~~involve~~ relies on a combination of cleanup action components to remediate an environmental medium, such as ~~For example, to remediate soil, a cleanup action may rely on~~ treatment of some soil contamination and containment of the remainder. ~~Remediation levels are used to identify the concentrations (or other methods of identification) of hazardous substances at which different cleanup action components will be used. (See the definition of remediation level in WAC 173-340-200.) Remediation levels may be used at sites where a combination of cleanup actions components are used to achieve cleanup levels at the point of compliance (see the examples in subsection (3)(a) and (c) of this section). Remediation levels may also be used at sites where the cleanup action involves the containment of soils as provided under WAC 173-340-740(6)(f) and at sites conducting interim actions (see the examples in subsection (3)(b) and (d) of this section). The purpose of a remediation level is to specify when the various components are used as part of a cleanup action.~~
- (2) **Applicability.**³²⁵ Remediation levels must be established as part of a cleanup action if the cleanup action relies on a combination of cleanup action components to remediate an environmental medium.
- (3) **Types.**³²⁶ Remediation levels may be based on a concentration (e.g., all soil above a specified concentration will be treated), or other method of identification, such as the physical appearance or location of the contamination (e.g., all of the green sludge will be removed from the northwest quadrant of the site).
- (4) **Development.**³²⁷ Remediation levels must be developed and evaluated as part of a cleanup action alternative during the feasibility study conducted under WAC 173-340-351. Quantitative or qualitative methods may be used to develop remediation levels. The methods may include a human health or ecological risk assessment. The methods may also consider fate and transport issues. The methods may be simple or complex, as appropriate to the site. Where a quantitative risk assessment is used, see WAC 173-340-357.
- ~~(2)(5)~~ **Relationship to cleanup levels and cleanup standards.** Remediation levels are not the same as cleanup levels or cleanup standards.
- (a) A cleanup level defines the concentration of a hazardous substances above which a contaminated environmental medium (e.g., such as soil) must be remediated in some manner (e.g., such as treatment, containment, or institutional controls). A remediation

³²⁴ Refocused subsection (1) on just the purpose of remediation levels and made clarifying edits. Deleted duplicative statements included elsewhere in the section.

³²⁵ In new subsection (2), consolidated discussion of the applicability of remediation levels from subsection (1) and former subsection (4). Corrected statement to say that remediation levels must be used when a cleanup action relies on a combination of cleanup action components.

³²⁶ In new subsection (3), moved discussion of types of remediation levels from former subsection (4) and made clarifying edits.

³²⁷ In new subsection (4), moved discussion of development of remediation levels from former subsection (4) and made clarifying edits.

level, on the other hand, defines the concentration (or other method of identification) of a hazardous substance in a particular an environmental medium above or below at which a particular cleanup action component (~~e.g., such as soil treatment versus or~~ containment) will be used.³²⁸ Remediation levels, by definition, exceed cleanup levels.

(b) ~~Cleanup levels must be established for every site. Remediation levels, on the other hand, may not be necessary at a site. Whether remediation levels are necessary depends on the cleanup action selected. For example, remediation levels would not be necessary if the selected cleanup action removes for offsite disposal all soil that exceeds the cleanup level at the applicable points of compliance.~~ must be established only if a cleanup action relies on a combination of cleanup action components to remediate an environmental medium.³²⁹

(c) ~~A~~ Cleanup actions, including those that relying on uses remediation levels a combination of cleanup action components to remediate an environmental medium, must meet each of the ~~minimum~~ requirements ~~specified~~ in WAC 173-340-360, including ~~the requirement that all cleanup actions must comply~~ compliance with cleanup standards. ~~Compliance with cleanup standards requires, in part, that cleanup levels are met at the applicable points of compliance. If the~~ a remedial action does not comply with cleanup standards, the remedial action is an interim action, not a cleanup action. ~~Where a cleanup action involves containment of soils with hazardous substance concentrations exceeding cleanup levels at the point of compliance, the cleanup action may be determined to comply with cleanup standards, provided the requirements specified in WAC 173-340-740 (6)(f) are met.~~³³⁰

(3)(6) Examples.³³¹ The following examples of cleanup actions that use remediation levels are for illustrative purposes only. All cleanup action alternatives in a feasibility study, including those ~~with proposed~~ using remediation levels, must be evaluated to determine whether they meet each of the ~~minimum~~ requirements ~~specified~~ in WAC 173-340-360 ~~(see WAC 173-340-360 (2)(h)). This evaluation requires, in part, a determination that a more permanent cleanup action is not practicable, based on the disproportionate cost analysis in WAC 173-340-360 (3)(e).~~³³²

(a) Example of a site meeting soil cleanup levels at the point of compliance. Assume ~~that~~ the soil cleanup level for a hazardous substance at a site is 20 ppm. This means any soil exceeding 20 ppm at the applicable point of compliance must be remediated. Further assume ~~that~~ the cleanup action ~~alternative determined to comply with the minimum requirements in WAC 173-340-360 and selected for the site~~ consists of soil treatment and removal and a remediation level of 100 ppm to define when those two components are used. ~~Under the cleanup standard, any soil that exceeds the 20 ppm cleanup level at the applicable point of compliance must be remediated in some manner. Under the~~

³²⁸ Corrected statement to say “at” instead of “above or below.” Since remediation levels are not always concentrations, one can’t always say “above or below.”

³²⁹ Clarified by focusing on when remediation levels are required, not on when they are not required.

³³⁰ Clarified by eliminating more detailed and unnecessary explanations that distract from main point.

³³¹ Clarified all examples in subsection (6). No changes were made to the substance of the examples.

³³² Clarified by eliminating more detailed and unnecessary explanations that distract from main point.

~~selected cleanup action, any soil that exceeds the 100 ppm remediation level must be removed and treated. Any soil that does not exceed the 100 ppm remediation level, but exceeds the 20 ppm cleanup level, must be removed and landfilled.~~ treating soil above 100 ppm and removing to an offsite landfill soil between 100 and 20 ppm. In this case, 100 ppm is a remediation level that defines which soil will be treated and which soil will be removed from the site. The cleanup action may be determined to comply with the cleanup standard because the 20 ppm soil cleanup level is met at the applicable point of compliance.

- (b) Example of a site not meeting soil cleanup levels at the point of compliance.** Assume ~~that~~ the soil cleanup level for a hazardous substance at a site is 20 ppm. This means any soil exceeding 20 ppm at the applicable point of compliance must be remediated.

Further assume ~~that~~ the cleanup action ~~alternative determined to comply with the minimum requirements in WAC 173-340-360 and selected for the site~~ consists of soil treatment and containment and a remediation level of 100 ppm to define when those two components are used. ~~Under the cleanup standard, any soil that exceeds the 20 ppm cleanup level at the applicable point of compliance must be remediated in some manner. Under the selected cleanup action, any soil that exceeds the 100 ppm remediation level must be treated. Any soil that does not exceed the 100 ppm remediation level, but exceeds the 20 ppm cleanup level, must be contained. Residual contamination above the cleanup level will remain at the site. However, assuming~~ treating soil above 100 ppm and containing soil between 100 and 20 ppm. The 100 ppm concentration is a remediation level that defines which soil will be treated and which soil will be contained at the site. Even though contamination above the 20 ppm cleanup level remains at the site, if the cleanup action meets the requirements specified in WAC 173-340-740(6)(f) for soil containment actions, the cleanup action may be determined to comply with cleanup standards.

- (c) Example of site meeting groundwater cleanup levels at the point of compliance.**

Assume ~~that~~ the groundwater cleanup level for a hazardous substance at a site is 500 ug/l and ~~that~~ a conditional point of compliance is established at the property boundary. This means any groundwater exceeding 500 ug/l at the point of compliance must be remediated. Further assume ~~that~~ the cleanup action ~~alternative determined to comply with the minimum requirements in WAC 173-340-360 and selected for the site~~ consists of: Removing the source of the groundwater contamination (e.g., removal of such as removing a leaking tank and associated soil contamination above the water table); extracting free product and any groundwater exceeding a concentration of 2,000 ug/l; and utilizing natural attenuation to restore the groundwater to 500 ug/l before it arrives at the property boundary. The groundwater concentration of 2,000 ug/l concentration constitutes is a remediation level because it that defines the concentration of a hazardous substance at which different cleanup action components are used which groundwater will be actively treated and which groundwater will be naturally attenuated at the site. As long as the groundwater meets the 500 ug/l cleanup level at the conditional point of compliance ~~(the property boundary)~~, the cleanup action may be determined to comply with cleanup standards.

(d) **Example of a site not meeting groundwater cleanup levels at the point of compliance.** Assume ~~that~~ the groundwater cleanup level at a site is 5 ug/l and ~~that~~ a conditional point of compliance is established at the property boundary. This means any groundwater exceeding 5 ug/l at the point of compliance must be remediated. Further assume ~~that~~ the remedial action selected for the site consists of: Vapor extraction of the soil to nondetectable concentrations (to prevent further groundwater contamination); extraction and treatment of groundwater with concentrations in excess of 100 ug/l; and installation of an air stripping system to treat groundwater at a water supply well beyond the property boundary to less than 5 ug/l. Further assume ~~that~~ the groundwater cleanup level will not be met at the conditional point of compliance (the property boundary). The ~~groundwater~~ concentration of 100 ug/l ~~constitutes~~ is a remediation level ~~because it that~~ defines the concentration of a hazardous substance at which different cleanup action components are used. However, ~~in this example, the remedial action does not constitute a cleanup action because it does not comply with cleanup standards, one of the minimum requirements for cleanup actions in WAC 173-340-360. Consequently,~~ which groundwater will be treated on site. In this example, the remedial action is ~~considered~~ an interim action, not a cleanup action, until ~~because it does not comply with cleanup standards (that is, it does not achieve the 5 ug/l cleanup level is attained at the conditional point of compliance (the property boundary)).~~ because it does not comply with cleanup standards (that is, it does not achieve the 5 ug/l cleanup level is attained at the conditional point of compliance (the property boundary)).

~~(4) — **General requirements.** ³³³ Potential remediation levels may be developed as part of the cleanup action alternatives to be considered during the feasibility study (see WAC 173-340-350 (8)(c)(i)(D)). These potential remediation levels may be defined as either a concentration or other method of identification of a hazardous substance. Other methods of identification include physical appearance or location (e.g., all of the green sludge will be removed from the northern area of the site). Quantitative or qualitative methods may be used to develop these potential remediation levels. These methods may include a human health risk assessment or an ecological risk assessment. These methods may also consider fate and transport issues. These methods may be simple or complex, as appropriate to the site. Where a quantitative risk assessment is used, see WAC 173-340-357. All cleanup action alternatives in a feasibility study, including those with proposed remediation levels, must still be evaluated to determine whether they meet each of the minimum requirements specified in WAC 173-340-360 (see WAC 173-340-360(2)(h)).~~

³³³ Broke up former subsection (4) and moved provisions to new subsections (2), (3), and (4).

WAC 173-340-357 Quantitative risk assessment of cleanup action alternatives.

- (1) **Purpose.**³³⁴ A cleanup action must protect human health and the environment, including vulnerable populations and overburdened communities (see WAC 173-340-360(3)(a)(i)).³³⁵ A quantitative site-specific risk assessment may be used to help determine whether cleanup action alternatives, including those using ~~relying on a remediation level~~, engineered ~~control and/or~~ institutional controls to limit exposure to contamination remaining at a site, are protective of protect human health and the environment.³³⁶ ~~If a quantitative site-specific risk assessment is used, then other considerations may also be needed in evaluating the protectiveness of the overall cleanup action. Methods other than a quantitative site-specific risk assessment~~ Other methods may also be used in addition to, or instead of, a quantitative site-specific risk assessment to determine if whether a cleanup action alternative is protective ~~of~~ human health and the environment.
- ~~(2) **Relationship to selection of cleanup actions.**³³⁷ -Selecting a cleanup action requires a determination that each of the requirements specified in WAC 173-340-360 is met, including the requirement that the cleanup action is protective of human health and the environment. A quantitative risk assessment conducted under this section may be used to help determine whether a particular cleanup action alternative meets this requirement. A determination that a cleanup action alternative evaluated is protective of human health and the environment does not mean that the other minimum requirements specified in WAC 173-340-360 have been met.~~
- ~~(3)~~**(2) Protection of hHuman health risk assessment.** A quantitative site-specific human health risk assessment may be used to help determine whether cleanup action alternatives, including those ~~using relying on a remediation level~~, engineered ~~control and/or~~ institutional controls to limit exposure, are protective of protect human health. This subsection defines the framework for assessing cleanup action alternatives relying on engineered or institutional controls to limit exposure.³³⁸ ~~For the purpose of this assessment, the default assumptions in the standard Method B and C equations in WAC 173-340-720 through 173-340-750 may be modified as provided for under modified Method B and C. In addition to those modifications, adjustments to the reasonable maximum exposure scenario or default exposure assumptions may also be made. See WAC 173-340-708(3)(d) and (10)(b).~~³³⁹ References to Method C in this subsection apply to a an environmental medium only if the ~~particular~~ medium for which the a remediation level is being established ~~for~~ qualifies for a Method C cleanup level under WAC 173-340-706.

³³⁴ Merged former subsection (2), relationship to cleanup action requirements, with subsection (1), purpose of quantitative risk assessments, and simplified.

³³⁵ Emphasized, as in the referenced cleanup action requirement, that cleanup actions must protect vulnerable populations and overburdened communities.

³³⁶ Clarified statements in subsection (1) and elsewhere in this section that quantitative risk assessments may be used to assess the protectiveness of cleanup action alternatives relying on engineered or institutional controls to limit exposure (such as containment). Eliminated reference to remediation levels in these statements since they only define when different cleanup action components are used as part of a cleanup action (such as when contaminated material must be removed versus contained).

³³⁷ Merged former subsection (2) into subsection (1), and simplified. See note on subsection (1).

³³⁸ Clarified purpose of requirements in this subsection.

³³⁹ Eliminated duplicative statements repeated in (a) and (b) of this subsection.

- (a) **Reasonable maximum exposure.** Standard reasonable maximum exposures and corresponding Method B and C equations in WAC 173-340-720 through 173-340-750 may be modified as provided under WAC 173-340-708(3)(d). For example, land uses other than residential and industrial may be used as the basis for an alternative reasonable maximum exposure scenario for the purpose of assessing the protectiveness of a cleanup action alternative that ~~uses~~relies on a remediation level, engineered ~~control, and~~or institutional controls (such as containment) to limit exposure to contaminated soil.
- (b) **Exposure parameters.** Exposure parameters for the standard Method B and C equations in WAC 173-340-720 through 173-340-750 may be modified as provided in WAC 173-340-708(10).
- (c) **Acceptable risk level.** The acceptable risk level ~~for~~used to establish a remediation levels ~~for a hazardous substance shall~~must be the same as that used ~~for~~to establish the cleanup level for the substance.³⁴⁰
- (d) **Soil to groundwater pathway.** The methods specified in WAC 173-340-747 to develop soil concentrations that are protective of groundwater beneficial uses may also be used ~~during remedy selection~~to help assess whether the protectiveness to human health of a cleanup action alternative that ~~uses a remediation level, relies on~~ engineered ~~control, and~~or institutional controls (such as soil containment) will protect groundwater.³⁴¹
- (e) **Burden of proof, new science, and quality of information.** Any modification of the default assumptions in the standard Method B and C equations, including modification of the standard reasonable maximum exposures and exposure parameters, or any modification of default assumptions or methods specified in WAC 173-340-747 requires compliance with WAC 173-340-702(14), (15) and (16).
- (f) **Commercial gas station scenario.**³⁴² At active commercial gas stations, where there are retail sales of gasoline or diesel, one of the following may be done to demonstrate when a cap is protective of the soil ingestion and dermal pathways:
- (i) ~~At active commercial gas stations, where there are retail sales of gasoline and/or diesel,~~ Equations 740-3 and 740-5 may be ~~used with~~modified by ~~reducing~~ the exposure frequency ~~reduced to 0.25 to demonstrate when a cap is protective of the soil ingestion and dermal pathways.~~ This ~~scenario~~exposure frequency is intended to be a conservative estimate of a child trespasser scenario at a commercial gas station where contaminated soil has been excavated and stockpiled or soil is otherwise accessible. ~~Sites using remediation levels~~To rely on this exposure frequency:
- (A) The cleanup action must also use~~include~~ institutional controls ~~to that~~ prevent uses that could result in a higher level of exposure; and

³⁴⁰ Edited for clarity. No changes are intended.

³⁴¹ Clarified what is being protected, which is groundwater.

³⁴² Edited for clarity. No changes are intended.

(B) ~~assess the protectiveness for o~~Other exposure pathways (e.g., soil vapors and soil to groundwater) must be assessed to determine whether they are protective; or

(ii) Equations 740-3 and 740-5 may ~~also~~ be modified on a site-specific basis as described in WAC 173-340-740(3)(c).

~~(4)~~**(3) Protection of the environment**Ecological risk assessment.³⁴³ A quantitative site-specific ecological risk assessment may be ~~conducted~~used to help determine whether cleanup action alternatives, including those ~~using~~relying on a remediation level, engineered ~~control and/or~~ institutional controls to limit exposure, ~~are protective of~~protect the environment.

³⁴³ Edited for clarity. No changes are intended.

WAC 173-340-360 **Selection of cleanup actions requirements.**

- (1) **Purpose.** ~~This section describes the minimum requirements and procedures for selecting cleanup actions. This section is intended to be used in conjunction with the administrative principles for the overall cleanup process in WAC 173-340-130; the requirements and procedures in WAC 173-340-350 through 173-340-357 and WAC 173-340-370 through 173-340-390; and the cleanup standards defined in WAC 173-340-700 through 173-340-760.~~ This section specifies requirements for cleanup actions and the procedures for determining whether a cleanup action alternative meets those requirements.
- (2) **Applicability.**³⁴⁴ A cleanup action at a contaminated site must comply with the requirements in this section, regardless of which administrative option in WAC 173-340-510 is used to conduct remedial action at the site.³⁴⁵
- (a) **Sediment sites and sediment cleanup units.** For sites where there is a release or threatened release to sediment, a cleanup action must also comply with the applicable requirements in WAC 173-204-570.³⁴⁶
- (b) **National priorities list sites.** For sites on the national priorities list, a cleanup action must also comply with applicable requirements under the federal cleanup law.³⁴⁷
- ~~(2)(3) **Minimum requirements for cleanup actions.**~~³⁴⁸ All cleanup actions ~~shall~~ must meet all of the following requirements in this subsection. ~~Because~~ When a cleanup actions ~~will often involve the use of several~~ includes more than one cleanup action components at a single site, the overall cleanup action ~~shall~~ must meet the requirements of this section in this subsection. The department Ecology recognizes that some of the requirements contain flexibility and ~~will~~ require the use of professional judgment in determining how to apply them at a particular sites.
- ~~(a) **Threshold requirements.** The cleanup action shall:~~
- ~~(i) **Protect human health and the environment;**~~³⁴⁹
- ~~(ii) **Comply with cleanup standards (see WAC 173-340-700 through 173-340-760);**~~³⁵⁰

³⁴⁴ Added subsection (2) to clarify applicability of the section, which specifies cleanup action requirements.

³⁴⁵ Clarified that the cleanup action requirements in this section apply to all contaminated sites, regardless of which administrative option in Section 510 is used to conduct remedial action at the site (Ecology-conducted, Ecology-supervised, or independent).

³⁴⁶ Clarified that, for sites threatening sediment, a cleanup action must also comply with the applicable requirements in WAC [173-204-570](#).

³⁴⁷ Clarified that, for sites listed on the federal National Priorities List, a cleanup action must also comply with applicable requirements under the federal cleanup law. This clarification parallels provisions included in Section 350 for remedial investigations and Section 351 for feasibility studies.

³⁴⁸ Restructured the list of cleanup action requirements in subsection (3). General requirements are listed in (a) of this subsection. Action-specific requirements are listed in (b) of this subsection. Media-specific requirements are listed in (c) of this subsection. Edited some provisions to better describe the requirement. Substantive changes to the list of requirements are noted.

³⁴⁹ Moved to new subsection (3)(a)(i).

- ~~(iii) — Comply with applicable state and federal laws (see WAC 173-340-710);³⁵¹ and~~
- ~~(iv) — Provide for compliance monitoring (see WAC 173-340-410 and 173-340-720 through 173-340-760).³⁵²~~
- ~~(b) — **Other requirements.** When selecting from cleanup action alternatives that fulfill the threshold requirements, the selected action shall:
 - ~~(i) — Use permanent solutions to the maximum extent practicable (see subsection (3) of this section);³⁵³~~
 - ~~(ii) — Provide for a reasonable restoration time frame (see subsection (4) of this section);³⁵⁴ and~~
 - ~~(iii) — Consider public concerns (see WAC 173-340-600).³⁵⁵~~~~
- ~~(c) — **Groundwater cleanup actions.**
 - ~~(i) — Permanent groundwater cleanup actions.³⁵⁶ A permanent cleanup action shall be used to achieve the cleanup levels for groundwater in WAC 173-340-720 at the standard point(s) of compliance (see WAC 173-340-720(8)) where a permanent cleanup action is practicable or determined by the department to be in the public interest.~~
 - ~~(ii) — Nonpermanent groundwater cleanup actions.³⁵⁷ Where a permanent cleanup action is not required under (c)(i) of this subsection, the following measures shall be taken:
 - ~~(A) — Treatment or removal of the source of the release shall be conducted for liquid wastes, areas contaminated with high concentrations of hazardous substances, highly mobile hazardous substances, or hazardous substances that cannot be reliably contained. This includes removal free product consisting of petroleum and other light nonaqueous phase liquid (LNAPL) from the groundwater using normally accepted engineering practices. Source containment may be appropriate when the free product consists of a dense nonaqueous phase liquid (DNAPL) that cannot be recovered after reasonable efforts have been made.~~
 - ~~(B) — Groundwater containment, including barriers or hydraulic control through groundwater pumping, or both, shall be implemented to the~~~~~~

³⁵⁰ Moved to new subsection (3)(a)(ii).

³⁵¹ Moved to new subsection (3)(a)(iii).

³⁵² Moved to new subsection (3)(a)(vi).

³⁵³ Moved to new subsection (3)(a)(x).

³⁵⁴ Moved to new subsection (3)(a)(ix).

³⁵⁵ Moved to new subsection (3)(d).

³⁵⁶ Moved to new subsection (3)(c)(ii).

³⁵⁷ Moved to new subsection (3)(c)(iii).

~~maximum extent practicable to avoid lateral and vertical expansion of the groundwater volume affected by the hazardous substance.~~

~~(d) Cleanup actions for soils at current or potential future residential areas and for soils at schools and child care centers.³⁵⁸ For current or potential future residential areas and for schools and child care centers, soils with hazardous substance concentrations that exceed soil cleanup levels must be treated, removed, or contained. Property qualifies as a current or potential residential area if:~~

~~(i) The property is currently used for residential use; or~~

~~(ii) The property has a potential to serve as a future residential area based on the consideration of zoning, statutory and regulatory restrictions, comprehensive plans, historical use, adjacent land uses, and other relevant factors.~~

~~(e) Institutional controls.~~

~~(i) Cleanup actions shall use institutional controls and financial assurances when required under WAC 173-340-440.³⁵⁹~~

~~(ii) Cleanup actions that use institutional controls shall meet each of the minimum requirements specified in this section, just as any other cleanup action.³⁶⁰ Institutional controls should demonstrably reduce risks to ensure a protective remedy. This demonstration should be based on a quantitative scientific analysis where appropriate.³⁶¹~~

~~(iii) In addition to meeting each of the minimum requirements specified in this section, cleanup actions shall not rely primarily on institutional controls and monitoring where it is technically possible to implement a more permanent cleanup action for all or a portion of the site.³⁶²~~

~~(f) Releases and migration. Cleanup actions shall prevent or minimize present and future releases and migration of hazardous substances in the environment.³⁶³~~

~~(g) Dilution and dispersion. Cleanup actions shall not rely primarily on dilution and dispersion unless the incremental costs of any active remedial measures over the costs of dilution and dispersion grossly exceed the incremental degree of benefits of active remedial measures over the benefits of dilution and dispersion.³⁶⁴~~

³⁵⁸ Moved to new subsection (3)(c)(i).

³⁵⁹ Moved to new subsection (3)(b)(ii) and (iii).

³⁶⁰ Eliminated duplicative statement in former subsection (2)(e)(ii) that cleanup actions using institutional controls need to meet cleanup requirements in Section 360.

³⁶¹ Eliminated guidance in former subsection (2)(e)(ii) about using quantitative, scientific analysis to evaluate whether institutional controls demonstrably reduce risks.

³⁶² Moved to new subsection (3)(a)(vii).

³⁶³ Moved to new subsection (3)(a)(iv).

³⁶⁴ Moved to new subsection (3)(a)(viii).

- ~~(h) — **Remediation levels.**³⁶⁵ Cleanup actions that use remediation levels shall meet each of the minimum requirements specified in this section, just as any other cleanup action.~~
- ~~(i) — Selection of a cleanup action alternative that uses remediation levels requires, in part, a determination that a more permanent cleanup action is not practicable, based on the disproportionate cost analysis (see subsections (2)(b)(i) and (3) of this section).~~
- ~~(ii) — Selection of a cleanup action alternative that uses remediation levels also requires a determination that the alternative meets each of the other minimum requirements specified in this section, including a determination that the alternative is protective of human health and the environment.~~
- (a) General requirements.** A cleanup action must:
- (i) Protect human health and the environment,**³⁶⁶ including vulnerable populations and overburdened communities,³⁶⁷
- (ii) Comply with cleanup standards (see Part 7 of this chapter);**³⁶⁸
- (iii) Comply with applicable state and federal laws (see WAC 173-340-710);**³⁶⁹
- (iv) Prevent or minimize present and future releases and migration of hazardous substances in the environment,**³⁷⁰
- (v) Provide resilience to climate change impacts that have a high likelihood of occurring and severely compromising its long-term effectiveness,**³⁷¹
- (vi) Provide for compliance monitoring (see WAC 173-340-410 and Part 7 of this chapter);**³⁷²
- (vii) Not rely primarily on institutional controls and monitoring at a site, or portion thereof, if it is technically possible to implement a more permanent cleanup action;**³⁷³

³⁶⁵ Replaced with new subsection (3)(b)(i), which references applicable requirements about when remediation levels are needed and how they may be developed. Eliminates duplicative statements that cleanup actions using remediation levels need to meet cleanup requirements in Section 360.

³⁶⁶ Moved from former subsection (2)(a)(i).

³⁶⁷ Emphasized that cleanup actions must protect vulnerable populations and overburdened communities.

³⁶⁸ Moved from former subsection (2)(a)(ii).

³⁶⁹ Moved from former subsection (2)(a)(iii).

³⁷⁰ Moved from former subsection (2)(f).

³⁷¹ Separated climate resilience requirement from existing protectiveness requirement in former subsection (2)(a)(i). Specified that a cleanup action must be resilient to climate change impacts that have a high likelihood of occurring and severely compromising its long-term effectiveness. Under subsection (5), climate resilience has also been separated out as an explicit factor when evaluating the relative long-term effectiveness of a cleanup action alternative in the disproportionate cost analysis.

³⁷² Moved from former subsection (2)(a)(iv).

³⁷³ Moved from former subsection (2)(e)(iii).

- (viii) Not rely primarily on dilution and dispersion unless the incremental costs of any active remedial measures over the costs of dilution and dispersion grossly exceed the incremental degree of benefits of active remedial measures over the benefits of dilution and dispersion. Determine the benefits and costs using the criteria in subsection (5)(d) of this section.³⁷⁴
- (ix) Provide for a reasonable restoration time frame (see subsection (4) of this section).³⁷⁵ and
- (x) Use permanent solutions to the maximum extent practicable (see subsection (5) of this section).³⁷⁶
- (b) Action-specific requirements.** As applicable, a cleanup action must:

 - (i) Use remediation levels in accordance with WAC 173-340-355;³⁷⁷
 - (ii) Use institutional controls in accordance with WAC 173-340-440;³⁷⁸
 - (iii) Provide financial assurances in accordance with WAC 173-340-440(11);³⁷⁹ and
 - (iv) Provide for periodic reviews in accordance with WAC 173-340-420(2).³⁸⁰
- (c) Media-specific requirements.**

 - (i) A soil cleanup action must treat, remove, or contain contaminated soils located on properties:

 - (A) Where a school or child care center is located;
 - (B) That qualify as a residential area based on current use; or
 - (C) That qualify as a potential future residential area based on zoning, statutory and regulatory restrictions, comprehensive plans, historical use, adjacent land uses, and other relevant factors.³⁸¹

³⁷⁴ Moved from former subsection (2)(g). Clarified that the benefits and costs that must be considered in the evaluation are the same as those considered in the disproportionate cost analysis under subsection (5).

³⁷⁵ Moved from former subsection (2)(b)(ii).

³⁷⁶ Moved from former subsection (2)(b)(i).

³⁷⁷ Moved from former subsection (2)(h). Clarified requirement about proper use of remediation levels as part of a cleanup action. Referenced applicable requirements about when remediation levels are needed and how they may be developed. Deleted duplicative statements that cleanup actions using remediation levels need to meet cleanup requirements in this section.

³⁷⁸ Moved from former subsection (2)(e)(i). Referenced applicable requirements in Section 440 about when institutional controls are needed and how they may be developed. Deleted duplicative statements in former subsection (2)(e)(ii) that cleanup actions using institutional controls need to meet cleanup requirements in this section.

³⁷⁹ Moved from former subsection (2)(e)(i). Separated the financial assurance requirement from the institutional control requirement. Referenced applicable requirements about financial assurances in Section 440.

³⁸⁰ Incorporated existing requirement in Section 420 that a cleanup action must provide for periodic reviews under specified circumstances. This is consistent with requirements for sediment-impacted sites in WAC [173-204-570\(3\)\(k\)](#).

- (ii) A groundwater cleanup action must be permanent (achieve groundwater cleanup levels at the standard point of compliance without further remedial action being required) if:

 - (A) Such an action is practicable; or
 - (B) Ecology determines such an action is in the public interest.³⁸²
- (iii) A nonpermanent groundwater cleanup action must:

 - (A) Treat or remove the source of groundwater contamination at sites where there are liquid wastes, areas contaminated with high concentrations of hazardous substances, highly mobile hazardous substances, or hazardous substances that cannot be reliably contained. This includes removal of free product consisting of petroleum and other light nonaqueous phase liquid (LNAPL) from the groundwater using normally accepted engineering practices. Source containment may be appropriate when the free product consists of a dense nonaqueous phase liquid (DNAPL) that cannot be recovered after reasonable efforts have been made;
 - (B) Contain contaminated groundwater to the maximum extent practicable to prevent lateral and vertical expansion of the groundwater volume affected by the hazardous substances and to prevent the migration of the hazardous substances. This includes barriers or hydraulic control through groundwater pumping, or both; and
 - (C) Provide an alternate water supply or treatment if the cleanup action does not protect an existing use of the groundwater. A cleanup action is not protective of an existing use if a hazardous substance concentration exceeds the protective groundwater concentration for that use.³⁸³
- (d) **Public concerns and tribal rights and interests.**³⁸⁴ For ecology-conducted or ecology-supervised remedial actions, ecology will consider the following when selecting a cleanup action:

³⁸¹ Moved from former subsection (2)(d) and edited for clarity. No changes are intended.

³⁸² Moved from former subsection (2)(c)(i) and edited for clarity. No changes are intended.

³⁸³ Moved from former subsection (2)(c)(ii). Edited paragraphs (A) and (B) for clarity. In paragraph (C), added requirement that alternative water supplies or treatment must be provided if the cleanup action does not protect an existing groundwater use.

³⁸⁴ Moved from former subsection (2)(b)(iii) the requirement to consider public concerns. Separated out consideration of tribal rights and interests. Clarified that requirement applies to only Ecology-conducted and Ecology-supervised remedial actions, not independent remedial actions. Also clarified how public concerns and tribal rights and interests are identified, which is through the public participation process under Section 600(13) and (14) and the tribal engagement process under new Section 620, not through some other process.

- (i) Public concerns, including the concerns of vulnerable populations and overburdened communities, identified under WAC 173-340-600(13) and (14); and
- (ii) Indian tribes' rights and interests identified under WAC 173-340-620.

~~(3) Determining whether a cleanup action uses permanent solutions to the maximum extent practicable.³⁸⁵~~

- ~~(a) Purpose.³⁸⁶ This subsection describes the requirements and procedures for determining whether a cleanup action uses permanent solutions to the maximum extent practicable, as required under subsection (2)(b)(i) of this section. A determination that a cleanup action meets this one requirement does not mean that the other minimum requirements specified in subsection (2) of this section have been met. To select a cleanup action for a site, a cleanup action must meet each of the minimum requirements specified in subsection (2) of this section.~~
- ~~(b) General requirements.³⁸⁷ When selecting a cleanup action, preference shall be given to permanent solutions to the maximum extent practicable. To determine whether a cleanup action uses permanent solutions to the maximum extent practicable, the disproportionate cost analysis specified in (c) of this subsection shall be used. The analysis shall compare the costs and benefits of the cleanup action alternatives evaluated in the feasibility study. The costs and benefits to be compared are the evaluation criteria identified in (f) of this subsection.~~
- ~~(c) Permanent cleanup action defined.³⁸⁸ A permanent cleanup action or permanent solution is defined in WAC 173-340-200.~~
- ~~(d) Selection of a permanent cleanup action.³⁸⁹ A disproportionate cost analysis shall not be required if the department and the potentially liable persons agree to a permanent cleanup action that will be identified by the department as the proposed cleanup action in the draft cleanup action plan.~~
- ~~(e) Disproportionate cost analysis.³⁹⁰
 - ~~(i) Test. Costs are disproportionate to benefits if the incremental costs of the alternative over that of a lower cost alternative exceed the incremental degree of benefits achieved by the alternative over that of the other lower cost alternative.~~~~

³⁸⁵ Moved entire subsection to subsection (5) and restructured. See notes on subsection (5).

³⁸⁶ Except for last two sentences, moved to subsection (5)(a). See notes there. Deleted last two sentences that duplicate general requirement in Section 360 that all cleanup actions must meet the requirements in this section.

³⁸⁷ Except for first sentence, consolidated in subsection (5)(c). See notes there. Deleted first sentence that duplicates requirement in the first sentence of former subsection (3)(b) that a cleanup action must use permanent solutions to the maximum extent practicable.

³⁸⁸ Consolidated in subsection (5)(a). See notes there.

³⁸⁹ Moved to subsection (5)(b). See notes there.

³⁹⁰ Consolidated in subsection (5)(c). See notes there.

~~(ii) Procedure.~~

~~(A) The alternatives evaluated in the feasibility study shall be ranked from most to least permanent, based on the evaluation of the alternatives under (f) of this subsection and the definition of permanent solution in (c) of this subsection.~~

~~(B) The most practicable permanent solution evaluated in the feasibility study shall be the baseline cleanup action alternative against which cleanup action alternatives are compared. If no permanent solution has been evaluated in the feasibility study, the cleanup action alternative evaluated in the feasibility study that provides the greatest degree of permanence shall be the baseline cleanup action alternative.~~

~~(C) The comparison of benefits and costs may be quantitative, but will often be qualitative and require the use of best professional judgment. In particular, the department has the discretion to favor or disfavor qualitative benefits and use that information in selecting a cleanup action. Where two or more alternatives are equal in benefits, the department shall select the less costly alternative provided the requirements of subsection (2) of this section are met.~~

~~(f) Evaluation criteria.³⁹¹ The following criteria shall be used to evaluate and compare each cleanup action alternative when conducting a disproportionate cost analysis under (c) of this subsection to determine whether a cleanup action is permanent to the maximum extent practicable.~~

~~(i) Protectiveness. Overall protectiveness of human health and the environment, including the degree to which existing risks are reduced, time required to reduce risk at the facility and attain cleanup standards, on-site and offsite risks resulting from implementing the alternative, and improvement of the overall environmental quality.~~

~~(ii) Permanence. The degree to which the alternative permanently reduces the toxicity, mobility or volume of hazardous substances, including the adequacy of the alternative in destroying the hazardous substances, the reduction or elimination of hazardous substance releases and sources of releases, the degree of irreversibility of waste treatment process, and the characteristics and quantity of treatment residuals generated.~~

~~(iii) Cost. The cost to implement the alternative, including the cost of construction, the net present value of any long-term costs, and agency oversight costs that are cost recoverable. Long-term costs include operation and maintenance costs, monitoring costs, equipment replacement costs, and the cost of maintaining institutional controls. Cost estimates for treatment technologies~~

³⁹¹ Moved to subsection (5)(d). See notes there.

~~shall describe pretreatment, analytical, labor, and waste management costs. The design life of the cleanup action shall be estimated and the cost of replacement or repair of major elements shall be included in the cost estimate.~~

- ~~(iv) — **Effectiveness over the long term.** Long-term effectiveness includes the degree of certainty that the alternative will be successful, the reliability of the alternative during the period of time hazardous substances are expected to remain on-site at concentrations that exceed cleanup levels, the magnitude of residual risk with the alternative in place, and the effectiveness of controls required to manage treatment residues or remaining wastes. The following types of cleanup action components may be used as a guide, in descending order, when assessing the relative degree of long-term effectiveness: Reuse or recycling; destruction or detoxification; immobilization or solidification; on-site or offsite disposal in an engineered, lined and monitored facility; on-site isolation or containment with attendant engineering controls; and institutional controls and monitoring.~~
- ~~(v) — **Management of short-term risks.** The risk to human health and the environment associated with the alternative during construction and implementation, and the effectiveness of measures that will be taken to manage such risks.~~
- ~~(vi) — **Technical and administrative implementability.** Ability to be implemented including consideration of whether the alternative is technically possible, availability of necessary offsite facilities, services and materials, administrative and regulatory requirements, scheduling, size, complexity, monitoring requirements, access for construction operations and monitoring, and integration with existing facility operations and other current or potential remedial actions.~~
- ~~(vii) — **Consideration of public concerns.** Whether the community has concerns regarding the alternative and, if so, the extent to which the alternative addresses those concerns. This process includes concerns from individuals, community groups, local governments, tribes, federal and state agencies, or any other organization that may have an interest in or knowledge of the site.~~

(4) Determining whether a cleanup action provides for a reasonable restoration time frame.

- (a) Purpose.** The restoration time frame is the period of time needed for a cleanup action to achieve cleanup levels at the point of compliance (see WAC 173-340-200).³⁹² This subsection ~~describes~~ specifies the requirements and procedures for determining whether a cleanup action alternative provides for a reasonable restoration time frame, as required under subsection ~~(2)(b)(ii)~~(3)(a)(ix) of this section. ~~A determination that a cleanup action meets this one requirement does not mean that the other minimum requirements specified in subsection (2) of this section have been met. To select a~~

³⁹² Added reference to definition of “restoration time frame” in Section 200.

~~cleanup action for a site, a cleanup action must meet each of the minimum requirements specified in subsection (2) of this section.~~³⁹³

(b) Applicability.³⁹⁴

(i) Whether evaluation required.³⁹⁵ An evaluation of whether a cleanup action alternative provides a reasonable restoration time frame must be conducted unless a model remedy is selected as the cleanup action. The evaluation must be conducted regardless of which administrative option in WAC 173-340-510 is used to conduct remedial action at the site.

(ii) Evaluation requirements.³⁹⁶

(A) For restoration of environmental media other than sediment, the evaluation must be conducted in accordance with this subsection;

(B) For restoration of sediment, the evaluation must be conducted in accordance with WAC 173-204-570(5).

~~(b)(c)~~ **FactorsEvaluation.** To determine whether a cleanup action alternative provides for a reasonable restoration time frame, the following factors ~~to~~must be considered~~include the following~~ at a minimum:

(i) Potential risks posed by the site to human health and the environment, including vulnerable populations and overburdened communities;³⁹⁷

(ii) Practicability of achieving a shorter restoration time frame; A restoration time frame is not reasonable if an active remedial measure with a shorter restoration time frame is practicable;³⁹⁸

(iii) Long-term effectiveness of the alternative. A longer restoration time frame may be reasonable if the alternative has a greater degree of long-term effectiveness than one that primarily relies on on-site or offsite disposal, isolation, or containment;³⁹⁹

~~(iii)~~**(iv)** Current use of the site, surrounding areas, and associated resources that are, or may be, affected by releases from the site;

³⁹³ Deleted statements that duplicate the general requirement in Section 360 that all cleanup actions must meet the requirements in this section.

³⁹⁴ Added (b) of this subsection to clarify applicability of subsection. See additional notes.

³⁹⁵ Clarified applicability of whether a restoration time frame evaluation is required. The evaluation is not required if a model remedy is selected as the cleanup action. This applicability is the same as for the larger feasibility study in which the evaluation would occur.

³⁹⁶ Clarified applicability of restoration time frame evaluation requirements in this section to sediment. The requirements in this subsection apply only to environmental media other than sediment. The evaluation requirements applicable to sediment are specified in WAC [173-204-570\(5\)](#).

³⁹⁷ Emphasized that one must consider the potential risks posed by the site to the health and environment of vulnerable populations and overburdened communities when evaluating the reasonableness of time frame.

³⁹⁸ Integrated as part of the evaluation from former subsection (4)(f). No change is intended.

³⁹⁹ Integrated as part of the evaluation from former subsection (4)(c). No change is intended.

- ~~(iv)~~(v) Potential future use of the site, surrounding areas, and associated resources that are, or may be, affected by releases from the site;
 - ~~(v)~~(vi) Availability of alternative water supplies;
 - ~~(vi)~~(vii) Likely effectiveness and reliability of institutional controls;
 - (viii) Ability to control and monitor migration of hazardous substances from the site;
 - ~~(viii)~~(ix) Toxicity of the hazardous substances at the site; ~~and~~
 - ~~(ix)~~(x) Natural processes that reduce concentrations of hazardous substances and have been documented to occur at the site or under similar site conditions; and
 - (xi) For ecology-conducted or ecology-supervised remedial actions, public concerns identified under WAC 173-340-600(13) and (14) and Indian tribes' rights and interests identified under WAC 173-340-620.⁴⁰⁰
- ~~(c)~~ ~~— A longer period of time may be used for the restoration time frame for a site to achieve cleanup levels at the point of compliance if the cleanup action selected has a greater degree of long term effectiveness than on site or offsite disposal, isolation, or containment options.~~⁴⁰¹
- ~~(d)~~(d) Cleanup levels below area background concentrations.⁴⁰² ~~When~~ At sites where area background concentrations (see, as defined in WAC 173-340-200 for definition), would result in recontamination of the site to levels that exceed cleanup levels;
- (i) The remedial action must achieve area background concentrations within a reasonable restoration time frame, as determined under (c) of this subsection;
 - (ii) ~~that portion of the cleanup action which addresses cleanup~~ Cleaning up the site below area background concentrations may be delayed until the off-site sources of hazardous substances are controlled; and
 - (iii) ~~In these cases t~~ The remedial action shall be considered is an interim action until cleanup levels are attained.
- ~~(e)~~(e) Cleanup levels below technically possible concentrations.⁴⁰³ ~~At sites W~~ where cleanup levels determined under Method C in WAC 173-340-706 are below concentrations that are technically possible ~~concentrations to achieve;~~
- (i) The remedial action must achieve concentrations that are technically possible to achieve ~~shall be met~~ within a reasonable restoration time frame, ~~considering the factors in subsection (b)~~ as determined under (c) of this subsection; and

⁴⁰⁰ Based on requirement in Section 360(3)(d), clarified how public concerns and tribal rights and interests must be considered when determining whether the restoration time frame for a cleanup action alternative is reasonable.

⁴⁰¹ Integrated this requirement as part of the evaluation in (b)(iii) of this subsection.

⁴⁰² Added header and edited provision for clarity. No changes are intended.

⁴⁰³ Added header and edited provision for clarity. No changes are intended.

~~(ii)~~ ~~In these cases,~~ The remedial action ~~shall be considered~~ is an interim action until cleanup levels are attained.

~~(f)~~ ~~Extending the restoration time frame shall not be used as a substitute for active remedial measures, when such actions are practicable.~~⁴⁰⁴

(5) Determining whether a cleanup action uses permanent solutions to the maximum extent practicable.⁴⁰⁵

(a) Purpose.⁴⁰⁶ This subsection specifies the requirements and procedures for determining whether a cleanup action uses permanent solutions to the maximum extent practicable, as required under RCW 70A.305.030(1) and subsection (3)(a)(x) of this section.⁴⁰⁷ A permanent cleanup action or permanent solution is defined in WAC 173-340-200.⁴⁰⁸

(b) Applicability.⁴⁰⁹ The evaluation required under this subsection must be conducted unless a permanent cleanup action alternative or a model remedy is selected as the cleanup action. The evaluation must be conducted regardless of which administrative option in WAC 173-340-510 is used to conduct the cleanup action.

(c) Procedure.⁴¹⁰ To determine which cleanup action alternative included in the feasibility study uses permanent solutions to the maximum extent practicable, do the following:

(i) Step 1: Determine the benefits and costs of each cleanup action alternative using the criteria in (d) of this subsection.

(A) The estimation and comparison of benefits and costs may be quantitative, but will often be qualitative and require the use of best professional judgment.

(B) On a site-specific basis, ecology may weight the criteria in (d) of this subsection and favor or disfavor qualitative benefit and cost estimates in the analysis.⁴¹¹

⁴⁰⁴ Integrated this requirement as part of the evaluation in (b)(ii) of this subsection.

⁴⁰⁵ Moved entire subsection from former subsection (3), and then restructured and edited for clarity. See additional notes for changes.

⁴⁰⁶ Moved from subsection (3)(a). Eliminated last two sentences in former subsection (3)(a) that duplicate the general requirement that all cleanup actions must meet the requirements in this section. Other changes noted.

⁴⁰⁷ Added reference to statutory requirement and updated reference to regulatory requirement in this section. Eliminated first sentence of former subsection (3)(b) that duplicates this general requirement.

⁴⁰⁸ Moved reference to definition of permanent cleanup action in Section 200 from former subsection (3)(c).

⁴⁰⁹ Moved from former subsection (3)(d) and expanded to clarify the applicability of the evaluation. Clarified that the evaluation is not required if a permanent cleanup action or a model remedy is selected as the cleanup action. Emphasized that the applicability of the evaluation does not depend on the administrative option in Section 510 used to conduct remedial action at the site (Ecology-conducted, Ecology-supervised, or independent).

⁴¹⁰ Restructured and clarified the requirements and procedures for how to determine whether a cleanup action alternative uses permanent solutions to the maximum extent practicable. Consolidated provisions from former subsections (3)(b) and (e). Established distinct procedural steps. Expanded descriptions of Steps 3 and 4. See additional notes.

- (C) For ecology-conducted or ecology-supervised remedial actions, when determining or weighting the benefits in (d) of this subsection, ecology will also consider:

 - (I) Public concerns identified under WAC 173-340-600(13) and (14); and
 - (II) Indian tribes' rights and interests identified under WAC 173-340-620.⁴¹²
- (ii) **Step 2:** Rank the cleanup action alternatives by degree of permanence. To determine the relative permanence of an alternative, consider the definition of a permanent cleanup action in WAC 173-340-200 and the criteria in (d)(ii) of this subsection.
- (iii) **Step 3:** Identify the initial baseline alternative for use in the disproportionate cost analysis in Step 4.⁴¹³

 - (A) If the feasibility study includes only one permanent cleanup action alternative, use that alternative as the initial baseline.
 - (B) If the feasibility study includes more than one permanent cleanup action alternative, determine which permanent cleanup action alternative is the most cost-effective (that is, the alternative with the lowest cost per degree of benefit) and use it as the initial baseline. Eliminate from further evaluation the less cost-effective permanent cleanup action alternatives.⁴¹⁴
 - (C) If all permanent cleanup action alternatives are eliminated from evaluation in the feasibility study during the screening process in WAC 173-340-350(7)(c)(iii), use the most permanent cleanup action alternative identified in Step 2 as the initial baseline.

⁴¹¹ Clarified that Ecology has the discretion to both weight the benefit and cost criteria and favor or disfavor qualitative benefit and cost estimates in the analysis.

⁴¹² Based on requirement in Section 360(3)(d), added requirement that, for Ecology-conducted or Ecology-supervised remedial actions, one must consider both public concerns and tribal rights and interests both when determining and when weighting each of the five benefit criteria (protectiveness, permanence, long-term effectiveness, management of short-term risks, and implementability). This requirement replaces the separate "public concerns" disproportionate cost analysis criterion in former subsection (3)(f)(vii).

⁴¹³ For Step 3, clarified how the initial baseline alternative is identified based on three scenarios. Added the first and most obvious scenario, which is where there is only one permanent alternative. The second and third scenarios (multiple permanent alternatives and no permanent alternative) are discussed in the current rule. Except as noted, no changes are intended.

⁴¹⁴ Changed and clarified the standard for selecting the initial baseline when the feasibility study includes more than one permanent alternative from "most practicable" to "most cost-effective" (lowest cost per degree of benefit).

- (iv) Step 4:** Conduct a disproportionate cost analysis of the ranked list of cleanup action alternatives identified in Step 2. Use the cleanup action alternative identified in Step 3 as the initial baseline for the analysis.⁴¹⁵
- (A) Analysis.** To conduct the analysis, do the following:
- (I)** First, compare the costs and benefits of the baseline alternative with the costs and benefits of the next most permanent alternative; and
- (II)** Second, determine whether the incremental costs of the baseline alternative over the next most permanent alternative are disproportionate to⁴¹⁶ the incremental degree of benefits of the baseline alternative over the next most permanent alternative.
- (B) Decision.** Based on the results of the analysis, do the following:
- (I)** If the incremental costs are not disproportionate⁴¹⁷ to the incremental degree of benefits, then the baseline alternative uses permanent solutions to the maximum extent practicable and the analysis under this subsection is complete.
- (II)** If the benefits of the two alternatives are the same or similar, then the lower cost alternative uses permanent solutions to the maximum extent practicable and the analysis under this subsection is complete.
- (III)** If the incremental costs are disproportionate⁴¹⁸ to the incremental degree of benefits, then eliminate the baseline alternative from further analysis and make the next most permanent alternative the baseline for further analysis. Repeat Step 4. However, if the new baseline is the least permanent alternative on the ranked list of alternatives identified in Step 2, that alternative uses permanent solutions to the maximum

⁴¹⁵ For Step 4, clarified and expanded the description of how one uses a disproportionate cost analysis to determine which alternative is permanent to the maximum extent practicable. Outlined three possible outcomes for each iteration of the analysis, including any next steps. Except as noted, no changes are intended.

⁴¹⁶ Changed the wording of the disproportionate cost analysis test to clarify intent. We propose just relying on the term “disproportionate” instead of defining that term more precisely to mean “exceed,” as in the current rule, or “substantially exceed,” as some had proposed. Both definitions of “disproportionate” are problematic. The term “exceed,” which could mean just 1 cent, does not reflect the inherent difficulty and uncertainty in estimating and comparing costs and benefits. The term “substantially exceed” arguably changes the test altogether, allowing Ecology in some cases to select a more permanent alternative when its incremental costs clearly exceed its incremental benefits.

⁴¹⁷ See note above about use of term “disproportionate.”

⁴¹⁸ See note above about use of term “disproportionate.”

extent practicable and the analysis under this subsection is complete.

- (d) Criteria.**⁴¹⁹ When conducting a disproportionate cost analysis under this subsection, use the following criteria to evaluate and compare the costs and benefits of each cleanup action alternative:
- (i) Protectiveness.** The degree to which the alternative protects human health and the environment, including vulnerable populations and overburdened communities.⁴²⁰ When assessing protectiveness, consider at least the following:
- (A)** The degree to which the alternative reduces existing risks;
- (B)** The time required for the alternative to reduce risks at the site and attain cleanup standards;
- (C)** The on-site and offsite risks remaining after implementing the alternative,⁴²¹ and
- (D)** Improvement of the overall environmental quality;
- (ii) Permanence.** The degree to which the alternative permanently reduces the toxicity, mobility, or mass of, or exposure to,⁴²² hazardous substances, including:
- (A)** The adequacy of the alternative in destroying the hazardous substances;
- (B)** The reduction or elimination of hazardous substance releases and sources of releases;
- (C)** The degree of irreversibility of waste treatment process; and
- (D)** The characteristics and quantity of treatment residuals generated;
- (iii) Effectiveness over the long term.** The degree to which the alternative is likely to be effective over the long term, including for vulnerable populations and overburdened communities.⁴²³

⁴¹⁹ Moved from former subsection (3)(f). Restructured the order of the criteria to group five benefit criteria together. Replaced the former “public concerns” criterion in former subsection (3)(f)(vii) with a requirement in new Section 360(5)(c)(i)(C) that one must consider both public concerns and tribal rights and interests when determining and weighting each of the five benefit criteria (protectiveness, permanence, long-term effectiveness, management of short-term risks, and implementability). Changes to the other criteria are noted.

⁴²⁰ Emphasized that, when assessing the protectiveness of a cleanup action, one must consider impacts on vulnerable populations and overburdened communities.

⁴²¹ Clarified that the referenced risks are those remaining after implementing the alternative, not those created by constructing and implementing the alternative. Management of cleanup risks is addressed under the criterion in subsection (5)(d)(iv).

⁴²² Removed “volume” and added “exposure” as a factor that must be considered when assessing the permanence of a cleanup action alternative.

⁴²³ Emphasized that, when assessing the long-term effectiveness of a cleanup action, one must consider impacts on vulnerable populations and overburdened communities.

(A) Factors. When assessing the long-term effectiveness of the alternative, consider at least the following:

- (I)** The degree of certainty that the alternative will be successful;
- (II)** The reliability of the alternative during the period of time hazardous substances are expected to remain on-site at concentrations that exceed cleanup levels;
- (III)** The resilience of the alternative to climate change impacts;⁴²⁴
- (IV)** The magnitude of residual risk with the alternative in place; and
- (V)** The effectiveness of controls required to manage treatment residues or remaining wastes.

(B) Hierarchy. Except as provided for sediment sites and cleanup units in WAC 173-204-570(4),⁴²⁵ when assessing the relative degree of long-term effectiveness of cleanup action components, the following types of components may be used as a guide, in descending order:

- (I)** Reuse or recycling;
- (II)** Destruction or detoxification;
- (III)** Immobilization or solidification;
- (IV)** On-site or offsite disposal in an engineered, lined and monitored facility;
- (V)** On-site isolation or containment with attendant engineering controls; and
- (VI)** Institutional controls and monitoring;

(iv) Management of implementation risks.⁴²⁶ The risks to human health and the environment, including vulnerable populations and overburdened communities,⁴²⁷ associated with the alternative during construction and implementation, and the effectiveness of the alternative to manage such risks;

(v) Technical and administrative implementability. The ability to implement the alternative, including consideration of:

⁴²⁴ Clarified that, when assessing long-term effectiveness of a cleanup action alternative, you must consider the resilience of the alternative to climate change.

⁴²⁵ Clarified that, when assessing the relative degree of long-term effectiveness of cleanup action components for sediment sites or cleanup units, you must use the hierarchy of components provided in WAC [173-204-570\(4\)\(b\)](#) as a guide instead of the hierarchy provided in this rule.

⁴²⁶ Clarified the header to better describe what risks are considered under this criterion, which are the implementation risks.

⁴²⁷ Emphasized that, when assessing the short-term risks of a cleanup action during construction and implementation, one must consider impacts on vulnerable populations and overburdened communities.

- (A) The technical difficulty of designing, constructing, and otherwise implementing the alternative in a reliable and effective manner, regardless of cost.⁴²⁸
- (B) The availability of necessary offsite facilities, services, and materials;
- (C) Administrative and regulatory requirements;
- (D) Scheduling, size, and complexity;
- (E) Monitoring requirements;
- (F) Access for construction operations and monitoring; and
- (G) Integration with existing facility operations and other current or potential remedial actions; and
- (vi) Costs.⁴²⁹ The costs of remedial actions necessary to implement the alternative, including:
 - (A) Construction costs, such as preconstruction engineering design and permitting, physical construction (including labor, equipment, materials, and contingencies), waste management and disposal, compliance monitoring during construction (including sampling and analysis), construction management, establishment of institutional controls, regulatory oversight, and quality assurance and quality control; and
 - (B) Postconstruction costs, such as operation and maintenance activities necessary to maintain the effectiveness of a constructed cleanup action component, waste management and disposal, replacement or repair of equipment (including labor, equipment, and materials), permit renewal, compliance monitoring (including sampling and analysis), maintaining institutional controls, financial assurances, periodic reviews, postconstruction management, and regulatory oversight.
 - (I) Design life. Estimate the design life of cleanup action components, including engineered controls. If the period of time in which a component is needed exceeds the design life of the component, include the cost of replacing or repairing the component in the cost estimate.⁴³⁰

⁴²⁸ Clarified that one should consider the relative technical difficulty of implementing an alternative, not just whether the alternative is technically possible. Alternatives that are clearly technically impossible are screened out in Step 3 of the feasibility study (see Section 351(6)(c)). “Technically possible” is defined in Section 200.

⁴²⁹ Restructured the description of the cost criterion. Expanded and clarified the types of construction and post-construction costs that may be considered as part of the analysis. Clarified that costs are limited to those necessary to implement the cleanup action alternative.

⁴³⁰ Clarified when the costs of replacing or repairing a cleanup action component, including engineered controls, must be included in the cost estimate.

(II) Future costs.⁴³¹ Future costs may be discounted using present worth analysis. When discounting future costs, do the following:

- Estimate future costs using an appropriate construction cost index; and
- Discount future costs using the current U.S. Treasury nominal interest rate for bonds of comparable maturity to the period of analysis. If project costs exceed 30 years, use the current U.S. Treasury 30-year nominal interest rate.

⁴³¹ Retained option to discount future costs. Added requirements governing the use of present worth analysis to estimate future costs. When discounting future costs, we propose relying on the U.S. Treasury interest rate. Given that we require consideration of inflation when estimating future costs, we also clarified that the nominal (as opposed to real) interest rate should be used. We declined to allow use of the discount rate used by the person conducting the cleanup because the analysis is focused on the community impacted (net social benefit), not the person conducting the cleanup. Otherwise, the cleanup action selected (and the extent to which environmental harms are reduced) would depend on who happens to be conducting the cleanup.

WAC 173-340-370 Cleanup action ~~Expectations for cleanup action alternatives.~~

~~The department has the following expectations for the development of cleanup action alternatives under WAC 173-340-350 and the selection of cleanup actions under WAC 173-340-360. These expectations represent the types of cleanup actions the department considers likely results of the remedy selection process described in WAC 173-340-350 through 173-340-360; however, the department recognizes that there may be some sites where cleanup actions conforming to these expectations are not appropriate. Also, selecting a cleanup action that meets these expectations shall not be used as a substitute for selecting a cleanup action under the remedy selection process described in WAC 173-340-350 through 173-340-360.~~ Ecology has the following expectations for cleanup actions. The expectations represent the likely results of the cleanup action selection process described in WAC 173-340-350 through 173-340-390. Ecology recognizes that conformance with the expectations may not be appropriate at some sites. Selecting a cleanup action conforming to the expectations is not a substitute for conducting a feasibility study. The expectations must be considered when evaluating cleanup action alternatives in the feasibility study. Any nonconformance of the preferred cleanup action alternative to the expectations must be documented and explained in the feasibility study report.⁴³²

- (1) ~~The department~~Ecology expects that treatment technologies will be emphasized at sites containing liquid wastes, areas contaminated with high concentrations of hazardous substances, highly mobile materials, and/or discrete areas of hazardous substances that lend themselves to treatment.
- (2) To minimize the need for long-term management of contaminated materials, ~~the department~~ecology expects that all hazardous substances will be destroyed, detoxified, and/or removed to concentrations below cleanup levels throughout sites containing small volumes of hazardous substances.
- (3) ~~The department~~Ecology recognizes the need to use engineering controls, such as containment, for sites or portions of sites that contain large volumes of materials with relatively low levels of hazardous substances where treatment is impracticable.
- (4) ~~In order t~~To minimize the potential for migration of hazardous substances, ~~the department~~ecology expects that active measures will be taken to prevent precipitation and subsequent runoff from coming into contact with contaminated soils and waste materials. When such measures are impracticable, such as during active cleanup, ~~the department~~ecology expects that site runoff will be contained and treated prior to release from the site.
- (5) ~~The department~~Ecology expects that when hazardous substances remain on-site at concentrations ~~which exceed~~ing cleanup levels, those hazardous substances will be consolidated to the maximum extent practicable where needed to minimize the potential for direct contact and migration of hazardous substances;.

⁴³² Clarified the use of Ecology's expectations for cleanup actions as part of the feasibility study. The expectations represent the likely results of the study. Added explicit requirement that the cleanup action expectations in Section 370 must be considered when evaluating cleanup action alternatives in the feasibility study (see Section 351(6)(d)). Also added explicit requirement that any non-conformance of the preferred cleanup action alternative to the expectations must be documented and explained in the feasibility study report (see Section 351(6)(f)(viii)(A)).

- (6) ~~The department~~Ecology expects that, ~~for facilities adjacent to a surface water body,~~ active measures will be taken to prevent/minimize releases to surface water or sediment via surface runoff and groundwater discharges in excess of cleanup levels. ~~The department~~Ecology expects that dilution will not be the sole method for demonstrating compliance with cleanup standards in these instances.
- (7) ~~The department~~Ecology expects that natural attenuation of hazardous substances may be appropriate at sites where:
- (a) Source control (including removal and/or treatment of hazardous substances) has been conducted to the maximum extent practicable;
 - (b) Leaving contaminants on-site during the restoration time frame does not pose an unacceptable threat to human health or the environment;
 - (c) There is evidence that natural biodegradation or chemical degradation is occurring and will continue to occur at a reasonable rate at the site; and
 - (d) Appropriate monitoring requirements are conducted to ensure that the natural attenuation process is taking place and that human health and the environment are protected.
- (8) ~~The department~~Ecology expects that cleanup actions conducted under this chapter will not result in a significantly greater ~~overall~~long-term threat to human health and the environment from hazardous substances, either at the site being cleaned up or at another site involved with the cleanup action, than other cleanup action alternatives.⁴³³

⁴³³ Clarified the expectation by focusing on the long-term threat posed by contamination either at the site or another site involved with the cleanup action. Examples include removing contaminated soil and taking it to a poorly designed or operated landfill that already has contamination issues; taking the waste to a poorly operated treatment facility; pumping contaminated groundwater and discharging it without adequate treatment to a location where exposure is more likely; spreading the waste out in a field to dilute the concentration and contaminating a much larger area.

WAC 173-340-380 Cleanup action plan.

- (1) Purpose.**⁴³⁴ The purpose of a cleanup action plan is to document the selected cleanup action and to specify the cleanup standards and other requirements the cleanup action must meet.
- (2) Applicability.**⁴³⁵
- (a) Whether required.** A cleanup action must be selected and a cleanup action plan must be developed regardless of which administrative option in WAC 173-340-510 is used to conduct remedial action at the site.⁴³⁶
- (b) Requirements.** A cleanup action plan must comply with the requirements in this section. For sites where there is a release or threatened release to sediment, a cleanup action plan must also comply with the applicable requirements in WAC 173-204-575.⁴³⁷
- (3) Timing.**⁴³⁸ Except as otherwise directed by ecology, a remedial investigation/feasibility study must be completed before cleanup standards are established and a cleanup action is selected. An emergency remedial action or an interim action may be conducted before a cleanup action is selected.
- (4) Administrative options and requirements.**⁴³⁹ A cleanup action may be selected and a cleanup action plan may be developed under any of the administrative options for remedial action described in WAC 173-340-510. Reporting and public participation requirements depend on the administrative option used to conduct remedial action.
- (a) Ecology-conducted or ecology-supervised remedial actions.** For an ecology-conducted or ecology-supervised cleanup action, ecology will:
- (i)** Select the cleanup action and establish the cleanup standards and other requirements that the cleanup action must meet;⁴⁴⁰

⁴³⁴ In new subsection (1), added statement describing the purpose of a cleanup action plan, consistent with the definition of the term in Section 200.

⁴³⁵ In new subsection (2), separated out and clarified applicability of the section.

⁴³⁶ In subsection (2)(a), clarified that the requirement to select a cleanup action based on a remedial investigation/feasibility study and to document the plan applies to all sites, regardless of which administrative option for remedial action is used to clean them up (Ecology-conducted, Ecology-supervised, or independent). The reporting of a cleanup action plan is an administrative requirement, which depends on the administrative option for remedial action. See subsection (4) of this section.

⁴³⁷ In subsection (2)(b), clarified that for sites where there is a release or threatened release to sediment, a cleanup action plan must also comply with the requirements in WAC [173-204-575](#).

⁴³⁸ In new subsection (3), added statement to clarify timing for selecting a cleanup action and developing a cleanup action plan. This provision reflects the timing provisions in Sections 350 and 351 for the remedial investigation/feasibility study.

⁴³⁹ In new subsection (4), grouped together the administrative requirements (reporting and public participation) as done in other sections, such as in Section 350 and 351. Clarified the differences in requirements between Ecology-conducted or supervised remedial actions and independent remedial actions.

⁴⁴⁰ Clarified that, for Ecology-conducted and Ecology-supervised remedial actions, Ecology selects the cleanup action and sets the cleanup standards.

- (ii) Issue a draft cleanup action plan that includes the information required in subsection (5) of this section.⁴⁴¹ For routine actions, ecology may include the draft cleanup action plan in an order or decree instead of in a separate document;⁴⁴²
 - (iii) Provide or require public notice of the draft cleanup action plan in accordance with WAC 173-340-600(14);⁴⁴³
 - (iv) After review and consideration of public comments, issue a final cleanup action plan.⁴⁴⁴ For routine actions, ecology may include the final cleanup action plan in an order or decree instead of in a separate document,⁴⁴⁵ and
 - (v) Provide notice of the final cleanup action plan in accordance with WAC 173-340-600(14).⁴⁴⁶
 - (b) **Independent remedial actions.** Independent cleanup action plans must be reported to ecology in accordance with WAC 173-340-515. Plans must include, as appropriate, the information specified in subsection (5) of this section.⁴⁴⁷
- ~~(1)(5)~~ **Draft Content of cleanup action plan.** ~~The department shall issue a draft cleanup action plan for a cleanup action to be conducted by the department or by a potentially liable person under an order or decree.~~⁴⁴⁸ A cleanup action plan must include the following information and provide a ~~The level of detail in the draft cleanup action plan shall be~~ commensurate with the complexity of the site and ~~proposed~~ cleanup action.⁴⁴⁹
- ~~(a)~~ — ~~The draft cleanup action plan shall include the following:~~

 - ~~(i)(a)~~ A general description of the ~~proposed~~ cleanup action ~~developed~~ selected in accordance with WAC 173-340-350 through 173-340-390, including any model remedy.⁴⁵⁰

⁴⁴¹ Moved from former subsection (1).

⁴⁴² Moved from former subsection (1)(b).

⁴⁴³ Moved from former subsection (2).

⁴⁴⁴ Moved from former subsection (3).

⁴⁴⁵ Moved from former subsection (1)(b).

⁴⁴⁶ Moved from former subsection (3).

⁴⁴⁷ For independent remedial actions, a cleanup action must still be selected and a cleanup action plan must still be developed. However, a separate cleanup action plan does not need to be submitted to Ecology for review and approval before conducting the cleanup action. A person may submit an independent cleanup action plan for Ecology review and opinion under the Voluntary Cleanup Program (VCP) before conducting the cleanup, seeking an “NFA likely” opinion (WAC 173-340-515(5)). In such cases, the independent cleanup action plan must include sufficient information to serve the same purpose as the plan required under this section (WAC 173-340-515(3)(c) and (4)). Upon completing the cleanup action, a person must submit an independent cleanup action report to Ecology regardless of whether they are seeking Ecology’s review and opinion under the VCP. The report must include sufficient information to serve the same purpose as all of the remedial action plans and reports required under this chapter, including the plan required under this section (WAC 173-340-515(3)(c) and (4)).

⁴⁴⁸ Moved to subsection (4)(a).

⁴⁴⁹ Clarified that cleanup actions plans must include the specified information, whether draft or final.

⁴⁵⁰ Emphasized that the cleanup action plan must identify any model remedy selected as part of the cleanup action.

- ~~(ii)~~(b) A summary of the rationale for selecting the ~~proposed alternative~~ cleanup action, including any model remedy.⁴⁵¹
- (c) For ecology-conducted or ecology-supervised remedial actions, a brief summary of how ecology considered the following when selecting the cleanup action:
 - (i) Public concerns identified under WAC 173-340-600(13) and (14); and
 - (ii) Indian tribes' rights and interests identified under WAC 173-340-620.⁴⁵²
- ~~(iii)~~(d) A brief summary of the other cleanup action alternatives evaluated in the remedial investigation/feasibility study.⁴⁵³
- ~~(iv)~~(e) Cleanup standards and, where applicable, remediation levels, for each hazardous substance and for each environmental medium of concern at the site.⁴⁵³
- (f) Any changes to the default assumptions or reasonable maximum exposure scenarios used to establish cleanup standards or to demonstrate the protectiveness of the cleanup action.⁴⁵³
- ~~(v)~~(g) The schedule for ~~implementation of~~ implementing the cleanup action plan including, if known, the restoration time frame.⁴⁵³
- ~~(vi)~~(h) Any ~~institutional controls, if any,~~ required as part of the ~~proposed~~ cleanup action.⁴⁵³
- ~~(vii)~~(i) Any ~~Applicable state and federal laws, if any,~~ for the ~~proposed~~ cleanup action, ~~when these are known at this step in the cleanup process.~~ (This does not preclude subsequent identification of applicable state and federal laws).⁴⁵³
- ~~(viii)~~(j) A preliminary determination by ~~the department~~ ecology that the ~~proposed~~ cleanup action will comply with WAC 173-340-360.⁴⁵³ and
- ~~(ix)~~(k) ~~Where~~ If the cleanup action involves on-site containment, specification of the types, ~~levels~~ concentrations, and amounts of hazardous substances remaining on site and the measures that will be used to prevent migration of and ~~contact with those~~ exposure to the substances.
- ~~(b)~~ ~~For routine actions the department may use an order or decree to fulfill the requirements of a cleanup action plan, provided that the information in (a) of this subsection is included in an order or decree. The scope of detail for the required~~

⁴⁵¹ Emphasized that the cleanup action plan must summarize the basis for selecting a model remedy as part of the cleanup action, consistent with Section 390(4).

⁴⁵² Added requirement that cleanup action plans must summarize how public concerns and tribal interests were considered when selecting the cleanup action. This requirement reflects the cleanup action requirement in Section 360(3)(d) that such concerns and interests must be considered.

⁴⁵³ Added requirement that cleanup action plans document any changes to the default assumptions or reasonable maximum exposure scenarios used to establish cleanup standards or to demonstrate the protectiveness of the cleanup action.

~~information shall be commensurate with the complexity of the site and proposed cleanup action.~~⁴⁵⁴

~~(2) **Public participation.** The department will provide public notice and opportunity for comment on the draft cleanup plan, as required in WAC 173-340-600(13).~~⁴⁵⁵

~~(3) **Final cleanup action plan.** After review and consideration of the comments received during the public comment period, the department shall issue a final cleanup action plan and publish its availability in the *Site Register* and by other appropriate methods.~~⁴⁵⁶ ~~If the department determines, following the implementation of the preferred alternative, that the cleanup standards or, where applicable, remediation levels established in the cleanup action plan cannot be achieved, the department shall issue public notice of this determination.~~⁴⁵⁷

~~(4)~~**(6) Federal cleanup National priorities list sites.**⁴⁵⁸ For ~~federal cleanup sites on the national priorities list, ecology may use~~ a record of decision or an order or consent decree prepared under the federal cleanup law ~~may be used by the department~~ to meet the requirements of this section, provided that:

- (a) The cleanup action meets the requirements ~~under~~in WAC 173-340-360;
- (b) The state ~~has concurred~~concurs with the cleanup action; and
- (c) The public ~~An opportunity~~ was provided ~~for the public to~~an opportunity to comment on the cleanup action.

⁴⁵⁴ Moved discussion of routine actions to subsections (4)(a)(ii) and (iv).

⁴⁵⁵ Moved public participation requirements for draft plans to subsection (4)(a)(iii).

⁴⁵⁶ Moved public participation requirements for final plans to subsection (4)(a)(v).

⁴⁵⁷ Eliminated separate public participation requirements for remedy failure determinations since they are duplicative of the requirements for periodic reviews in Section 420.

⁴⁵⁸ Clarified that federal cleanup sites are national priorities list sites.

WAC 173-340-390 Model remedies.⁴⁵⁹

- (1) **Purpose.**⁴⁶⁰ The purpose of model remedies is to streamline and accelerate the selection of a cleanup action ~~that protect human health and the environment, with a preference for permanent solutions to the maximum extent practicable~~ for routine types of cleanup projects at sites with common features and lower risk to human health and the environment.
- (2) **Development of model remedies.**⁴⁶¹ ~~The department may, from time to time, identify~~ Ecology may establish model remedies for common categories of ~~facilities~~ sites, types of ~~contamination~~ hazardous substances, types of media, and geographic areas. ~~In identifying a model remedy, the department shall identify the circumstances for which application of the model remedy meets the requirements under WAC 173-340-360. The department shall provide an opportunity for the public to review and comment on any proposed model remedies. When establishing a model remedy, ecology will:~~
 - (a) Identify the applicability of the model remedy for use at a site, the site characterization required under WAC 173-340-350 to select the model remedy, and the compliance monitoring required under WAC 173-340-410 to implement the model remedy;
 - (b) Describe how the model remedy meets the cleanup standards established under Part 7 of this chapter and the requirements for cleanup actions in WAC 173-340-360; and
 - (c) Provide the public with notice and an opportunity to comment on the proposed model remedy and the conditions under which it may be used at a site. The public comment period must be at least 30 days.
- ~~(3) **Applicability and effect of model remedies.** Where a site meets the circumstances identified by the department under subsection (2) of this section, the components of the model remedy may be selected as the cleanup action, or as a portion of the cleanup action. At such sites, it shall not be necessary to conduct a feasibility study under WAC 173-340-350(8) or a disproportionate cost analysis under WAC 173-340-360(3) for those components of a cleanup action to which a model remedy applies.~~⁴⁶²
- ~~(4) **Public notice and participation.** Where a model remedy is proposed as the cleanup action or as a portion of the cleanup action, the cleanup action plan is still subject to the same public notice and participation requirements in this chapter as any other cleanup action.~~⁴⁶³
- (3) **Soliciting proposals.**⁴⁶⁴ When developing model remedies, ecology will solicit and consider proposals from qualified persons. The proposals must, in addition to describing the model remedy, provide the information required under subsection (2)(a) and (b) of this section.

⁴⁵⁹ Updated Section 390 to reflect legislative changes to MTCA in SB [5296](#) in 2013. See RCW [70A.305.030\(1\)\(j\)](#).

⁴⁶⁰ Updated purpose to reflect definition of “model remedy” added in 2013 legislation. See RCW [70A.305.020\(20\)](#) and RCW [70A.305.030\(1\)\(j\)](#).

⁴⁶¹ Updated requirements for developing a model remedy based on 2013 legislation. See RCW [70A.305.030\(1\)\(j\)\(i\)](#).

⁴⁶² Moved to subsection (4).

⁴⁶³ Moved to subsection (4)(b).

- (4) Selection.**⁴⁶⁵ A model remedy may be selected as a cleanup action, or as a component of a cleanup action, at a site without conducting a feasibility study under WAC 173-340-351, provided that:
- (a)** The site meets the conditions for using the model remedy identified by ecology under subsection (2)(a) of this section; and
 - (b)** For ecology-conducted and ecology-supervised remedial actions, ecology provides or requires public notice of the proposed use of the model remedy in the draft cleanup action plan under WAC 173-340-380.

⁴⁶⁴ In new subsection (3), added solicitation requirements based on 2013 legislation. See RCW [70A.305.030\(1\)\(j\)\(ii\)](#).

⁴⁶⁵ Edited for clarity and consistency with 2013 legislation. See RCW [70A.305.030\(1\)\(j\)\(iii\)](#).

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Part 4 – Site Cleanup and Monitoring

WAC 173-340-400 ~~Implementation of the c~~Cleanup action implementation.

- (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~~administrative options for remedial action 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) An inadvertent discovery plan meeting the requirements in WAC 173-340-815;⁴⁶⁶ and
 - ~~(x)~~(xi) 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;

⁴⁶⁶ Added requirement to include an inadvertent discovery plan (IDP) meeting the requirements in new Section 815 regarding cultural resources. An IDP will also be required as part of remedial investigation work plans (see Section 350) and interim action plans (see Section 430).

- (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) An inadvertent discovery plan meeting the requirements in WAC 173-340-815.⁴⁶⁷
 - ~~(xii)~~(xiii) Procedures for the maintenance of the facility after completion of the cleanup action, including provisions for removal of unneeded appurtenances, and the maintenance of covers, caps, containment structures, and monitoring devices; and
 - ~~(xiii)~~(xiv) 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

⁴⁶⁷ Added requirement to include an inadvertent discovery plan (IDP) meeting the requirements in new Section 815 regarding cultural resources. An IDP will also be required as part of remedial investigation work plans (see Section 350) and interim action plans (see Section 430).

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~~[173-360A](#) 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~~[Public participation.](#) ~~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.~~

[\(a\) For an ecology-conducted remedial action, the department will provide public notice of an engineering design report in accordance with WAC 173-340-600\(15\)\(a\).](#)⁴⁶⁸

⁴⁶⁸ Reflected existing public participation requirement for engineering design reports in Section 600(15)(a). See notes on Section 600(15)(a).

(b) For an ecology-conducted or an ecology-supervised remedial action, the department will provide or require public notice of any plan prepared under this section that represents a substantial change from the cleanup action plan in accordance with WAC 173-340-600(15)(b).⁴⁶⁹

- (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.

⁴⁶⁹ Clarified that existing public participation requirement for any other plan prepared under Section 400 applies only to an Ecology-conducted or Ecology-supervised remedial action. See notes on Section 600(15)(b).

WAC 173-340-410 Compliance monitoring requirements.

- (1) **Purpose.** There are three types of compliance monitoring: Protection, performance, and confirmation~~a~~ monitoring. The purposes of these three types of compliance monitoring and evaluation of the data are to:
- (a) **Protection monitoring.**⁴⁷⁰ Confirm that human health and the environment are adequately protected during construction and the operation and maintenance period of an interim action or cleanup action as described in the health and safety~~and health~~ plan;
 - (b) **Performance monitoring.**⁴⁷¹ Confirm that the interim action or cleanup action has attained cleanup standards and, if appropriate, remediation levels or other performance standards such as construction quality control measurements or monitoring necessary to demonstrate compliance with a permit or, where a permit exemption applies, the substantive requirements of other laws;
 - (c) **Confirmation~~a~~ monitoring.**⁴⁷² Confirm the long-term effectiveness of the interim action or cleanup action once cleanup standards and, if appropriate, remediation levels or other performance standards have been attained.
- (2) **General requirements.** Compliance monitoring shall be required for all cleanup actions, and may be required for interim and emergency actions conducted under this chapter. Unless otherwise directed by the department, a compliance monitoring plan shall be prepared.
- Plans prepared under this section and under an order or decree shall be submitted to the department for review and approval. Protection monitoring may be addressed in the health and safety~~and health~~ plan. Performance and confirmation~~a~~ monitoring may be addressed in separate plans or may be combined with other plans or submittals, such as those in WAC 173-340-400 and 173-340-820.
- (3) **Contents of a monitoring plan.** Compliance monitoring plans may include monitoring for chemical constituents, biological testing, and physical parameters as appropriate for the site. Where the cleanup action includes engineered controls or institutional controls, the monitoring may need to include not only measurements but also documentation of observations on the performance of these controls. Long-term monitoring shall be required if on-site disposal, isolation, or containment is the selected cleanup action for a site or a portion of a site. Such measures shall be required until residual hazardous substance concentrations no longer exceed site cleanup levels established under ~~WAC 173-340-700 through 173-340-760~~Part 7 of this chapter. Compliance monitoring plans shall be specific for the media being tested and shall contain the following elements:

⁴⁷⁰ Added definition of “protection monitoring” in Section 200 that refers to this description.

⁴⁷¹ Added definition of “performance monitoring” in Section 200 that refers to this description

⁴⁷² Added definition of “confirmation monitoring” in Section that refers to this description. Also changed term from “confirmational” to “confirmation.”

- (a)** A sampling and analysis plan meeting the requirements of WAC 173-340-820 which shall explain in the statement of objectives how the purposes of subsection (1) of this section are met;
- (b)** Data analysis and evaluation procedures used, to demonstrate and confirm compliance and justification for these procedures, including:
 - (i)** A description of any statistical method to be employed; or
 - (ii)** If sufficient data is not available before writing the plan to propose a reliable statistical method to demonstrate and confirm compliance, a contingency plan proposing one or more reliable statistical methods to demonstrate and confirm compliance, and the conditions under which the methods would be used at the facility; and
- (c)** Other information as required by the department.

WAC 173-340-420 Periodic review.

- (1) Purpose.** A periodic review consists of a review by the department of post-cleanup site conditions and monitoring data to assure that human health and the environment are being protected.
- (2) Applicability.** The department shall conduct periodic reviews of a site whenever the department conducts a cleanup action; whenever the department approves a cleanup action under an order, agreed order or consent decree; or, as resources permit, whenever the department issues a no further action opinion; and one of the following conditions exists, at the site:

 - (a)** Where an institutional control and/or financial assurance is required as part of the cleanup action;
 - (b)** Where the cleanup level is based on a practical quantitation limit as provided for under WAC 173-340-707; and
 - (c)** Where, in the department's judgment, modifications to the default equations or assumptions using site-specific information would significantly increase the concentration of hazardous substances remaining at the site after cleanup or the uncertainty in the ecological evaluation or the reliability of the cleanup action is such that additional review is necessary to assure long-term protection of human health and the environment.
- (3) General requirements.** If a periodic review is required under subsection (2) of this section, a review shall be conducted by the department at least every five years after the initiation of a cleanup action. The department may require potentially liable persons to submit information required by the department to conduct a periodic review.
- (4) Review criteria.** When evaluating whether human health and the environment are being protected, the factors the department shall consider include:

 - (a)** The effectiveness of ongoing or completed cleanup actions, including the effectiveness of engineered controls and institutional controls in limiting exposure to hazardous substances remaining at the site;
 - (b)** New scientific information for individual hazardous substances or mixtures present at the site;
 - (c)** New applicable state and federal laws for hazardous substances present at the site;
 - (d)** Current and projected site and resource uses;
 - (e)** The availability and practicability of more permanent remedies; and
 - (f)** The availability of improved analytical techniques to evaluate compliance with cleanup levels.

- (5) ~~Notice and public comment~~**Public participation or notification.** ~~The department shall publish a notice of all periodic reviews in the *Site Register* and provide an opportunity for public comment. The department shall also notify all potentially liable persons known to the department of the results of the periodic review.~~
- (a) For an ecology-conducted or an ecology-supervised remedial action, the department will:
- (i) Provide public notice of a draft periodic review report in accordance with WAC 173-340-600(18);⁴⁷³ and
- (ii) Notify all potentially liable persons known to the department of the results of the periodic review.
- (b) For an independent remedial action, the department will notify the public of a periodic review report in accordance with WAC 173-340-600(20).⁴⁷⁴
- (6) **Determination of whether amendment of the cleanup action plan required.** For an ecology-conducted or an ecology-supervised remedial action,⁴⁷⁵ ~~W~~when the department determines that substantial changes in the cleanup action are necessary to protect human health and the environment at the site, a revised cleanup action plan shall be prepared. The department shall provide ~~opportunities for public review and comment on~~or require public notice of the draft cleanup action plan in accordance with WAC 173-340-380 and 173-340-600(14).⁴⁷⁶
- (7) **Determination of whether future periodic reviews required.** In conducting a periodic review under this section, the department shall determine whether additional reviews are necessary, taking into consideration the factors in subsection (4) of this section. Sites with institutional controls shall remain subject to periodic reviews as long as the institutional controls are required under this chapter.

⁴⁷³ For periodic reviews of Ecology-conducted and Ecology-supervised remedial actions, changed how Ecology will provide public notice of a draft periodic review report. Ecology will provide notice of such actions the same as for other steps in the cleanup process for Ecology-conducted or Ecology-supervised remedial actions. See Section 600(18). Ecology will provide public notice as specified in Section 600(2).

⁴⁷⁴ For periodic reviews of independent remedial actions, Ecology will still notify the public, but will no longer provide the public an opportunity to comment. This is consistent with other steps in the cleanup process for independent cleanup sites. Ecology will notify the public by making periodic review reports publicly available on Ecology's website and, if requested, by alerting interested persons electronically when periodic review reports are available. Ecology will no longer provide notice of independent remedial actions in the *Contaminated Site Register*. See Section 600(20).

⁴⁷⁵ Clarified that requirement for Ecology to prepare revised cleanup action plan and provide public notice of the revised plan applies only to an Ecology-conducted or Ecology-supervised remedial action, not independent remedial actions.

⁴⁷⁶ Clarified which provision in Section 600 applies.

WAC 173-340-430 Interim actions.

- (1) **Purpose.** An interim action is distinguished from a cleanup action in that an interim action only partially addresses the cleanup of a site. (Note: An interim action may constitute the cleanup action for a site if the interim action is subsequently shown to comply with WAC 173-340-350 through 173-340-390.) An interim action is:
- (a) A remedial action that is technically necessary to reduce a threat to human health or the environment by eliminating or substantially reducing one or more pathways for exposure to a hazardous substance at a facility;
 - (b) A remedial action that corrects a problem that may become substantially worse or cost substantially more to address if the remedial action is delayed; or
 - (c) A remedial action needed to provide for completion of a site hazard assessment, remedial investigation/feasibility study or design of a cleanup action.

Example. A site is identified where oil-based wood preservative has leaked from a tank and is puddled on the ground and is floating on the water table. Runoff from adjacent properties passes through the site. Neighborhood children have been seen on the site. In this case, several interim actions would be appropriate before fully defining the extent of the distribution of hazardous substances at the site and selecting a cleanup action. These interim actions might consist of removing the tank, fencing the site, rerouting runoff, and removing the product puddled on the ground and floating on the water table. Further studies would then determine what additional soil and groundwater cleanup would be needed.

- (2) **General requirements.** Interim actions may:
- (a) Achieve cleanup standards for a portion of the site;
 - (b) Provide a partial cleanup, that is, clean up hazardous substances from all or part of the site, but not achieve cleanup standards; or
 - (c) Provide a partial cleanup of hazardous substances and not achieve cleanup standards, but provide information on how to achieve cleanup standards for a cleanup. For example, demonstration of an unproven cleanup technology.
- (3) **Relationship to the cleanup action.**
- (a) If the cleanup action is known, the interim action shall be consistent with the cleanup action.
 - (b) If the cleanup action is not known, the interim action shall not foreclose reasonable alternatives for the cleanup action. This is not meant to preclude the destruction or removal of hazardous substances.
- (4) **Timing.**
- (a) Interim actions may occur anytime during the cleanup process. Interim actions shall not be used to delay or supplant the cleanup process. An interim action may be done before

or in conjunction with a site hazard assessment and hazard ranking. However, sufficient technical information must be available regarding the facility to ensure the interim action is appropriate and warranted.

- (b) Interim actions shall be followed by additional remedial actions unless compliance with cleanup standards has been confirmed at the site.
 - (c) The department shall set appropriate deadlines commensurate with the actions taken for completion of the interim action.
- (5) **Administrative options.** Interim cleanup actions may be conducted under any of the ~~procedures~~ administrative options for remedial action described in WAC 173-340-510 ~~and 173-340-515.~~
- (6) **Public participation or notification.** ⁴⁷⁷ ~~Public participation will be accomplished in a manner consistent with WAC 173-340-600.~~
- (a) For an ecology-conducted or an ecology-supervised remedial action, the department will provide or require public notice of a draft interim action plan prepared under this section in accordance with WAC 173-340-600(18).
 - (b) For an independent remedial action, the department will notify the public of an interim action report in accordance with WAC 173-340-600(20).
- (7) **Submittal requirements.** Unless otherwise directed by the department and except for independent remedial actions, emergency remedial actions, and underground storage tank releases being addressed under WAC 173-340-450, a report shall be prepared before conducting an interim action. Reports prepared under an order or decree shall be submitted to the department for review and approval. Reports for independent remedial actions shall be submitted as required by WAC 173-340-515. Reports shall be of a scope and detail commensurate with the work performed and site-specific characteristics, and shall include, as appropriate:
- (a) A description of the interim action and how it will meet the criteria identified in subsections (1), (2) and (3) of this section;
 - (b) Information from the applicable subsections of the remedial investigation/feasibility study of WAC 173-340-350 and 173-340-351, including at a minimum:
 - (i) A description of existing site conditions and a summary of all available data related to the interim action; and
 - (ii) Alternative interim actions considered and an explanation why the proposed alternative was selected;

⁴⁷⁷ Referenced and clarified applicable public participation and notification requirements for interim actions in Section 600 both for Ecology-conducted or Ecology-supervised remedial actions and for independent remedial actions. See Sections 600(18) and (20), and related notes.

- (c) Information from the applicable subsections of the design and construction requirements of WAC 173-340-400; and
 - (d) A compliance monitoring plan meeting the applicable requirements of WAC 173-340-410;
 - (e) A ~~safety and~~ health and safety plan meeting the requirements of WAC 173-340-810; ~~and~~
 - (f) An inadvertent discovery plan meeting the requirements in WAC 173-340-815;⁴⁷⁸ and
 - ~~(f)(g)~~ A sampling and analysis plan meeting the requirements of WAC 173-340-820.
- (8) **Construction.** Construction of the interim action shall be in conformance with WAC 173-340-400(7).

⁴⁷⁸ Added requirement to include an inadvertent discovery plan (IDP) meeting the requirements in new Section 815 regarding cultural resources. An IDP will also be required as part of remedial investigation work plans (see Section 350) and specified cleanup action implementation plans (see Section 430).

WAC 173-340-440 Institutional controls.

- (1) Purpose.** Institutional controls are measures undertaken to limit or prohibit activities that may interfere with the integrity of an interim action or cleanup action or that may result in exposure to hazardous substances at a site. Institutional controls may include:

 - (a)** Physical measures such as fences;
 - (b)** Use restrictions such as limitations on the use of property or resources; or requirements that cleanup action occur if existing structures or pavement are disturbed or removed;
 - (c)** Maintenance requirements for engineered controls such as the inspection and repair of monitoring wells, treatment systems, caps or groundwater barrier systems;
 - (d)** Educational programs such as signs, postings, public notices, health advisories, mailings, and similar measures that educate the public and/or employees about site contamination and ways to limit exposure; and
 - (e)** Financial assurances (see subsection (11) of this section).
- (2) Relationship to engineered controls.** The term institutional controls refers to nonengineered measures while the term engineered controls means containment and/or treatment systems that are designed and constructed to prevent or limit the movement of, or the exposure to, hazardous substances. See the definition of engineered controls in WAC 173-340-200 for examples of engineered controls.
- (3) Applicability.** This section applies to remedial actions being conducted at sites under any of the administrative options for remedial action described in WAC 173-340-510 ~~and 173-340-515~~.
- (4) Circumstances required.** Institutional controls shall be required to assure both the continued protection of human health and the environment and the integrity of an interim action or cleanup action in the following circumstances:

 - (a)** The cleanup level is established using Method A or B and hazardous substances remain at the site at concentrations that exceed the applicable cleanup level;
 - (b)** The cleanup level is established using Method C;
 - (c)** An industrial soil cleanup level is established under WAC 173-340-745;
 - (d)** A groundwater cleanup level that exceeds the potable groundwater cleanup level is established using a site-specific risk assessment under WAC 173-340-720 (6)(c) and institutional controls are required under WAC 173-340-720 (6)(c)(iii);
 - (e)** A conditional point of compliance is established as the basis for measuring compliance at the site;
 - (f)** Any time an institutional control is required under WAC 173-340-7490 through 173-340-7494; or

- (g) Where the department determines such controls are required to assure the continued protection of human health and the environment or the integrity of the interim or cleanup action.
- (5) **Minimum requirements.** ~~A C~~cleanup actions ~~that use~~relying on institutional controls ~~shall~~must meet ~~each of the~~ ~~minimum~~ requirements specified in WAC 173-340-360, just as any other cleanup action.⁴⁷⁹ To ensure a cleanup action relying on institutional controls is protective, ~~i~~institutional controls should demonstrably reduce risks ~~to ensure a protective remedy. This demonstration should be based on a quantitative, scientific analysis where appropriate.~~⁴⁸⁰
- (6) **Requirement for primary reliance.** ~~In addition to meeting each of the minimum requirements~~As specified in WAC 173-340-360(3)(a)(vii), ~~a~~ cleanup actions ~~shall~~must not rely primarily on institutional controls and monitoring at a site, or portion thereof, ~~where~~if it is technically possible to implement a more permanent cleanup action ~~for all or a portion of the site.~~⁴⁸¹
- (7) **Periodic review.** The department shall review compliance with institutional control requirements as part of periodic reviews under WAC 173-340-420.
- (8) **Format.**
- (a) For properties owned by a person who has been named as a potentially liable person or who has not been named a potentially liable person by the department but meets the criteria in RCW ~~70.105D.040~~70A.305.040 for being named a potentially liable person, appropriate institutional controls shall be described in a restrictive covenant on the property. The covenant shall be executed by the property owner and recorded with the register of deeds for the county in which the site is located. This restrictive covenant shall run with the land, and be binding on the owner's successors and assigns.
- (b) For properties owned by a local, state, or federal government entity, a restrictive covenant may not be required if that entity demonstrates to the department that:
- (i) It does not routinely file with the county recording officer records relating to the type of interest in real property that it has in the site; and
- (ii) It will implement an effective alternative system to meet the requirements of subsection (9) of this section.
- The department shall require the government entity to implement the alternative system as part of the cleanup action plan. If a government entity meets these criteria, and if it subsequently transfers its ownership in any portion of the property, then the government entity must file a restrictive covenant upon transfer if any of the conditions in subsection (4) of this section still exist.

⁴⁷⁹ Reflected structural changes to Section 360.

⁴⁸⁰ Consistent with changes to Section 360, eliminated guidance from rule about using quantitative, scientific analysis to evaluate whether institutional controls demonstrably reduce risks.

⁴⁸¹ Reflected edits in Section 360(3)(a)(vii).

- (c) For properties containing hazardous substances where the owner does not meet the criteria in RCW ~~70.105D.040~~70A.305.040 for being a potentially liable person, the department may approve cleanup actions that include restrictive covenants or other legal and/or administrative mechanisms. The use of legal or administrative mechanisms that do not include restrictive covenants is intended to apply to situations where the release has affected properties near the source of the release not owned by a person potentially liable under the act. A potentially liable person must make a good faith effort to obtain a restrictive covenant before using other legal or administrative mechanisms. Examples of such mechanisms include zoning overlays, placing notices in local zoning or building department records or state lands records, public notices and educational mailings.
- (9) **Restrictive covenants.** Where required, the restrictive covenant shall:
- (a) Prohibit activities on the site that may interfere with a cleanup action, operation and maintenance, monitoring, or other measures necessary to assure the integrity of the cleanup action and continued protection of human health and the environment;
 - (b) Prohibit activities that may result in the release of a hazardous substance that was contained as a part of the cleanup action;
 - (c) Require notice to the department of the owner's intent to convey any interest in the site. No conveyance of title, easement, lease, or other interest in the property shall be consummated by the property owner without adequate and complete provision for the continued operation, maintenance and monitoring of the cleanup action, and for continued compliance with this subsection;
 - (d) Require the land owner to restrict leases to uses and activities consistent with the restrictive covenant and notify all lessees of the restrictions on the use of the property. This requirement applies only to restrictive covenants imposed after February 1, 1996;
 - (e) Require the owner to include in any instrument conveying any interest in any portion of the property, notice of the restrictive covenant under this section;
 - (f) Require notice and approval by the department of any proposal to use the site in a manner that is inconsistent with the restrictive covenant. If the department, after public notice and comment approves the proposed change, the restrictive covenant shall be amended to reflect the change; and
 - (g) Grant the department and its designated representatives the right to enter the property at reasonable times for the purpose of evaluating compliance with the cleanup action plan and other required plans, including the right to take samples, inspect any remedial actions taken at the site, and to inspect records.
- (10) **Local government notification.** Before a restrictive covenant being established under this chapter, the department shall notify and seek comment from a city or county department with land use planning authority for real property subject to the restrictive covenant. Once a restrictive covenant has been executed, this same department shall be notified and sent a copy

of the restrictive covenant. For independent cleanups reviewed by the department under WAC 173-340-515 that use restrictive covenants, the person conducting the cleanup shall be responsible for these notifications.

(11) Financial assurances. The department shall, as appropriate, require financial assurance mechanisms at sites where the cleanup action selected includes engineered and/or institutional controls. It is presumed that financial assurance mechanisms will be required unless the PLP can demonstrate that sufficient financial resources are available and in place to provide for the long-term effectiveness of engineered and institutional controls adopted. Financial assurances shall be of sufficient amount to cover all costs associated with the operation and maintenance of the cleanup action, including institutional controls, compliance monitoring, and corrective measures.

(a) Mechanisms. Financial assurance mechanisms may include one or more of the following: A trust fund, a surety bond, a letter of credit, financial test, guarantee, standby trust fund, government bond rating test, government financial test, government guarantee, government fund, or financial assurance mechanisms required under another law (for example, requirements for solid waste landfills or treatment, storage, and disposal facilities) that meets the requirements of this section.

(b) Exemption from requirement. The department shall not require financial assurances if persons conducting the cleanup can demonstrate that requiring financial assurances will result in the PLPs for the site having insufficient funds to conduct the cleanup or being forced into bankruptcy or similar financial hardship.

(12) ~~Removal of restrictions~~ Amendment or removal of institutional controls. ~~If the conditions at the site requiring an institutional control under subsection (4) of this section no longer exist, then the owner may submit a request to the department that the restrictive covenant or other restrictions be eliminated. The restrictive covenant or other restrictions shall be removed, if the department, after public notice and opportunity for comment, concurs.~~

(a) Request. Any person who has an interest in the real property subject to an institutional control⁴⁸² may submit a request to the department that the control be amended or removed if the conditions at the site requiring the control under subsection (4) of this section have changed or no longer exist. The request must be in writing.

(b) Determination. If the department determines that the conditions requiring an institutional control under subsection (4) of this section have changed or no longer exist, then the institutional control must be amended or removed.

(c) Public participation or notification.

⁴⁸² Clarified that any person who has an interest in the real property subject to an institutional control may request amendment or removal of the control based on changed conditions.

- (i) For ecology-conducted or ecology-supervised remedial actions, the department will provide or require public notice of any proposal to amend or remove an institutional control in accordance with WAC 173-340-600(19).⁴⁸³
- (ii) For independent remedial actions, the department will notify the public of any amendment or removal of an institutional control in accordance with WAC 173-340-600(20).⁴⁸⁴

⁴⁸³ For Ecology-conducted and Ecology-supervised remedial actions, clarified how Ecology will provide public notice when amending or removing an institutional control. Ecology will provide notice of such actions the same as for other steps in the cleanup process for Ecology-conducted or Ecology-supervised remedial actions. See WAC 173-340-600(19). Ecology will provide public notice as specified in WAC 173-340-600(2).

⁴⁸⁴ For independent remedial actions, Ecology will still notify the public, but will no longer provide the public an opportunity to comment when amending or removing institutional controls. This is consistent with other steps in the cleanup process for independent cleanup sites. Ecology will notify the public by making institutional controls publicly available on Ecology's website and, if requested, by alerting interested persons electronically when such controls are amended or removed. Ecology will no longer provide notice of independent remedial actions in the *Contaminated Site Register*. See WAC 173-340-600(20).

WAC 173-340-450 Releases from regulated underground storage tanks systems.

~~(1) — **Purpose.**⁴⁸⁵ The purpose of this section is to set forth the requirements for addressing releases that may pose a threat to human health or the environment from an underground storage tank (UST) regulated under chapter 90.76 RCW.~~

~~(a) — Releases from USTs exempted under chapter 90.76 RCW and rules adopted therein are still subject to all other requirements of this chapter.~~

~~(b) — Unless the department requires otherwise, UST owners and UST operators regulated under chapter 90.76 RCW shall comply with the requirements in this section after confirmation of an UST release that may pose a threat to human health or the environment.~~

~~(2) — **Initial response.**⁴⁸⁶ Within twenty-four hours of confirmation of an UST release, the UST owner or the UST operator shall perform the following actions:~~

~~(a) — Report the UST release to the department and other authorities with jurisdiction, in accordance with rules adopted under chapter 90.76 RCW and any other applicable law;~~

~~(b) — Remove as much of the hazardous substance from the UST as is possible and necessary to prevent further release to the environment;~~

~~(c) — Eliminate or reduce any fire, explosion or vapor hazards in such a way as to minimize any release of hazardous substances to surface water and groundwater; and~~

~~(d) — Visually inspect any aboveground releases or exposed belowground releases and prevent the hazardous substance from spreading into surrounding soils, groundwater and surface water.~~

~~(3) — **Interim actions.**⁴⁸⁷~~

~~(a) — As soon as possible but no later than twenty days following confirmation of an UST release, the UST owner or the UST operator shall perform the following interim actions:~~

~~(i) — Continue to monitor and mitigate any additional fire and safety hazards posed by vapors or free product that may have migrated from the UST into structures in the vicinity of the site, such as sewers or basements;~~

~~(ii) — Reduce the threat to human health and the environment posed by contaminated soils that are excavated or discovered as a result of investigation~~

⁴⁸⁵ Split up former subsection (1) into two subsections, one focused on the applicability of Section 450 and the other focused on the purpose of Section 450. See new subsections (1) and (2).

⁴⁸⁶ Consolidated all remedial actions and related reporting requirements in former subsections (2) through (5) under new subsection (5). All such actions (including initial response, initial site characterization, free product removal, and continuing obligations) are categorized as “interim actions.” Moved reference to release reporting requirement in former subsection (2)(a) to new subsection (1)(a). Moved initial response requirements in former subsection (2)(b) through (d) to new subsection (5)(a).

⁴⁸⁷ Moved initial site characterization requirements in former subsection (3)(a)(iii) through (v) to new subsection (5)(b). Moved continuing obligation requirement in former subsection (3)(a)(i) and (ii) to new subsection (5)(d).

or cleanup activities. Treatment, storage and disposal of soils must be carried out in compliance with all applicable federal, state and local requirements;

~~(iii) — Test for hazardous substances in the environment where they are most likely to be present. Such testing shall be done in accordance with a sampling and analysis plan prepared under WAC 173-340-820. The sample types, sample locations, and measurement methods shall be based on the nature of the stored substance, type of subsurface soils, depth to groundwater and other factors as appropriate for identifying the presence and source of the release. If contaminated soil is found in contact with the groundwater or soil contamination appears to extend below the lowest soil sampling depth, then testing shall include the installation of groundwater monitoring wells to test for the presence of possible groundwater contamination. Information gathered for the site check or closure site assessment conducted under rules adopted under chapter 90.76 RCW, which sufficiently characterizes the releases at the site, may be substituted for the testing required under this paragraph;~~

~~(iv) — The testing performed under (a)(iii) of this subsection shall use the analytical methods specified in WAC 173-340-830 and include, at a minimum, the following:~~

~~(A) — For petroleum product releases, the concentration(s) of hazardous substances potentially present at the site, as appropriate for the type of petroleum product(s) released. The minimum testing requirements are specified in Table 830-1.~~

~~(B) — The hazardous substance stored and any likely decomposition by-products where a hazardous substance other than petroleum may be present; and~~

~~(C) — Any other tests required by the department; and~~

~~(v) — Investigate for the presence of free product.~~

~~(4) — **Free product removal.**⁴⁸⁸ At sites where investigations indicate free product is present, the UST owner or the UST operator shall conduct, as soon as possible after discovery, an interim action to remove the free product while continuing, as necessary, any other actions required under this section. To accomplish this the UST owner or UST operator shall:~~

~~(a) — Conduct free product removal to the maximum extent practicable and in a manner that minimizes the spread of hazardous substances, by using recovery and disposal techniques appropriate to the hydrogeologic conditions at the site. The objective of free product removal system must be, at a minimum, to stop the free product migration;~~

⁴⁸⁸ Moved free product removal requirements in former subsection (4) to new subsection (5)(c).

- ~~(b) — Properly treat, discharge, or dispose of any hazardous substance, water, sludge or any other materials collected in the free product removal process in compliance with all applicable local, state, and federal regulations and permits; and~~
- ~~(c) — Handle all flammable products safely to prevent fires and explosions.~~
- ~~(5) — **Reporting requirements.** ⁴⁸⁹ The following reports are required to be submitted to the department:~~
 - ~~(a) — **Status report.** Within twenty days after an UST release, the UST owner or UST operator shall submit a status report to the department. The status report shall identify if known, the types, amounts, and locations of hazardous substances released, how the release occurred, evidence confirming the release, actions taken under subsections (2) and (3) of this section, any planned remedial actions, and any results of work done up to the time of the report. This report may be provided verbally to the department.~~
 - ~~(b) — **Site characterization reports.** Within ninety days after release confirmation, unless directed to do otherwise by the department, the UST owner or UST operator shall submit a report to the department about the site and nature of the release. This report shall be submitted to the department in writing and may be combined with the twenty-day status report, if the information required is available at that time. The site characterization report shall include, at a minimum, the following information:
 - ~~(i) — The information required for the status report under (a) of this subsection;~~
 - ~~(ii) — A site conditions map indicating approximate boundaries of the property, all areas where hazardous substances are known or suspected to be located, and sampling locations. This map may consist of a sketch of the site at a scale sufficient to illustrate this information;~~
 - ~~(iii) — Available data regarding surrounding populations, surface and groundwater quality, use and approximate location of wells potentially affected by the release, subsurface soil conditions, depth to groundwater, direction of groundwater flow, proximity to and potential for affecting surface water, locations of sewers and other potential conduits for vapor or free product migration, surrounding land use, and proximity to sensitive environments;~~
 - ~~(iv) — Results of tests for hazardous substances performed under subsection (3)(a)(iii) and (iv) of this section;~~
 - ~~(v) — Results of the free product investigation required under subsection (3)(a)(v) of this section;~~~~

⁴⁸⁹ Streamlined reporting of interim actions required under Section 450 into a single report that is due within 90 days of release confirmation. Eliminated separate status report required under former subsection (5)(a). Consolidated reporting requirements for status reports and site characterization reports in new subsection (6).

- ~~(vi) — Results of all completed site investigations, interim actions and cleanup actions and a description of any remaining investigations, cleanup actions and compliance monitoring that are planned or underway; and~~
- ~~(vii) — Information on the free product removal efforts at sites where investigations indicate free product is present. This shall include, at a minimum, the following information:
 - ~~(A) — Name of the person responsible for implementing the free product removal measures;~~
 - ~~(B) — The estimated quantity, type, and thickness of free product observed or measured in wells, boreholes and excavations;~~
 - ~~(C) — The type of free product recovery system used;~~
 - ~~(D) — The location of any on-site or offsite discharge during the recovery operation;~~
 - ~~(E) — The type of treatment applied to, and the effluent quality expected from, any discharge;~~
 - ~~(F) — The steps taken and planned to obtain necessary permits for any discharge;~~
 - ~~(G) — Disposition of recovered free product; and~~~~
- ~~(viii) — Any other information required by the department.~~
- ~~(6) — Remedial investigation and feasibility study.⁴⁹⁰
 - ~~(a) — If the initial cleanup actions taken at an UST site do not achieve cleanup levels throughout the site, a remedial investigation and feasibility study may need to be conducted in accordance with WAC 173-340-350. The scope of a remedial investigation and feasibility study will depend on the informational needs at the site. UST owners and operators shall conduct a remedial investigation and feasibility study for sites where the following conditions exist:
 - ~~(i) — There is evidence that the release has caused hazardous substances to be present in the groundwater in excess of the groundwater standards adopted under chapter 90.48 RCW or cleanup levels in WAC 173-340-720 (Table 720-1);~~
 - ~~(ii) — Free product is found; or~~
 - ~~(iii) — Where otherwise required by the department.~~~~~~

⁴⁹⁰ Replaced the overview of next steps in the cleanup process in former subsections (6) through (8) with a reference in new subsection (7) to the cleanup process overview in Section 120. Emphasized that, if the specified interim actions in Section 450 are insufficient to meet the delisting criteria in Section 330, UST system owners and operators must conduct further remedial action under the state cleanup law to investigate and clean up the release.

- ~~(b) — UST owners and UST operators shall submit the information collected for the remedial investigation/feasibility study to the department as soon as practicable. The information may be included with other reports submitted under this section.~~
- ~~(c) — If the department determines, based on the results of the remedial investigation/feasibility study or other information, that additional remedial action is required, the department may require the UST owner or the UST operator to submit engineering documents as described in WAC 173-340-400.~~
- ~~(7) — **Cleanup actions.**⁴⁹¹ Unless directed to do otherwise by the department, cleanup actions performed by UST owners or UST operators shall comply with the cleanup standards described in WAC 173-340-700 through 173-340-760 and the requirements for the selection of cleanup actions in WAC 173-340-350 through 173-340-390.~~
- ~~(8) — **Independent cleanup actions.**⁴⁹² In addition to work performed under subsections (2) through (5), and (7) of this section, UST owners or UST operators performing independent cleanup actions shall:~~
- ~~(a) — Notify the department of their intention to begin cleanup. This can be included with other reports under this section;~~
- ~~(b) — Comply with any conditions imposed by the department to assure adequate protection of human health and the environment; and~~
- ~~(c) — Within ninety days of completion of the cleanup action, submit the results of all investigations, interim and cleanup actions and compliance monitoring not previously submitted to the department.~~
- (1) Applicability.**⁴⁹³
- (a) Releases.** This section applies only to underground storage tank (UST) systems regulated under chapter 173-360A WAC from which there has been a confirmed release of a regulated substance that may pose a threat to human health or the environment. Under chapter 173-360A WAC, UST system owners and operators and regulated service providers must report such a release to ecology within 24 hours.
- (b) Persons.** This section applies only to UST system owners and operators. UST system owners and operators must comply with the requirements in this section in addition to the other requirements in this chapter.
- (c) Other requirements.** This section does not alter the applicability of requirements in other sections in this chapter.

⁴⁹¹ See note on former subsection (6).

⁴⁹² See note on former subsection (6).

⁴⁹³ Split up former subsection (1) into two subsections, one focused on the applicability of Section 450 (subsection (1)) and the other focused on the purpose of Section 450 (subsection (2)). In subsection (1), clarified to which releases and to which persons the section applies, referenced the UST release reporting requirements in chapter [173-360A](#) WAC, and emphasized that the section does not alter the applicability of requirements in other sections in the chapter. See former subsections (1) and (2)(a). No changes are intended.

- (2) Purpose.**⁴⁹⁴ Under chapter 173-360A WAC, UST system owners and operators must investigate and clean up confirmed releases in accordance with the requirements of this chapter. This section specifies interim actions that UST system owners and operators must perform immediately or shortly after confirming a release to reduce threats posed by the release, prevent any further release, and characterize the nature and extent of the release. If the interim actions are insufficient to meet the criteria in WAC 173-340-330(5), UST system owners and operators must conduct further remedial action under the state cleanup law to investigate and clean up the release. WAC 173-340-120 provides an overview of the cleanup process under the state cleanup law.
- (3) Enforcement.**⁴⁹⁵ UST system owners and operators who violate any requirement in this chapter are subject to enforcement, including civil penalties and orders, under:
- (a)** Chapter 70A.305 RCW and this chapter; or
- (b)** Chapter 70A.355 RCW and chapter 173-360A WAC.
- (4) Administrative options.**⁴⁹⁶ The interim actions specified in this section may be conducted under any of the administrative options for remedial action described in WAC 173-340-510.
- (5) Interim actions.**⁴⁹⁷ UST owners and operators must perform the following interim actions after confirming a release.
- (a) Initial response.**⁴⁹⁸ Within 24 hours of release confirmation, UST system owners and operators must:
- (i)** Remove as much of the hazardous substance from the UST system as is possible and necessary to prevent further release to the environment;

⁴⁹⁴ In subsection (2), clarified the limited purpose of Section 450 and replaced the overview of the steps in the cleanup process in former subsections (6) through (8) with a reference to the process overview in Section 120. Clarified that Section 450 only specifies interim actions that UST system owners and operators must perform upon confirming a release to reduce threats posed by the release, prevent any further release, and characterize the nature and extent of the release. These requirements are in addition to, not in place of, the other cleanup requirements in the chapter. Emphasized that, if the specified interim actions are insufficient to meet delisting criteria, UST system owners and operators must conduct further remedial action under the state cleanup law to investigate and clean up the site. No changes are intended.

⁴⁹⁵ In subsection (3), clarified that if an UST system owner or operator fails to comply with the requirements in this chapter (including Section 450), then they are subject to enforcement not only under Chapter [70A.305](#) RCW, the Model Toxics Control Act, but also under Chapter [70A.355](#) RCW, Underground Storage Tanks. This includes civil penalties and orders. No changes are intended.

⁴⁹⁶ In subsection (4), clarified that the interim actions required under Section 450 may be conducted under any of the administrative options for remedial action described in Section 510. UST system owners and operators may perform the interim actions independently, with or without technical assistance, or under Ecology supervision under an order or decree. Ecology may also perform the interim actions itself. No changes are intended.

⁴⁹⁷ Restructured the rule to consolidate all remedial action and related reporting requirements in former subsections (2) through (5) under new subsection (5). All such actions (including initial response, initial site characterization, free product removal, and continuing obligations) are categorized as “interim actions.” See additional notes.

⁴⁹⁸ Moved initial response requirements from former subsection (2)(b) through (d). Moved reference to release reporting requirement in former subsection (2)(a) to subsection (1)(a). No changes are intended.

- (ii) Eliminate or reduce any fire, explosion, or vapor hazards and do so in a manner that minimizes any release of hazardous substances to surface water and groundwater; and
 - (iii) Visually inspect any aboveground releases or exposed belowground releases and prevent further migration of released hazardous substances into surrounding soils, groundwater, and surface water.
- (b) Initial site characterization.**⁴⁹⁹ Within 30 days of release confirmation,⁵⁰⁰ UST system owners and operators must investigate the site to identify the hazardous substances released, the source of the release, the media impacted by the release, and the potential for vapors from contaminated soil or groundwater to enter building, utility vaults, or other structures.⁵⁰¹ At a minimum, UST system owners and operators must:⁵⁰²
 - (i) Develop a sampling and analysis plan meeting the requirements of WAC 173-340-820. The sampling and analysis plan must be based on the substances currently or previously stored in the UST system,⁵⁰³ type of subsurface soils, depth to groundwater, vapor intrusion pathways,⁵⁰⁴ and other factors as appropriate for identifying the presence and source of the release;
 - (ii) Collect, handle, and analyze samples in accordance with the requirements in WAC 173-340-830;
 - (iii) Collect samples in the environment where hazardous substances are most likely to be present;
 - (iv) Investigate groundwater for the presence of hazardous substances and free product if there is evidence of any of the following conditions at the site:⁵⁰⁵
 - (A) Contaminated soil is in contact with the groundwater;
 - (B) Contaminated soil extends below the lowest soil sampling depth;
 - (C) Groundwater contamination has been detected or observed;

⁴⁹⁹ Moved initial site characterization requirements from former subsection (3)(a)(iii) through (v). Except as noted, no changes are intended.

⁵⁰⁰ Extended the deadline for completing the initial site characterization from 20 days to 30 days after release confirmation.

⁵⁰¹ Added requirement for investigating vapor intrusion pathways as part of the initial site characterization.

⁵⁰² Restructured and clarified the sampling and analysis requirements for the initial site characterization.

⁵⁰³ Clarified that the sampling and analysis plan must be based on the substances currently or previously stored in the UST system, consistent with the UST site assessment requirements in WAC [173-360A-0730](#).

⁵⁰⁴ Emphasized that the vapor intrusion pathway must be considered when developing the sampling and analysis plan, consistent with change to include the pathway as part of the initial site characterization requirements.

⁵⁰⁵ Changed the criteria for when groundwater must be investigated for the presence of contamination and free product as part of the initial site characterization. In particular, the groundwater must be investigated unless it can be demonstrated to Ecology's satisfaction that the release does not pose a threat to groundwater. Also emphasized that groundwater must be investigated if contamination has been detected or observed in groundwater or migrated to surface water or wetlands.

- (D) The release has migrated to surface water or wetlands; or
- (E) There is no evidence of the conditions in (b)(iv)(A) through (D) of this subsection, but UST owners and operators cannot demonstrate to ecology's satisfaction that the release does not pose a threat to groundwater;
- (v) Analyze collected samples for the hazardous substances released from the UST system, including:
 - (A) For petroleum, the substances specified in Table 830-1 based on the product stored; and
 - (B) For other hazardous substances, the substance stored and any likely decomposition by-products;
- (vi) Conduct any other investigations required by ecology; and
- (vii) Properly manage and dispose any waste materials, including contaminated soil and water, generated as a result of the initial site characterization in accordance with applicable state and federal laws. See WAC 173-340-710.⁵⁰⁶
- (c) **Free product removal.**⁵⁰⁷ If free product is discovered at the site, as soon as possible but no later than 30 days after release confirmation,⁵⁰⁸ UST system owners and operators must initiate actions to remove the free product while continuing, as necessary, any other actions required under this section. At a minimum, UST system owners and operators must:
 - (i) Conduct free product removal to the maximum extent practicable and in a manner that minimizes the spread of hazardous substances by using recovery and disposal techniques appropriate to the hydrogeologic conditions at the site. At a minimum, the free product removal system must be designed and operated to stop the free product migration;
 - (ii) Properly treat, discharge, or dispose of any hazardous substance, water, sludge or any other materials collected in the free product removal process in accordance with applicable state and federal laws. See WAC 173-340-710;
 - (iii) Handle all flammable products safely to prevent fires and explosions;

⁵⁰⁶ Emphasized that wastes generated as a result of remedial action must be properly managed and disposed in accordance with applicable state and federal laws, consistent with similar provisions in other parts of the MTCA cleanup rule.

⁵⁰⁷ Moved free product removal requirements from former subsection (4). Except as noted, no changes are intended.

⁵⁰⁸ Changed deadline to "initiate" free product recovery from "as soon as possible after discovery" to "as soon as possible but no later than 30 days after release confirmation." Emphasized that the deadline is to "initiate" recovery.

- (iv) Monitor, in accordance with WAC 173-360A-0665(4), for the presence of free product at least quarterly;⁵⁰⁹ and
- (v) Unless otherwise directed by ecology, submit to ecology written quarterly progress reports describing the results of the monitoring and free product removal actions. The first report may be combined with the interim action report required under subsection (6) of this section.⁵¹⁰
- (d) Continuing obligations.⁵¹¹ UST system owners and operators must continue to conduct the following measures to abate hazards at the site while continuing, as necessary, any other remedial action required under the state cleanup law:**

 - (i) Monitor and mitigate any additional fire and safety hazards posed by vapors or free product that may have migrated from the UST system into nearby buildings or other structures, such as underground utilities;
 - (ii) Reduce the threat to human health and the environment posed by contaminated soils excavated or discovered as a result of any remedial action; and
 - (iii) Properly manage and dispose any waste materials, including contaminated soil and water, generated as a result of any remedial action in accordance with applicable state and federal laws. See WAC 173-340-710.
- (6) Interim action report.⁵¹² Within 90 days of release confirmation, UST system owners and operators must submit an interim action report to ecology about the site and nature of the release. This report must comply with the submittal requirements in WAC 173-340-840 and include, at a minimum, the following information:**

 - (a) A summary of the initial response actions required under subsection (5)(a) of this section, and any resulting information and data;
 - (b) The results of the initial site characterization required under subsection (5)(b) of this section, and any other investigations conducted at the site, including:

 - (i) The source(s) of the releases;
 - (ii) An explanation of how the releases occurred;

⁵⁰⁹ Added requirement for quarterly monitoring for the presence of free product.

⁵¹⁰ Added requirement for quarterly reporting of monitoring results and free product removal. Authorized Ecology to modify reporting frequency on a site-specific basis. While more frequent reporting is needed early in the process, less frequent reporting may be appropriate later in the process as the volume recovered decreases.

⁵¹¹ Moved continuing obligations from former subsection (3)(a)(i) and (ii) and edited for clarity. No changes are intended.

⁵¹² Streamlined reporting of interim actions required under Section 450 into a single report that is due within 90 days of release confirmation. Eliminated separate status report required under former subsection (5)(a). Consolidated reporting requirements for status reports and site characterization reports in former subsection (5).

- (iii) The hazardous substances released, and the estimated quantity of hazardous substances released;
- (iv) The media contaminated by those releases and, to the extent known, the nature and extent of contamination within those media, and sample locations.
 - (A) If groundwater has not been tested, UST system owners and operators must include a demonstration that the release does not pose a threat to groundwater.⁵¹³
 - (B) If no potential vapor intrusion pathways have been identified, UST system owners and operators must include a demonstration that there is no potential for vapors from contaminated soil or groundwater to enter buildings, utility vaults, or other structures.⁵¹⁴
- (v) The results of the free product investigation, if applicable; and
- (vi) To the extent known, the pathways of exposure at the site and the human or ecological receptors affected by the releases;
- (c) The physical characteristics of the site, including:
 - (i) The location of tax parcels, property boundaries, right-of-ways, and above and below-ground structures;
 - (ii) The geology of the site, including subsurface soil conditions;
 - (iii) The hydrology of the site, including depth to groundwater, direction of groundwater flow, approximate location of wells potentially affected by the release, proximity of the release to and potential for affecting surface water and wetlands, the quality and use of groundwater and surface water;
 - (iv) The location of underground utilities and other potential conduits for vapor or free product migration; and
 - (v) The population and uses of the site and surrounding area;
- (d) Diagrams and cross-sections of the site, as appropriate, reflecting the information required in (b) and (c) of this subsection;
- (e) At sites where investigations indicate free product is present, information on the free product removal efforts, including:

⁵¹³ Added specific reporting requirement for cases where groundwater has not been tested as part of the investigation required under subsection (5)(b). In such cases, UST system owners and operators must include a demonstration that the release does not pose a threat to groundwater.

⁵¹⁴ Added specific reporting requirement for cases where no potential vapor intrusion pathway has been identified. As part of the investigation required under subsection (5)(b), UST owners and operators must identify whether there are any potential vapor intrusion pathways. That investigation should be done in accordance with Ecology's vapor intrusion guidance. Based on the results of the investigation, UST owners and operators must either identify potential pathways or demonstrate that there are no potential pathways.

- (i) Name of the person responsible for implementing the free product removal measures;
 - (ii) The estimated quantity, type, and thickness of free product observed or measured in wells, boreholes, and excavations;
 - (iii) The type of free product recovery system used;
 - (iv) If the recovery or monitoring of free product results in any discharges, then:
 - (A) The location of such discharges;
 - (B) The type of treatment applied to, and the effluent quality expected from such discharges; and
 - (C) The steps taken and planned to obtain necessary permits for such discharges; and
 - (v) Disposition of recovered free product and other contaminated materials generated by site investigations and cleanup;
 - (f) A description of any other on-going or completed remedial actions, and the results of such actions;
 - (g) A description of any planned remedial actions;
 - (h) The type of mechanism used to meet the financial responsibility requirements of WAC 173-360A-1045(2)(a), and if the mechanism is an insurance policy, then:
 - (i) Whether a claim has been made on the policy; and
 - (ii) Whether the insurer has accepted or denied the claim;⁵¹⁵ and
 - (i) Any other information required by ecology.
- (7) Further remedial action.** If the interim actions required under this section are insufficient to meet the criteria in WAC 173-340-330(5), UST system owners and operators must conduct further remedial action under the state cleanup law to investigate and clean up the release. WAC 173-340-120 provides an overview of the cleanup process under the state cleanup law.⁵¹⁶
- (8) Periodic updates on remedial actions.** At least every three years after release confirmation or more frequently as directed by ecology, UST system owners and operators must update the interim action report required under subsection (6) of this section and submit it to ecology unless:

⁵¹⁵ Added requirement that interim action report include the type of financial assurance mechanism used and, if insurance, then whether a claim has been made on the policy and whether it has been accepted or denied.

⁵¹⁶ Replaced the overview of next steps in the cleanup process in former subsections (6) through (8) with a reference to the cleanup process overview in Section 120. Emphasized that, if the specified interim actions in Section 450 are insufficient to meet the delisting criteria in Section 330, UST system owners and operators must conduct further remedial action under the state cleanup law to investigate and clean up the release. No changes are intended.

- (a) The site has been removed from the contaminated sites list under WAC 173-340-330;
- (b) Ecology is conducting remedial actions at the site or is supervising remedial actions at the site under an order or decree; or
- (c) The site is enrolled in a technical assistance program under WAC 173-340-515(5) or chapter 374-80 WAC.

Part 5 – Administrative Procedures for Remedial Actions

WAC 173-340-500 Determination of status as a potentially liable person.

- (1) **Status letter.** The department shall issue a potentially liable person status letter to any person it believes to be potentially liable as provided for in RCW ~~70.105D.020(8)~~70A.305.020(26), unless an emergency requires otherwise. Persons will be notified when the department has credible evidence of their potential liability under RCW ~~70.105D.040~~70A.305.040 and when the department is ready to proceed with remedial action except for emergencies and initial investigations. The status letter shall be sent by certified mail, return receipt requested, or by personal service.
- (2) **Contents of letter.** The status letter shall provide:
 - (a) The name of the person the department believes to be potentially liable;
 - (b) A general description of the location of the facility;
 - (c) The basis for the department's belief that the person has a relationship to the facility;
 - (d) The basis for the department's belief that a release or threatened release of a hazardous substance has occurred at the facility and that the release or threatened release poses a threat to human health or the environment;
 - (e) An indication of the department's intentions regarding enforcement or other actions at the facility; and
 - (f) The names of other persons to whom the department has sent a status letter.
- (3) **Opportunity to comment.** Any comments shall be submitted in writing to the department within ~~thirty~~30 days from the date of receipt by the potentially liable person of the status letter unless the department provides an extension.
- (4) **Determination of status.** If after reviewing any comments submitted, the department concludes that credible evidence supports a finding of potential liability, then the department shall issue a determination of potentially liable person status.
- (5) **Voluntary waiver.** Persons may accept status as a potentially liable person at any time through a voluntary waiver of their right to notice and comment.
- (6) **Additional potentially liable persons.** The department reserves the right to notify additional potentially liable persons at any time, and as resources permit, will facilitate potentially liable persons' efforts to identify additional potentially liable persons. The department shall notify in writing, all persons who previously received a status letter for the facility whenever additional status letters have been sent.

WAC 173-340-510 Administrative options for remedial actions.⁵¹⁷

At sites where ecology has determined remedial action is necessary under the state cleanup law, it is the responsibility of each and every liable person to conduct remedial action so that the sites are cleaned up well and expeditiously.⁵¹⁸ This section provides an overview of the administrative options for remedial action and the process for initiating remedial action. If there are any inconsistencies between this section and any specifically referenced sections, the referenced section governs.⁵¹⁹

- ~~(1) — **Policy.** It is the responsibility of each and every liable person to conduct remedial action so that sites are cleaned up well and expeditiously where a release or threatened release of a hazardous substance requires remedial action.~~⁵²⁰ ~~Potentially liable persons are encouraged to initiate discussions and negotiations with the department and the office of the attorney general that may lead to an agreement on the remedial action to be conducted with the state of Washington.~~⁵²¹ ~~The department may provide informal advice and assistance on the development of proposals for remedial action, as provided by WAC 173-340-515.~~⁵²² ~~Any approval by the department or the state of remedial action shall occur by one of the means described in subsections (2) and (3) of this section.~~⁵²³
- ~~(2) — **Actions initiated by the potentially liable person.**~~⁵²⁴ ~~Potentially liable persons may initiate a remedial action, as follows:~~
- ~~(a) — A person may initiate negotiations for a consent decree by submitting a letter under WAC 173-340-520(1).~~
- ~~(b) — A person may request an agreed order by submitting a letter under WAC 173-340-530.~~
- ~~(3) — **Action initiated by the department.**~~⁵²⁵ ~~The department may initiate remedial action by:~~
- ~~(a) — Issuing a letter inviting negotiations on a consent decree under WAC 173-340-520(2); or~~
- ~~(b) — Requesting an agreed order under WAC 173-340-530; or~~
- ~~(c) — Issuing an enforcement order under WAC 173-340-540.~~
- ~~(4) — **Department remedial action.**~~⁵²⁶ ~~Nothing in this chapter shall preclude the department from taking appropriate remedial action on its own at any time. Except for emergency actions and initial investigations, reasonable effort will be made to notify potentially liable persons before~~

⁵¹⁷ Updated and reorganized Section 510 to provide a more complete overview of administrative options for remedial action. Also integrated the overview included in Section 120(8) of the current rule.

⁵¹⁸ Moved statement from former subsection (1).

⁵¹⁹ Emphasized that this section provides an overview of administrative options for remedial action, and that the referenced section governs if there are any inconsistencies with the referenced section.

⁵²⁰ Incorporated within first sentence of this section.

⁵²¹ Incorporated within new subsection (2).

⁵²² Incorporated within new subsection (1).

⁵²³ Incorporated within new subsection (2).

⁵²⁴ Incorporated within new subsection (2).

⁵²⁵ Incorporated within new subsection (2).

⁵²⁶ Incorporated within new subsection (3).

~~the department takes remedial actions for which the recovery of public funds can be sought under RCW 70.105D.050(3).~~

- (1) Independent remedial action.**⁵²⁷ A person may investigate or clean up a site independently, without ecology supervision or approval, except as provided under WAC 173-340-515(2).
- (a) Standards.** When reviewing an independent remedial action, ecology determines whether it complies with the substantive requirements of the state cleanup law. Persons conducting an independent remedial action do so at their own risk. Ecology may require additional remedial action if it determines that such action is necessary under the state cleanup law. See WAC 173-340-515(3).
- (b) Reports.** Persons conducting independent remedial action must report all investigations, interim actions, and cleanup actions to ecology. Reports must include sufficient information for ecology to determine whether the remedial action meets the substantive requirements of the state cleanup law. See WAC 173-340-515(4).
- (c) Technical assistance.** Persons planning or conducting independent remedial action may request technical assistance from ecology, including advice on how to investigate and clean up a site and written opinions on whether a planned or completed remedial action meets the substantive requirements of the state cleanup law. Ecology may charge a fee for providing requested technical assistance. PLIA may also provide technical assistance for certain sites under RCW 70A.330.040(7) and chapter 374-80 WAC.
- (2) Ecology-supervised remedial action.**⁵²⁸ Ecology may supervise the investigation or cleanup of a site by a potentially liable person or a prospective purchaser under an order or decree. Such persons are encouraged to initiate discussions and negotiations with ecology and the attorney general that may lead to an agreement with the state of Washington on the remedial action to be conducted at a site. Ecology and the state will only approve of remedial action if it is an ecology-supervised remedial action.
- (a) Consent decree.** Ecology and the attorney general may require remedial action as part of a settlement agreement with a potentially liable person or a prospective purchaser. A settlement agreement must be entered as a consent decree issued by a court of competent jurisdiction. See RCW 70A.305.040(4) and (5), and WAC 173-340-520.
- (i) Settlement.** A consent decree may contain a covenant not to sue and provide protection from contribution claims.
- (ii) Initiation.** Negotiations for a consent decree may be initiated by a potentially liable person, a prospective purchaser, or ecology.

⁵²⁷ Expanded the overview of independent remedial actions, including when one may conduct such actions, what standards apply to such actions, when such actions need to be reported, and what technical assistance is available to persons conducting such actions.

⁵²⁸ Reorganized the overview of Ecology-supervised remedial actions to highlight the differences between consent decrees, agreed orders, and enforcement orders.

- (b) Agreed order.** Ecology may issue an order requiring remedial action with which a potentially liable person or a prospective purchaser agrees to comply. See RCW 70A.305.020(1), 70A.305.050(1), and 70A.305.040(6) and WAC 173-340-530.

 - (i) No settlement.** An agreed order is not a settlement agreement and does not contain a covenant not to sue or provide protection from contributions claims.
 - (ii) Initiation.** Discussions for an agreed order may be initiated by a potentially liable person, a prospective purchaser, or ecology.
- (c) Enforcement order.** Ecology may issue an enforcement order requiring a potentially liable person to conduct remedial action. See RCW 70A.305.050(1) and WAC 173-340-540.
- (3) Ecology-conducted remedial action.**⁵²⁹ Ecology may take appropriate remedial action to investigate or clean up a site at any time. Ecology typically conducts remedial action when a potentially liable person cannot be identified or when such persons are technically or financially unable to conduct remedial action. Ecology may seek to recover its remedial action costs from potentially liable persons. Except for emergency actions and initial investigations, ecology will make a reasonable effort to notify potentially liable persons before conducting remedial action. See RCW 70A.305.030(1) and 70A.305.050(3).

⁵²⁹ Expanded the overview of Ecology-conducted remedial actions.

WAC 173-340-515 Independent remedial actions.

- (1) **Purpose.** An independent remedial action is a remedial action conducted without department oversight or approval and not under an order, agreed order or consent decree. This section describes the procedures and requirements for independent remedial actions. See WAC 173-340-545 for additional requirements pertaining to independent remedial actions anticipated to be part of a private right of action.
- (2) **Applicability.** Nothing in this chapter shall preclude potentially liable persons from conducting independent remedial actions at sites not in discussions or negotiations for, or under, an order or decree. However, a potentially liable person may not conduct independent remedial actions after commencing discussions or negotiations for an agreed order or consent decree unless:
 - (a) Such action does not foreclose or preempt the remedial actions under discussion or negotiation and such action does not foreclose the selection of a cleanup action; or
 - (b) The potentially liable person has provided reasonable notice to the department and the department does not object to such action.
- (3) **Standards.**
 - (a) In reviewing independent remedial actions, the department shall determine whether the remedial actions meet the substantive requirements of ~~this chapter~~the state cleanup law and/or whether further remedial action is necessary at the site. Persons conducting independent remedial actions do so at their own risk, and may be required to take additional remedial actions if the department determines such actions are necessary. In such circumstances, the department reserves all of its rights to take actions authorized by law.
 - (b) When this chapter requires a consultation with, or an approval or determination by the department, such a consultation, approval or determination is not necessary in order to conduct an independent remedial action. However, independent remedial actions must still meet the substantive requirements of ~~this chapter~~the state cleanup law.
 - (c) Except for the requirement of a restrictive covenant under WAC 173-340-440, where documents are required under ~~this chapter~~the state cleanup law, the documents prepared need not be the same in title or format; however, the documents must still contain sufficient information to serve the same purpose. The scope and level of detail in these documents may vary from site to site depending on the site-specific conditions and the complexity of the remedial action.
- (4) **Reports to the department.**
 - (a) Applicability and timing.⁵³⁰

⁵³⁰ Restructured subsection (4)(a) to specify more clearly and distinguish the requirements for reporting investigations and the requirements for reporting interim actions and cleanup actions. Changes noted.

- (i) Investigations.**⁵³¹ Any person who conducts an independent investigation of a release required to be reported under WAC 173-340-300 must submit a written report to the department within 90 days of the completion of the investigation. For the purposes of this subsection:
- (A)** An investigation is any remedial action conducted as part of a remedial investigation of the site under WAC 173-340-350; and
- (B)** An investigation is complete if no remedial action other than compliance monitoring has occurred at the site for 90 days. This means that an investigation may need to be reported separately from an interim action or cleanup action and that an individual investigation may need to be reported separately from other investigations of the site.
- (ii) Interim actions and cleanup actions.** Any person who conducts an independent interim action or cleanup action for a release ~~that is~~ required to be reported under WAC 173-340-300 ~~shall~~ must submit a written report to the department within ~~ninety~~ 90 days of the completion of the action. For the purposes of this ~~section~~ subsection, ~~the department will consider~~ an interim action or cleanup action is complete if no remedial action other than compliance monitoring has occurred at the site for ~~ninety~~ 90 days. ~~This does not preclude earlier reporting of such actions or reporting of site investigations.~~
- (iii) Releases from regulated UST systems.** For releases from UST systems regulated under chapter 173-360A WAC, ~~see~~ WAC 173-340-450 for additional requirements for reporting independent remedial actions ~~for releases from underground storage tanks.~~
- (b) Content.** ~~The~~ An independent remedial action report ~~shall~~ must include the information in WAC 173-340-300 ~~(2)~~ (3) if not already reported, and enough information to determine if the ~~independent~~ remedial action meets the substantive requirements of ~~this chapter~~ the state cleanup law, including, ~~the results of all site investigations, feasibility studies, interim actions,~~ feasibility studies, interim actions, ⁵³² cleanup actions, and compliance monitoring planned or under way. Previously reported information may be summarized and referenced to avoid unnecessary duplication. ⁵³³ The report must comply with the requirements in WAC 173-340-840. ⁵³⁴ If a restrictive covenant is used, it must be included in the report

⁵³¹ Added requirement that independent investigations of a site must be reported to Ecology within 90 days of completion. For the purposes of this requirement, an investigation is considered complete if no remedial action other than compliance monitoring has occurred at the site for ninety days. This means that an investigation may need to be reported separate from an interim action or cleanup action. This also means that an individual investigation may need to be reported separate from other investigations of the site.

⁵³² Clarified that independent remedial action reports must also include the results of any feasibility studies or interim actions conducted at the site.

⁵³³ Emphasized that previously reported information may be summarized and referenced in an independent remedial action report to avoid unnecessary duplication.

⁵³⁴ Clarified that independent remedial action reports must comply with the reporting requirements in Section 840.

and it must meet the requirements specified in WAC 173-340-440(9). The department may require additional reports on the work conducted.

- (c) **Initial investigation.** If the independent investigation, interim action, or cleanup action is completed within ~~ninety~~90 days of release discovery, ~~a single written report may be submitted on both the release and the action taken. The report shall contain the information specified in provision (b) of this subsection and shall be submitted within ninety days of completion of the remedial action~~⁵³⁵ the department may defer completing any needed initial investigation of the release to enable review of the independent remedial action and report in accordance with WAC 173-340-310(5)(b).⁵³⁶
- (d) **Notification.** The department ~~shall publish in the Site Register a notice of all reports on~~ will notify the public of an independent investigation,⁵³⁷ ~~interim actions, and/or cleanup actions~~ report received under this section in accordance with WAC 173-340-600(20).⁵³⁸ ~~If deemed necessary, the department shall also conduct an initial investigation under WAC 173-340-310.~~
- (e) **Liability.** Neither submission of information on an independent remedial action nor any response by the department shall release the person submitting the report or any other person from liability. The department reserves all rights to pursue any subsequent action it deems appropriate.
- (5) **Technical consultations.** The department may provide informal advice and assistance (technical consultations) on the administrative and technical requirements of ~~this chapter~~the state cleanup law to persons conducting or otherwise interested in an independent remedial action. Such advice or assistance is advisory only and not binding on the department. This advice may include written opinions. These written opinions shall be limited to whether the independent remedial actions or proposals for those actions meet the substantive requirements of ~~this chapter~~the state cleanup law and/or whether the department believes further remedial action is necessary at the ~~facility~~site.
- (a) Upon completing the review of an independent remedial action report or proposal that is voluntarily submitted for the department's review and opinion, the department will:
- (a)(i) Provide a written opinion regarding the remedial actions performed or proposed at the site;

⁵³⁵ Changed release reporting requirements when independent remedial actions are completed within 90 days of release discovery. In such cases, releases must be reported within 90 days of discovery instead of within 90 days of completing the independent remedial action. See notes on Section 300(3).

⁵³⁶ Referenced provision in Section 310(5)(b) that allows Ecology to defer completing an initial investigation when an independent remedial investigation, interim action, or cleanup action is completed within 90 days of release discovery. See notes on Section 310(5).

⁵³⁷ Consistent with change to reporting requirement in subsection (4)(a)(i), added requirement that Ecology notify the public of independent investigation reports submitted to Ecology.

⁵³⁸ Changed how Ecology will notify the public when Ecology receives an independent remedial action report. Ecology will make the report publicly available on Ecology's website and, if requested, alert an interested person when the report is available. Ecology will no longer provide such notice in the *Contaminated Site Register*. See WAC 173-340-600(20).

~~(b)~~(ii) Provide a written opinion regarding the remedial actions performed at the site and remove the site ~~or a portion of the site~~⁵³⁹ from the ~~hazardous~~contaminated sites list if the department has sufficient information to show that the independent remedial actions are appropriate to characterize and address contamination at the site, as ~~provided for~~specified in WAC 173-340-330~~(4)(b)~~(5); or

~~(c)~~(iii) Provide a written opinion describing the deficiencies with the remedial action or proposal for a remedial action at the site.

(b) It is the department's policy, in conducting reviews under this subsection, to promote independent remedial actions by delisting sites ~~or portions of sites~~ whenever petitions and supporting documents show that the actions taken are appropriate to characterize and address the contamination at the site.

(c) The department will notify the public of a written opinion issued under this subsection in accordance with WAC 173-340-600(20).⁵⁴⁰

(6) Cost of technical consultations. For information on the payment of remedial action costs, see WAC 173-340-550(6).

⁵³⁹ Clarified that Ecology does not remove portions of a site from the contaminated sites list, or redefine a contaminated site, when a portion of a site (cleanup unit) is cleaned up. Rather, Ecology tracks the progress in cleaning up a site, and any units within the site, on its database and makes such information available to the public.

⁵⁴⁰ Changed how Ecology will notify the public when Ecology provides a written opinion on an independent remedial action. Ecology will make the opinion publicly available on Ecology's website and, if requested, alert an interested person when the opinion is available. Ecology will no longer provide such notice in the *Contaminated Site Register*. See WAC 173-340-600(20).

WAC 173-340-520 Consent decrees.

- (1) Procedures for consent decrees initiated by potentially liable persons.** To request a consent decree a person shall submit a letter to the department and office of the attorney general via certified mail, return receipt requested, or by personal delivery.
- (a) Request.** The letter shall describe, based on available information:
- (i)** The proposed remedial action, including the schedule for the work;
 - (ii)** Information which demonstrates that the settlement will lead to a more expeditious cleanup, be consistent with cleanup standards if the remedial action is a cleanup action, and be consistent with any previous orders;
 - (iii)** The facility, including location and boundaries;
 - (iv)** The environmental problems to be addressed including a description of the releases at the facility and the potential impact of those releases to human health and the environment;
 - (v)** A summary of the relevant historical use or conditions at the facility;
 - (vi)** The date on which the potentially liable person will be ready to submit a detailed proposal;
 - (vii)** Any special scheduling considerations for implementing the remedial actions;
 - (viii)** Names of other persons who the person has reason to believe may be potentially liable persons at the facility; and
 - (ix)** A proposed public participation plan. This proposed plan shall be commensurate with the nature of the proposal and site and shall include the elements listed in WAC 173-340-600(8).
- (b)** The letter may include:
- (i)** A waiver of the procedural requirements of WAC 173-340-500 and acceptance, for purposes of settlement, of potentially liable person status.
 - (ii)** The contents of detailed proposal under (g) of this subsection.
- (c)** A prospective purchaser consent decree is a particular type of consent decree entered into with a person not currently liable for remedial action at the site who proposes to purchase, redevelop, or reuse the site. RCW ~~70.105D.040(5)~~70A.305.040(5) contains specific statutory requirements for this type of decree. In addition to the information in (a) and (b) of this subsection, a request for a prospective purchaser consent decree shall include:
- (i)** Identification of all persons proposing to enter into the consent decree and information which demonstrates that those persons are not currently liable for remedial action at the site;

- (ii) Information which demonstrates that the settlement will yield substantial new resources to facilitate cleanup;
 - (iii) A general description of the proposed continued use or redevelopment or reuse of the site, including the proposed schedule for purchase, redevelopment, or reuse; and
 - (iv) Information describing whether and how the proposed settlement will provide a substantial public benefit.
- (d) Recognizing that the steps of the cleanup process may be combined and may vary by site, the information in the request shall be at the level of detail appropriate to the steps in the process for which the consent decree is requested. For example, a request for a consent decree for a remedial investigation/feasibility study should generally include the level of information needed for a site hazard assessment, if not already done by the department, so that the department and the public can evaluate the proposed scope of work and relative priority of the site.
- (e) The department may waive part of the letter requirements of (a) of this subsection if the requirements have already been met.
- (f) **Response.** The department shall respond to the request within ~~sixty~~60 days, unless the department needs additional time to determine potentially liable person status under WAC 173-340-500. This determination will be based in part on a preliminary finding by the department that any resulting consent decree would be in accordance with RCW ~~70.105D.040 (4)(a)~~70A.305.040(4)(a). The department may:
 - (i) Request additional information;
 - (ii) Accept the request and require the person to submit a detailed written proposal by a specified date; or
 - (iii) Provide written reasons for denying the request.
- (g) **Contents of detailed proposal.** The proposal shall contain:
 - (i) A proposed technical scope of work describing the remedial action to be conducted;
 - (ii) The data, studies, or any other information upon which the settlement proposal is based;
 - (iii) A statement describing the potentially liable person's ability to conduct or finance the remedial action as described in the proposed scope of work;
 - (iv) A schedule for proposed negotiations and implementation of the proposed remedial actions; and
 - (v) Any additional information requested by the department.

- (h) In addition to the information in (g) of this subsection, the detailed proposal for a prospective purchaser consent decree shall include the following:
 - (i) Information showing a legal commitment to purchase, redevelop or reuse the site;
 - (ii) A detailed description including a plan of the proposed continued use, redevelopment, or reuse of the site, including, if necessary, an updated schedule for purchase, redevelopment or reuse;
 - (iii) Information which demonstrates that the redevelopment or reuse of the site is not likely to contribute to the existing or threatened releases at the site, interfere with remedial actions that may be needed at the site, or increase health risks to persons at or in the vicinity of the site; and
 - (iv) If the requestor does not propose to conduct the entire cleanup of the site, available information about potentially liable persons who are expected to conduct the remainder of the cleanup.
- (i) The department and the office of the attorney general shall determine whether the proposal provides a sufficient basis for negotiations, and shall deliver to the potentially liable person within ~~sixty~~60 days following receipt of their proposal a written notice indicating whether or not the proposal is sufficient to proceed with negotiations.
- (j) **Prepayment agreement.** Unless otherwise determined by the department, any person who requests a prospective purchaser agreement and receives a notice accepting the request under (f) of this subsection shall enter into a prepayment agreement with the department consistent with WAC 173-340-550(7) before negotiations will begin.
- (k) **Time limits for negotiations.** The department shall set the time period and starting date for negotiations. The department and the office of the attorney general shall then negotiate with those potentially liable persons who have received a notice under (f) of this subsection that their proposal was sufficient to proceed with negotiations. Negotiations may address one or more phases of remedial action. ~~The length of the negotiation period specified by the department shall be no less than that proposed by the potentially liable person provided it does not conflict with the deadlines established under WAC 173-340-140.~~⁵⁴¹
- (l) **Enforcement stay.** For consent decrees that are not prospective purchaser agreements, unless an emergency exists, the department will stay any enforcement action under chapter ~~70.105D~~70A.305 RCW, but the duration of such stay shall not exceed ~~one hundred twenty~~120 days from the date negotiations begin. The department can withdraw from negotiations if it determines that:

⁵⁴¹ Eliminated the concept of “high priority” sites in Section 140, and related requirements throughout the rule, including this one. See note on Section 140. Ecology will set the time period for negotiations on a site-specific basis and consider the time period proposed by the potentially liable person.

- (i) Reasonable progress is not being made toward a consent decree acceptable to the department; or
- (ii) The proposal is inappropriate based on new information or changed circumstances.

The department may begin an enforcement action after notifying the potentially liable person, in writing, of its intent to withdraw from negotiations.

- (2) **Procedures for consent decrees initiated by the department.** When the department believes that a consent decree will be a more expeditious method to achieve remedial action at a facility, it may initiate the procedures set forth in this subsection by sending a letter to the potentially liable person. The letter shall be sent via certified mail, return receipt requested, or by personal service.
- (a) The letters may be delivered with potentially liable person status letters issued under WAC 173-340-500. The period for negotiation shall not commence until the ~~thirty~~30-day comment period required by WAC 173-340-500 has expired or the person expressly waives the procedural requirements of WAC 173-340-500.
 - (b) **Contents of letter.** The letter shall:
 - (i) Inform potentially liable person(s) that the department and the attorney general want to begin negotiations which may lead to a consent decree providing for remedial action;
 - (ii) Propose a draft consent decree and scope of work;
 - (iii) Define the negotiation process and schedule which shall not exceed ~~ninety~~90 days;
 - (iv) Reference the department's finding under WAC 173-340-500;
 - (v) Request a written statement of the potentially liable person's willingness to proceed with the negotiation process defined in the letter; and
 - (vi) Request the names of other persons whom the person has reason to believe may be potentially liable persons at the facility.
 - (c) The letter may request the potentially liable person to respond, in writing, to the proposed draft consent decree and scope of work before beginning the negotiation phase.
 - (d) **Negotiations.** The department and the office of the attorney general shall negotiate with potentially liable persons who have indicated to the department a willingness to proceed with the negotiations. The negotiation time frame shall begin from the date the potentially liable person receives the letter under (a) of this subsection unless modified by the department. Negotiations may address one or more phases of remedial action.

- (e) **Enforcement stay.** Unless an emergency exists, the department will stay any enforcement action under chapter ~~70.105D~~70A.305 RCW, but the duration of the stay shall not exceed ~~ninety~~90 days from the date negotiations begin. The department can withdraw from negotiations if it determines that:
- (i) Reasonable progress is not being made toward a consent decree acceptable to the department; or
 - (ii) The proposal is inappropriate based on new information or changed circumstances. The department may commence with enforcement action after notifying the potentially liable person, in writing, of its intent to withdraw from negotiations.
- (f) **Deadline extensions.** The department may, at its discretion, extend the deadline for negotiations established in (b) of this subsection, provided the extension does not exceed ~~thirty~~30 days.
- (3) **Filing a decree.** After satisfying the public comment and hearing requirements, the department shall determine whether the proposed settlement negotiated under subsection (1) or (2) of this section, is more expeditious and consistent with cleanup standards established and in compliance with any order issued by the department relevant to the remedial action. After making the requisite findings, the department shall forward the proposed consent decree with the findings required by RCW ~~70.105D.040(4)~~70A.305.040(4), to the office of the attorney general. If agreed to by the office of the attorney general, the consent decree will be filed by that office with the appropriate superior court or the federal court having jurisdiction over the matter.

WAC 173-340-530 **Agreed orders.**

- (1) Purpose.** Agreed orders may be used for all remedial actions. An agreed order means that the potentially liable person agrees to perform remedial actions at the site in accordance with the provisions of the agreed order and that the department will not take additional enforcement action against the potentially liable person to require those remedial actions specified in the agreed order so long as the potentially liable person complies with the provisions of the order. Since an agreed order is not a settlement, an agreed order shall not provide for mixed funding, a covenant not to sue, or protection from claims for contribution. The department may require additional remedial actions should it deem such actions necessary.
- (2) Procedures for agreed orders initiated by a potentially liable person.**

 - (a)** To request an agreed order, a person shall submit a letter to the department based on available information, describing:

 - (i)** The proposed remedial action including a schedule for the work;
 - (ii)** The facility, including location and boundaries;
 - (iii)** The environmental problems to be addressed, including the releases at the facility and the potential impact of those releases to human health and the environment;
 - (iv)** A summary of the relevant historical use or conditions at the facility;
 - (v)** Names of other persons whom the person has reason to believe may be potentially liable persons at the facility; and
 - (vi)** A proposed public participation plan. This proposed plan shall be commensurate with the nature of the proposal and site and shall include, at a minimum, the elements listed in WAC 173-340-600(8).
 - (b)** The letter may include a waiver of the procedural requirements of WAC 173-340-500, and acceptance, for purposes of the agreed order, of potentially liable person status.
 - (c)** Recognizing that the basic steps of the cleanup process may be combined and may vary by site, the information in the request shall be at the level of detail appropriate to the step in the process for which the order is requested. For example, a request for an agreed order for a remedial investigation/feasibility study should generally include the level of information needed for a site hazard assessment, so that the department and the public can evaluate the proposed scope of work and relative priority of the site.
 - (d)** The department may waive part of the letter requirements of (a) of this subsection if the requirements have already been met.
- (3) Department response to PLP-initiated request.** The department shall respond to the request within ~~sixty~~60 days, unless the department needs additional time to determine potentially liable person status under WAC 173-340-500. The department may:

- (a) Request additional information;
 - (b) Proceed with discussions, if the department believes it is in the public interest to do so; or
 - (c) Provide written reasons for denying the request.
- (4) **Procedures for agreed orders initiated by the department.** When the department believes that an agreed order is an appropriate method to achieve remedial action at a facility, it may initiate the request for an agreed order.
- (5) **Duration of discussions.** Discussions on the agreed order shall not exceed ~~sixty~~60 days unless the department decides continued discussions are in the public interest.
- (6) **Enforcement.** Unless an emergency exists, the department will stay any enforcement action under chapter ~~70.105D~~70A.305 RCW; however, the duration of such stay shall not exceed ~~sixty~~60 days from the date discussions begin. Furthermore, the department can withdraw from discussions if it determines that:
- (a) Reasonable progress is not being made toward an agreed order acceptable to the department; or
 - (b) The agreed order is inappropriate based on new information or changed circumstances.
- The department may begin an enforcement action after notifying the potentially liable person in writing of its intent to withdraw from discussions.
- (7) **Focus of discussions.** The focus of discussions for the agreed order shall ordinarily be the technical scope of work and work schedule. This subsection is not intended to preclude discussion on any item. It is intended to convey the expectation that the scope of work and work schedule will be the primary topics of discussion in developing agreed orders.
- (8) **Public participation.**
- (a) When issuing an agreed order, the department shall provide ~~or require appropriate public participation opportunities under~~ public notice in accordance with WAC 173-340-600(11).⁵⁴²
 - (b) If the department and the potentially liable person signing the order agree to substantial changes in the order, the department shall provide ~~or require appropriate additional public notice and opportunity to comment~~ in accordance with WAC 173-340-600(11).⁵⁴³

⁵⁴² Clarified public participation requirements when issuing an agreed order, consistent with requirements in Section 600(11). Ecology will provide or require “public notice” as specified in Section 600(2).

⁵⁴³ Clarified public participation requirements when making substantial changes in an agreed order, consistent with requirements in Section 600(11). Ecology will provide or require “public notice” as specified in Section 600(2).

WAC 173-340-540 Enforcement orders.

The department may issue an enforcement order requiring remedial action after issuing a notice of potentially liable person status letter under WAC 173-340-500. In emergencies, the notice of potentially liable person status may occur concurrently with the issuance of the order. Unless an emergency requires otherwise, the issuance of a potentially liable person status letter shall precede or take place concurrently with the issuance of an enforcement order. Furthermore, except in an emergency, the department shall issue its determination under WAC 173-340-500(4) before an enforcement order can become effective. Failure to comply with an enforcement order may result in substantial liability for costs and penalties as specified in RCW ~~70.105D.050~~70A.305.050.

WAC 173-340-545 Private rights of action.

- (1) **Purpose.** A private right of action is a legal claim authorized by RCW ~~70.105D.080~~70A.305.080 under which a person may recover costs of remedial action from other persons liable under the act. RCW ~~70.105D.080~~70A.305.080 limits recovery of remedial action costs to those remedial actions that, when evaluated as a whole, are the substantial equivalent of a department-conducted or department-supervised remedial action. The purpose of this section is to facilitate private rights of action and minimize department staff involvement in these actions by providing guidance to potentially liable persons and the court on what remedial actions the department would consider the substantial equivalent of a department-conducted or department-supervised remedial action. In determining substantial equivalence, the department anticipates the requirements in this section will be evaluated as a whole and that a claim would not be disallowed due to omissions that do not diminish the overall effectiveness of the remedial action.
- (2) **Substantial equivalent.** For the purposes of this section, the department considers the following remedial actions to be the substantial equivalent of a department-conducted or department-supervised remedial action.
- (a) A remedial action conducted by the department;
 - (b) A remedial action that has been or is being conducted under an order or decree and the remedial requirements of the order or decree have been satisfied for those portions of the remedial action for which the private right of action is being sought; or
 - (c) A remedial action that has been conducted as an independent remedial action that includes the following elements:
 - (i) Information on the site and remedial actions conducted has been reported to the department in accordance with WAC 173-340-300, 173-340-450 and 173-340-515, as applicable;
 - (ii) The department has not objected to the remedial action being conducted or any such objection has been cured as determined by the court;
 - (iii) Except for emergency remedial actions, before conducting an interim action or cleanup action, reasonable steps have been taken to provide advance public notice;
 - (iv) The remedial actions have been conducted substantially equivalent with the technical standards and evaluation criteria described in subsection (4) of this section; and
 - (v) For facilities where hazardous substances have been disposed of as part of the remedial action, documentation is available indicating where these substances were disposed of and that this disposal was in compliance with applicable state and federal laws. It is not the intent of this provision to require extensive documentation. For example, if the remedial action results in solid wastes being

transported offsite for disposal, it would be sufficient to have records indicating the wastes have been disposed of at a permitted solid waste or hazardous waste landfill.

(3) Public notice requirements. This subsection shall be used to determine if reasonable steps have been taken to provide advance public notice under subsection (2)(c)(iii) of this section. These public notice procedures apply only to interim actions or cleanup actions conducted as independent remedial actions after December 25, 1993. The notice may be combined with any notices under another law. For interim actions or cleanup actions conducted as independent remedial actions before December 25, 1993, the department recognizes little or no public notification typically occurred because there were no department-specified requirements other than the reporting requirements in this chapter. For these actions, this chapter contains no other specific public notice requirements or guidance, and the court will need to determine such requirements, if any, on a case-by-case basis. For independent remedial actions consisting of site investigations and studies, it is anticipated that public notice would not normally be done since often these early phases of work are to determine if a release even requires an interim action or cleanup action. For the purposes of this section only, unless the court determines other notice procedures are adequate for the site-specific circumstances, the following constitutes adequate public notice for independent remedial actions and supersedes the requirements in WAC 173-340-600:

- (a)** Except for emergency remedial actions, written notification has been ~~mailed~~provided at least ~~fifteen~~15 days before beginning construction of the interim action or cleanup action to the last known address of the following persons:
 - (i)** The department (which shall publish a summary of the notice in the Contaminated Site Register);
 - (ii)** The local jurisdictional health department/district;
 - (iii)** The town, city or county with land use jurisdiction;
 - (iv)** The land owners identified by the tax assessor at the time the action is begun for that portion of the facility where the interim action or cleanup action is being conducted; and
 - (v)** Persons potentially liable under RCW ~~70.105D.040~~70A.305.040 known to the person conducting the interim action or cleanup action. In identifying persons potentially liable under RCW ~~70.105D.040~~70A.305.040 who are to be noticed under this provision, the person conducting the remedial action need only make a reasonable effort to review information currently readily available. Where the interim action or cleanup action is complex, written notification before beginning detailed design is recommended but not required. For emergency remedial actions, written notice should be provided as soon as practicable;
- (b)** The written notification includes: A brief statement describing the releases being remedied and the interim actions or cleanup actions expected to be conducted; the schedule for these interim actions or cleanup actions; and, for persons potentially liable

under RCW ~~70.105D.040~~70A.305.040 known to the person conducting the interim actions or cleanup actions, a statement that they could be held liable for the costs of remedial actions being conducted; and

- (c) Posting a sign at the site at a location visible to the general public indicating what interim actions or cleanup actions are being conducted and identifying a person to contact for more information. Except for emergency remedial actions this sign should be posted not later than the beginning of construction of any interim action or cleanup action and should remain posted for the duration of the construction. For emergency remedial actions posting of a sign should be done as soon as practicable;
- (4) **Technical standards and evaluation criteria.** This subsection shall be used to determine if the remedial actions have been conducted substantially equivalent with the technical standards and evaluation criteria contained in this chapter. For the purposes of this section, remedial actions shall be deemed to comply with subsection (2)(c)(iv) of this section if they have been conducted substantially equivalent with the technical standards and evaluation criteria contained in the following sections, where applicable. Except for a restrictive covenant under WAC 173-340-440, where documents are required by the following sections, the documents prepared need not be the same in title or format. Other documents can be used in place of the documents specified in these sections as long as sufficient information is included in the record to serve the same purpose. When using the following sections to determine substantial equivalence it should be recognized that there are often many alternative methods for cleanup of a facility that would comply with these provisions. When this chapter requires a consultation with, or an approval or determination by the department, such a consultation, approval or determination is not necessary for remedial actions to meet the substantial equivalence requirement under this section; however, the remedial action must still be conducted substantially equivalent with the substantive requirements of those provisions. In applying these sections, reference should be made to the other applicable sections of this chapter, with particular attention to WAC 173-340-130 (Administrative principles), WAC 173-340-200 (Definitions), and WAC 173-340-210 (Usage).
- (a) WAC 173-340-350 (Remedial investigation/~~feasibility study~~);⁵⁴⁴
- (b) WAC 173-340-351 (Feasibility study);⁵⁴⁵
- ~~(b)~~(c) WAC 173-340-355 (Development of cleanup action alternatives that include remediation levels);
- ~~(c)~~(d) WAC 173-340-357 (Quantitative risk assessment of cleanup action alternatives);
- ~~(d)~~(e) WAC 173-340-360 (~~Selection of e~~Cleanup actions requirements);⁵⁴⁶
- (f) WAC 173-340-370 (Cleanup action expectations);⁵⁴⁷

⁵⁴⁴ Reflected split of Section 350 into two separate sections. Section 350 is now focused only on remedial investigations. New Section 351 is focused on feasibility studies.

⁵⁴⁵ See note on subsection (4)(a).

⁵⁴⁶ Reflected change in section header.

- ~~(e)~~(g) WAC 173-340-380 (Cleanup action plan);
- ~~(f)~~(h) WAC 173-340-400 (Cleanup actions implementation);⁵⁴⁸
- ~~(g)~~(i) WAC 173-340-410 (Compliance monitoring requirements);
- ~~(h)~~(j) WAC 173-340-430 (Interim actions);
- ~~(i)~~(k) WAC 173-340-440 (Institutional controls);
- ~~(j)~~(l) WAC 173-340-450 (Releases from regulated underground storage tanks systems);⁵⁴⁹
- ~~(k)~~(m) WAC 173-340-700 through 173-340-760 (Cleanup standards); and
- ~~(l)~~(n) WAC 173-340-810 through 173-340-850 (General provisions).⁵⁵⁰

⁵⁴⁷ Added Section 370 to list consistent with change in role of cleanup action expectations in feasibility study. Added explicit requirement that the cleanup action expectations in Section 370 must be considered when evaluating cleanup action alternatives in the feasibility study (see Section 351(6)(d)). Also added explicit requirement that any non-conformance of the preferred cleanup action alternative to the expectations must be documented and explained in the feasibility study report (see Section 351(6)(f)(viii)(A)). See notes on Section 370.

⁵⁴⁸ Reflected change in section header.

⁵⁴⁹ Reflected change in section header.

⁵⁵⁰ Added new Section 815, Cultural resource protection, to list. See notes on Section 815.

WAC 173-340-550 Payment of remedial action costs.

(1) **Policy.** RCW ~~70.105D.050(3)~~70A.305.050(3) requires that the state seek to recover the amounts spent by the department for investigative and remedial actions and orders. It is the department's intention to recover those costs which are reasonably attributable to individual sites. Timing of cost recovery for individual sites will be considered on a case-by-case basis, however, the department may demand, and generally requires, payment of costs as they are incurred.

(2) **Costs.** Each person who is liable under chapter ~~70.105D~~70A.305 RCW is liable for remedial action costs incurred by the department. Remedial action costs are costs reasonably attributable to the site and may include costs of direct activities, support costs of direct activities, and interest charges for delayed payments. The department may send its request for payment to all potentially liable persons who are under an order or decree for the remedial action costs at the site. The department shall charge an hourly rate based on direct staff costs plus support costs. It is the department's intention that the resulting hourly rate charged be less than the hourly rate typically charged by a comparably sized consulting firm providing similar services. The department shall use the following formula for computing hourly rates:

Hourly Rate = DSC + DSC(ASCM) + DSC(PSCM), where:

DSC = Direct Staff Costs defined in (a) of this subsection.

ASCM = Agency Support Cost Multiplier defined in (b) of this subsection.

PSCM = Program Support Cost Multiplier defined in (c) of this subsection.

(a) Costs of direct activities are direct staff costs and other direct costs. Direct staff costs (DSC) are the costs of hours worked directly on a contaminated site, including salaries, retirement plan benefits, Social Security benefits, health care benefits, leave and holiday benefits, and other benefits required by law to be paid to, or on behalf of, employees. Other direct costs are costs incurred as a direct result of department staff working on a contaminated site including, for example, costs of: Travel related to the site, printing and publishing of documents about the site, purchase or rental of equipment used for the site, and contracted work for the site.

(b) Agency support costs are the costs of facilities, communications, personnel, fiscal, and other statewide and agency-wide services. The agency support cost multiplier (ASCM) used shall be the agency indirect rate approved by the agency's federal cognizant agency (which, as of July 1, 1993, was the United States Department of the Interior) for each fiscal year.

(c) Program support costs are the costs of administrative time spent by site managers and other staff who work directly on sites and a portion of the cost of management, clerical, policy, computer, financial, ~~citizen technical advisor~~,⁵⁵¹ and other support provided by

⁵⁵¹ Eliminated reference to a citizen technical advisor to reflect elimination of concept in Section 600. See note on former Section 600(18). Eliminating the reference does not eliminate Ecology's authority to establish such a position in the future or to recover the costs of such program support.

other program staff to site managers and other staff who work directly on sites. Other activities of the toxics cleanup program not included in program support costs include, for example, community relations not related to a specific site, policy development, and a portion of the cost of nonsite management, clerical, policy, computer, financial, and other support staff. The program support cost multiplier (PSCM) used shall be calculated by dividing actual program support costs by the direct staff costs of all hours charged to site related work. This multiplier shall be evaluated at least biennially and any changes published in at least two publications of the *Contaminated Site Register*. The calculation and source documents used in any revision shall be audited by either the state auditor's office or a private accounting firm. Audit results shall be available for public review. This multiplier shall not exceed 1.0 (one).

- (3) Request for payment.** When the department requests payment of remedial action costs it shall provide an itemized statement documenting the costs incurred.
- (4) Interest charges.** A charge of ~~twelve~~12 percent interest (annual percentage rate, compounded monthly) shall accrue on all remedial action costs not paid within ~~ninety~~90 days of the billing date, or within another longer time period designated by the department.
- (5) Natural resource damages.** Nothing in this section shall affect the authority of the department and the office of attorney general to recover natural resource damages.
- (6) Independent remedial actions.**

 - (a)** The department may collect, from persons requesting a site-specific technical consultation under WAC 173-340-515, the costs incurred by the department in providing such advice and assistance.
 - (b)** For situations where the department has decided to collect its costs, a refundable deposit of a reasonable amount will be required. The department's hourly costs shall be determined based on the method in ~~WAC 173-340-550(2)~~subsection (2) of this section.
 - (c)** The department's Toxics Cleanup Program manager or designee may make a discretionary, nonappealable decision on whether a person is eligible for a waiver of fees based on that person's ability to pay.
 - (d)** The department shall waive collection of its costs, where appropriate, in providing technical assistance in support of an appropriate level of public participation or where the department's time in responding to the request is de minimis.
- (7) Prepayment of costs.**

 - (a)** Persons potentially liable under this chapter or seeking a prospective purchaser agreement may request the department's oversight of remedial actions through a prepayment agreement. The purpose of such an agreement is to enable department oversight of remedial actions at lower priority sites. The department shall make a determination that such an agreement is in the public interest. A prepayment agreement requires a person to pay the department's remedial action costs, in advance,

allowing the department to increase staff for the unanticipated workload. Agreements may cover one or more facilities. Whether the department can respond favorably to a request for a prepayment agreement will depend, in part, on the department and attorney general receiving authorization for the staffing necessary to implement the agreement. Persons interested in such an agreement are encouraged to contact the department early on to informally discuss the potential for using such an agreement at a facility.

- (b)** Prepayment agreements do not replace an order or decree but are preliminary to or work in conjunction with such documents. Persons entering into a prepayment agreement shall enter into good faith negotiations on an agreed order or consent decree governing remedial actions at the facility in accordance with the procedures described in WAC 173-340-520(1) or 173-340-530(2). Failure to successfully conclude such negotiations may result in the department withdrawing from the prepayment agreement or initiating enforcement action.

WAC 173-340-560 Mixed funding.

- (1) Introduction.** Under RCW ~~70.105D.070(2)(d)(xi)~~70A.305.190(4)(a)(v), the department may provide public funds from the state model toxics control capital account to a potentially liable person for the purpose of assisting with the payment of remedial action costs regardless of when incurred. This assistance can be provided in the form of a loan or a contribution, in cash or in kind. Any funding decision under this section is solely the responsibility of the director.
- (2) Applicability and request.**

 - (a)** Mixed funding shall be provided only to potentially liable persons whom the department has found to be eligible and who have entered into a consent decree with the department under the requirements of this chapter.
 - (b)** The consent decree shall identify remedial action tasks to be addressed by the mixed funding, costs to be borne by the potentially liable person, costs to be borne by the state model toxics control capital account and terms of the agreement. In the case of loans, the consent decree shall also define any terms and conditions under which the potentially liable person receiving mixed funding has agreed to reimburse the state model toxics control capital account.
 - (c)** The potentially liable person shall submit sufficient documentation to support its request for mixed funding.
- (3) Eligibility and mixed funding criteria.** The director shall make a determination, based upon specific criteria whether a proposal is eligible for funding. The only circumstances under which mixed funding can be approved by the department are when the funding will achieve both:

 - (a)** A substantially more expeditious or enhanced cleanup than would otherwise occur; and
 - (b)** The prevention or mitigation of unfair economic hardship. In considering this criterion the department shall consider the extent to which mixed funding will either:

 - (i)** Prevent or mitigate unfair economic hardship faced by the potentially liable person if the remedial action plan were to be implemented without public funding; or
 - (ii)** Achieve greater fairness with respect to the payment of remedial action costs between the potentially liable person entering into a consent decree with the department and any nonsettling potentially liable persons.
- (4) Funding decision.** The department may have informal discussions on mixed funding. If a potentially liable person is found to be eligible for mixed funding, the director shall make a determination regarding the amount of funding to be provided, if any. This shall be determined at the discretion of the director and is not subject to review. A determination of eligibility is not a funding commitment. Actual funding will depend on the availability of funds.
- (5)** The department may recover the amount of public funding spent on investigations and remedial actions from potentially liable persons who have not entered into a consent decree under this

chapter. For purposes of such cost recovery action, the amount in mixed funding attributed to the site shall be considered as remedial action costs paid by the department.

Part 6 – Public Participation and Tribal Engagement

WAC 173-340-600 Public ~~notice~~notification and participation.

- (1) **Purpose.** Public participation is an integral part of ~~the department's~~ecology's responsibilities under chapter 70A.305 RCW, the Model Toxics Control Act. ~~The department's~~Ecology's goal is to provide the public with timely information and meaningful opportunities for participation that are commensurate with each site. ~~The department~~Ecology will meet this goal through a public participation program that includes:⁵⁵²
- (a) Site-specific information on ecology's website;
 - (b) A Contaminated Site Register and, if requested, site-specific electronic alerts of changes to site information; and
 - (c) For ecology-conducted and ecology-supervised remedial actions, The early planning and development of a-site-specific public participation plans; ~~the provision of public notices of proposed actions;~~ a-site register; ~~and public meetings or hearings; and the participation of regional citizens' advisory committees.~~
- ~~(2) **Other requirements.**~~⁵⁵³ ~~In addition to the requirements in this section, other sections of this chapter contain specific notice requirements that must also be followed. See WAC 173-340-720 for notice requirements on an off-property conditional point of compliance and cleanup levels for groundwater flowing into nearby surface water; WAC 173-340-545 for public notice requirements for private rights of action; WAC 173-340-440 for local government notification requirements for restrictive covenants; and WAC 173-340-310 for public notice requirements for emergency or interim actions required by the department as a result of an initial investigation.~~
- ~~(4)~~(2) **Public notice.** Whenever public notice of a proposed action is required ~~by chapter 70.105D RCW~~ under this chapter, ~~the department shall, at a minimum, ecology will provide or require at least the following notice and opportunity to comment as described in this section except as specified for the biennial report in WAC 173-340-340.~~
- (a) **Notification methods.**
 - (i) **Website.**⁵⁵⁴ Ecology will make the proposed action publicly available on ecology's website under subsection (5) of this section;
 - (ii) **Electronic alert.**⁵⁵⁵ If requested, ecology will alert a person electronically of the proposed action's availability under subsection (6) of this section;

⁵⁵² Updated summary based on other changes in Part 6 of the rule, including the addition of electronic notification methods, and the elimination of regional citizens' advisory committees by the Legislature in 2001 (see [Laws of 2001, Chapter 291](#) and [SB 5401](#)).

⁵⁵³ Moved list of other notice and participation requirements to subsection (22).

⁵⁵⁴ Added posting on Ecology's website under subsection (5) as a required method of public notice of a proposed action. Ecology will make a proposed action (such as a draft cleanup action plan) available on Ecology's website when the document is available for public comment.

- (iii) Contaminated Site Register.**⁵⁵⁶ Ecology will provide notice of the proposed action's availability in the Contaminated Site Register under subsection (7) of this section.
- (a)(iv) ~~Request for~~ Persons requesting notice.** ~~Notice shall~~ Written notice must be mailed sent to persons who have made a timely request of ecology. A request for notice is timely if received before or during the public comment period for the current phase of remedial action at the ~~facility~~ site. However, the receipt of a request for notice ~~shall~~ does not require ~~the department~~ ecology to extend the comment period associated with the notice. Ecology may use an electronic alert under subsection (6) of this section to satisfy this requirement.⁵⁵⁷
- (b)(v) ~~Mail~~ Persons residing within potentially affected vicinity.** ~~Notice shall~~ Written notice must be mailed sent to persons ~~who reside~~ residing within the potentially affected vicinity of the proposed action. The potentially affected vicinity ~~shall~~ includes all property within and contiguous to the site and any other area that ~~the department~~ ecology determines to be directly affected by the proposed action.
- (d)(vi) ~~Other~~ Appropriate news media.** ~~Written N~~ notice of the proposed action shall ~~must~~ be mailed sent to any ~~other~~ news media that ~~the department~~ ecology determines to be appropriate. ~~The department~~ Ecology may consider how a news medium compares with the newspaper of largest circulation in terms of: Audience reached; timeliness; adequacy in conveying the particular information in the notice; cost; or other relevant factors.
- (e)(vii) ~~Newspaper publication.~~** If required under chapter 70A.305 RCW or by ecology,⁵⁵⁸ ~~written N~~ notice of the proposed action shall ~~must~~ be published in the newspaper of largest circulation in the city or county of the proposed action, by one or more of the following methods: Display ad; legal notice; or any other appropriate format, as determined by ~~the department~~ ecology.
- (b) Comment opportunity.**
- (e)(i) ~~Comment periods.~~** ~~All~~ A public notices ~~shall~~ must indicate the public comment period on the proposed action. Unless ~~stated~~ otherwise specified in this

⁵⁵⁵ Added site-specific electronic alerts under subsection (6) as a required method of public notice of a proposed action. Ecology will send the alerts when the proposed action (such as a draft cleanup action plan) is available on Ecology's website.

⁵⁵⁶ Emphasized that notice in the Contaminated Site Register under subsection (7) is a required method of public notice of a proposed action. This was already required in the current rule, but the connection with public notice was not clear.

⁵⁵⁷ Clarified that a site-specific electronic alert provided under subsection (6) of this section would satisfy this requirement. This does not preclude the use of other methods of providing written notice.

⁵⁵⁸ Limited the applicability of newspaper publication as a required method of public notice to instances where such notice is required by the MTCA statute or by Ecology. Publication in the newspaper of largest circulation in the city or county is no longer always the best or more cost-effective means of providing notice to the public.

~~chapter, the public~~ comment periods ~~shall~~ must be ~~for thirty~~ at least 30 days ~~at a minimum~~. ~~The department~~ Ecology may extend the public comment period, as appropriate.

(ii) Public meetings.⁵⁵⁹ During any comment period announced by a public notice issued under this chapter, if 10 or more persons request a public meeting on the subject of the public notice, ecology will hold a public meeting for the purpose of receiving comments.

~~(f)(c)~~ Combining public comment requirements Consolidating notice and comment opportunities. Whenever reasonable, ~~the department shall~~ ecology will consolidate public notice ~~and opportunities for public comment required~~ under this chapter with ~~public~~ notice and comment ~~requirements~~ opportunities required under other laws and regulations.

~~(g)(d)~~ Site-specific risk assessment. For public notices describing cleanup plans that use site-specific risk assessment or would restrict future site or resource use, the public notice ~~shall~~ must specifically identify the restrictions and invite comments on these elements of the cleanup plan. This notice ~~shall~~ must also include a statement indicating the availability of public participation grants ~~and of the department's citizen technical advisor for providing technical assistance to citizens on site-specific risk assessment and other issues related to site remediation.~~⁵⁶⁰

(3) Criteria Additional opportunities.⁵⁶¹ ~~In order to~~ To promote effective and meaningful public participation, ~~the department~~ ecology may ~~determine that~~ provide or require public participation opportunities in addition to those specifically required ~~by chapter 70.105D RCW, or under~~ this chapter, ~~are appropriate and should be provided~~. In making this determination, ~~the department~~ ecology may consider:

- (a) Known or potential risks to human health and the environment that could be avoided or reduced by providing information to the public;
- (b) Public concerns about the ~~facility~~ site;
- (c) The need to contact the public in order to gather information about the ~~facility~~ site;
- (d) The extent to which the public's opportunity to affect subsequent ~~departmental~~ ecology decisions at the ~~facility~~ site may be limited or foreclosed ~~in the future~~;
- (e) The need to prevent disclosure of confidential, unverified, or enforcement-sensitive information;
- (f) The routine nature of the contemplated remedial action;

⁵⁵⁹ Moved from former subsection (5).

⁵⁶⁰ Eliminated discussion of a citizen technical adviser. See note regarding former subsection (18).

⁵⁶¹ In subsection (13)(d) below, added requirement that Ecology must consider the factors in subsection (3) when deciding whether to consolidate public notice of a RI/FS report and a draft cleanup action plan.

- (g) Interest in expediting remedial action at the site,⁵⁶² and
- ~~(g)(h)~~ Any other factors as determined by ~~the department~~ecology.
- ~~(5) **Public meetings.**⁵⁶³ During any comment period announced by a public notice issued under this chapter, if ten or more persons request a public meeting on the subject of the public notice, the department shall hold a public meeting for the purpose of receiving comments.~~
- ~~(6)(4) **Additional methods.** In addition to "public notice" required by chapter 70.105D RCW, or this chapter, the department may use any of the following methods:~~ To provide information to the public, ecology may use or require any of the following methods in addition to those specifically required under this chapter:
- (a) Press releases;
 - (b) Fact sheets;
 - (c) Public meetings and transcription of such meetings;⁵⁶⁴
 - (d) Publications;
 - (e) Personal contact by ~~department~~ecology employees;
 - (f) Posting signs at the ~~facility~~site;
 - (g) Notice in the Contaminated Site Register;
 - (h) Notice through the internet;
 - (i) Any other methods as determined by ~~the department~~ecology.
- ~~(5) **Site-specific information on website.**⁵⁶⁵ For sites on the contaminated sites list and the no further action sites list, ecology will make at least the following site-specific information publicly available on ecology's website:~~
- ~~(a) The site's current listing and remedial action status identified under WAC 173-340-330;~~
 - ~~(b) The site's current hazard rankings identified under WAC 173-340-320;~~
 - ~~(c) Any initial investigation report prepared under WAC 173-340-310;~~
 - ~~(d) For ecology-conducted or ecology-supervised remedial actions:
 - ~~(i) Any proposed action requiring public notice under this chapter; and~~
 - ~~(ii) Any final cleanup action plan issued under WAC 173-340-380;~~~~

⁵⁶² Added interest in expediting remedial action at a site as another factor when deciding whether to provide additional public participation opportunities and when deciding whether to consolidate existing opportunities, such as on a RI/FS report and draft cleanup action plan under subsection (13)(d).

⁵⁶³ Moved to subsection (4)(b)(ii).

⁵⁶⁴ Added meeting transcription as an additional method of informing the public.

⁵⁶⁵ Added posting information on Ecology's website as a required method of providing notice about each site. The website must include at least the specified information. This includes proposed actions requiring public notice.

- (e) For independent remedial actions:

 - (i) Any independent investigation, interim action, or cleanup action report required under WAC 173-340-515(4) and received by ecology; and
 - (ii) The results of any ecology review of an independent remedial action, including any written opinion issued by ecology under WAC 173-340-515(5);
- (f) Whether institutional controls are currently required, and any document implementing, amending, or removing an institutional control under WAC 173-340-440;
- (g) Whether periodic reviews are currently required, and any periodic review report prepared under WAC 173-340-420;
- (h) Instructions on how to sign up for the site-specific electronic alerts provided by ecology under subsection (6) of this section; and
- (i) Any other information ecology considers appropriate for inclusion.
- (6) Site-specific electronic alerts.**⁵⁶⁶ For sites on the contaminated sites list and the no further action sites list, ecology will provide a person, if requested, a site-specific electronic alert when the site information specified in subsection (5) of this section is added or changed on ecology’s website.

 - (a) Method.** Ecology will establish the means for providing the site-specific electronic alerts.
 - (b) Instructions.** Ecology will provide instructions on how to sign up for the site-specific electronic alerts on ecology’s website under subsection (5) of this section and in any public notice required under this chapter.
- (7) Contaminated Site Register.**⁵⁶⁷ ~~The department shall regularly publish, make available electronically, and maintain a publication called the *Site Register*, which provides notice of the following:~~ Ecology will maintain and regularly publish a *Contaminated Site Register*.

 - ~~(a) Determinations of no further action under WAC 173-340-320;~~⁵⁶⁸
 - ~~(b) Results of site hazard rankings;~~⁵⁶⁹

⁵⁶⁶ Added providing site-specific electronic alerts, if requested, as a required method of providing notice about each site. Ecology will provide such alerts when the information required on Ecology’s website under subsection (5) is added or changed. This includes proposed actions requiring public notice. Ecology will establish the means for providing site-specific electronic alerts, and provide the public instructions for how to request such alerts.

⁵⁶⁷ Changed the name of the “Site Register” to the “Contaminated Site Register” to make the name more self-explanatory to the public.

⁵⁶⁸ Consistent with changes to Section 320, eliminated the requirement to provide notice in the *Contaminated Site Register* of a no further action determination based on a site hazard assessment. Ecology will not make such determinations under the new process.

⁵⁶⁹ Eliminated notices in the *Contaminated Site Register* whenever site hazard rankings change. Ecology will post the site’s current hazard rankings on Ecology’s website. And, if requested, Ecology will provide a person a site-specific electronic alert whenever the hazard rankings change. See note on subsection (7)(b)(x).

- ~~(c) — Availability of annual and biennial reports;~~
- ~~(d) — Issuance of enforcement orders, agreed orders, or proposed consent decrees;~~
- ~~(e) — Public meetings or hearings;~~
- ~~(f) — Scoping notice of department-conducted remedial investigation/feasibility study;~~
- ~~(g) — Availability of remedial investigation/feasibility study reports and draft and final cleanup plans;~~
- ~~(h) — Change in site status or placing sites on or removing sites from the hazardous sites list under WAC 173-340-330;⁵⁷⁰~~
- ~~(i) — Availability of engineering design reports under WAC 173-340-400;~~
- ~~(j) — Schedules developed under WAC 173-340-140;⁵⁷¹~~
- ~~(k) — Reports of independent cleanup actions received under WAC 173-340-300;⁵⁷²~~
- ~~(l) — Beginning of negotiations or discussions under WAC 173-340-520 and 173-340-530;~~
- ~~(m) — Deadline extensions or missed deadlines under WAC 173-340-140;⁵⁷³~~
- ~~(n) — A summary of any notices received under WAC 173-340-545 for cleanup actions and interim actions being conducted where a private right of action is anticipated;~~
- ~~(o) — A list of available department publications, including guidance, technical reports and policies pertinent to remedial actions;~~
- ~~(p) — The results of department review of reports on independent remedial actions submitted under WAC 173-340-515;⁵⁷⁴ and~~
- ~~(q) — Any other notice that the department considers appropriate for inclusion.~~
- (a) Publication.⁵⁷⁵ Ecology will establish the method for publishing the *Contaminated Site Register*, which may include making it publicly available on ecology’s website,**

⁵⁷⁰ Eliminated notices in the *Contaminated Site Register* whenever the listing or status of a site changes. Ecology will post the site’s current listing and status on Ecology’s website. And, if requested, Ecology will provide a person a site-specific electronic alert whenever the listing or status changes. See note on subsection (7)(b)(x).

⁵⁷¹ Eliminated the concept of “high priority” sites in Section 140, and related requirements throughout the rule, including notice in the *Contaminated Site Register*. See note on Section 140.

⁵⁷² Eliminated several notices in the *Contaminated Site Register* related to independent remedial actions. See note on subsection (7)(b)(xii).

⁵⁷³ Eliminated the concept of “high priority” sites in Section 140, and related requirements throughout the rule, including notice in the *Contaminated Site Register*. See note on Section 140.

⁵⁷⁴ Eliminated several notices in the *Contaminated Site Register* related to independent remedial actions. See note on subsection (7)(b)(xii).

⁵⁷⁵ Added flexibility in how Ecology may publish the *Contaminated Site Register*. This would allow Ecology to convert the *Register* into an online database that is updated continuously. This would make it more like the *SEPA Register*. See WAC [197-11-508](#).

electronically distributing it to interested persons, or any other method deemed appropriate by ecology.

- (b) Content.** Ecology will include notice of the following in the *Contaminated Site Register*:
- (i)** The availability of any legislative report required under chapter 70A.305 RCW related to remedial action;⁵⁷⁶
 - (ii)** Any rule-making notice requiring publication in the Washington State Register under chapter 34.05 RCW related to remedial action;⁵⁷⁷
 - (iii)** The availability of any ecology publication related to remedial action, including any new, revised, or rescinded interpretive or policy statement requiring notice in the Washington State Register under RCW 34.05.230;⁵⁷⁸
 - (iv)** Any proposed substantive change to the site hazard assessment and ranking process developed under WAC 173-340-320(2);⁵⁷⁹
 - (v)** Any update to ecology's strategic plans or performance assessments required under WAC 173-340-340(1) and (3);⁵⁸⁰
 - (vi)** Any additional resource allocation factors specified by the legislature or ecology under WAC 173-340-340(2)(d);⁵⁸¹
 - (vii)** Any proposed model remedy developed under WAC 173-340-390(2);⁵⁸²
 - (viii)** Any change to the program support cost multiplier calculated under WAC 173-340-550(2)(c);⁵⁸³
 - (ix)** Any change to the list of ecology-approved sampling and analysis methods maintained under WAC 173-340-830(4)(a);⁵⁸⁴
 - (x)** Any initial investigation determination under WAC 173-340-310(6) resulting in the listing of a site on either the contaminated sites list or the no further action

⁵⁷⁶ Updated to include all legislative reports related to remedial action. This is consistent with current practice.

⁵⁷⁷ Added rulemaking notices related to remedial action. This is consistent with current practice.

⁵⁷⁸ Clarified that relevant publications include any new, revised, or rescinded interpretive or policy statement requiring notice in the Washington State Register under RCW 34.05.230.

⁵⁷⁹ Added to the list of required notices in the *Contaminated Site Register* notice of any proposed substantive change to the site hazard assessment and ranking process developed under Section 320(2).

⁵⁸⁰ Added to the list of required notices in the *Contaminated Site Register* notice of any update to Ecology's strategic plans or performance assessments required under Section 340(1) and (3).

⁵⁸¹ Added to the list of required notices in the *Contaminated Site Register* notice of any additional resource allocation factors specified by the Legislature or Ecology under Section 340(2)(d).

⁵⁸² Added to the list of required notices in the *Contaminated Site Register* notice of any proposed model remedy developed under Section 390(2). This is consistent with current practice.

⁵⁸³ Consolidated existing requirement in Section 550(2)(c).

⁵⁸⁴ Added to the list of required notices in the *Contaminated Site Register* notice of any change to the list of Ecology-approved sampling and analysis methods maintained under Section 830(4)(a).

sites list. The notice must include instructions on how to sign up for electronic alerts about the site under subsection (6) of this section;⁵⁸⁵

(xi) For ecology-conducted or ecology-supervised remedial actions:

(A) Any initiation of a negotiation for a consent decree under WAC 173-340-520 or a discussion for an agreed order under WAC 173-340-530;⁵⁸⁶

(B) Any proposed action requiring public notice under this chapter, including any related public meeting or hearing;⁵⁸⁷ and

(C) Any issuance of a final cleanup action plan under WAC 173-340-380;⁵⁸⁸

(xii) For independent remedial actions:⁵⁸⁹

(A) Any notice of a planned independent interim action or cleanup action submitted to ecology in anticipation of a private right of action under WAC 173-340-545(3)(a); and

(B) Any proposed area-wide groundwater conditional point of compliance under WAC 173-340-720(8)(d)(iii)(D); and

(xiii) Any other notice that ecology considers appropriate for inclusion.⁵⁹⁰

- (8) Evaluation of public participation needs.** ~~As part of requiring or conducting a remedial action at any facility~~For ecology-conducted and ecology-supervised remedial actions, ~~the department shall~~ecology will evaluate public participation needs at the ~~facility~~site. The evaluation ~~shall~~must include an identification of the potentially affected vicinity for the remedial action. For sites where site-specific risk assessment is used, ~~the department shall~~ecology will also evaluate public interest in the site, significant public concerns regarding future site use, and public values to be addressed through the public participation plan.

⁵⁸⁵ Added requirement to notify public in *Contaminated Site Register* when Ecology initially adds a site to one of our site lists, either the contaminated sites list or the no further action sites list. However, we eliminated the requirement to provide notice in the *Register* whenever the listing, ranking, or status of a site changes. If requested, Ecology will instead provide a person a site-specific electronic alert when such changes occur. Ecology will provide instructions in the *Register* notice about how to sign up for such alerts. Ecology will also post the site's current listing, ranking, and status on Ecology's website.

⁵⁸⁶ Retained existing *Contaminated Site Register* requirement.

⁵⁸⁷ Consolidated existing *Contaminated Site Register* requirements.

⁵⁸⁸ Retained existing *Contaminated Site Register* requirement.

⁵⁸⁹ Eliminated several notices in the *Contaminated Site Register* related to independent remedial actions (IRAs), including IRA reports received by Ecology, written opinions on IRAs issued by Ecology, delisting of sites cleaned up independently; periodic reviews by Ecology of IRAs, and any amendment or removal of institutional controls for IRAs. In place of such notice, Ecology will provide notice of those actions on its website under subsection (5) and through site-specific electronic alerts under subsection (6). See subsection (20) for a complete list of when Ecology will provide notice related to IRAs.

⁵⁹⁰ Retained existing discretion to provide additional notices in the *Contaminated Site Register*.

- (9) **Public participation plans.** For ecology-conducted and ecology-supervised remedial actions, except emergency remedial actions, ecology will ensure that a public participation plan is developed and implemented.⁵⁹¹
- (a) **Purpose and Scope.** ~~The~~ A public participation plans required by this section are ~~is~~ intended to encourage a coordinated and effective public involvement tailored to the public's needs at a ~~particular facility~~ site, and facilitate equitable participation by the public.⁵⁹² The scope of ~~a~~ the plan shall ~~must~~ be commensurate with: ~~the nature of the proposed remedial actions; the level of public concern; and the risks posed by the facility~~
- (i) The threats posed by the site to human health and the environment, including vulnerable populations and overburdened communities;⁵⁹³
- (ii) The level of public concern regarding the threats; and
- (iii) The nature of the proposed remedial actions to address the threats.
- (b) **Early planning encouraged.** In order to develop an appropriate plan, ~~the department~~ ecology or a potentially liable person or prospective purchaser⁵⁹⁴ (if submitting a plan to ~~the department~~ ecology) should engage in an early planning process to assess the public participation needs at the ~~facility~~ site, including the needs of vulnerable populations and overburdened communities.⁵⁹⁵ This process may include identifying and conferring with individuals, community groups, indigenous peoples, local governments, ~~tribes,~~ public agencies, or any other organizations that may have an interest in or knowledge of the ~~facility~~ site.⁵⁹⁶
- (c) **Plan Development.** ~~The department shall~~ Ecology will develop the plan, or work with ~~the~~ a potentially liable person or prospective purchaser to develop the plan.
- (i) If a plan already exists for a facility ~~the site,~~ the department shall ~~ecology will~~ consider whether the existing plan is still appropriate or whether the plan should be amended. For example, a plan originally developed to address a

⁵⁹¹ Moved applicability provision from former (d) of this subsection, and expanded applicability to include all Ecology-conducted or Ecology-supervised remedial actions, not just those at sites on hazardous sites list. Under the proposed rule, all sites will be ranked using SHARP and placed on the contaminated site list.

⁵⁹² Added equitable participation goal for public participation plans.

⁵⁹³ Emphasized that the scope of the public participation plan must consider the threats posed to vulnerable populations and overburdened communities.

⁵⁹⁴ Reflected requirement in Section 520 that prospective purchasers may be required to develop draft public participation plan when initiating negotiations for a consent decree and then to work with Ecology when implementing the plan. Made same change throughout this subsection.

⁵⁹⁵ When developing a public participation plan, emphasized that one needs to assess the needs of vulnerable populations and overburdened communities.

⁵⁹⁶ When developing a public participation plan, emphasized that one may need to confer with indigenous peoples with knowledge or interest in the site. Ecology proposes to engage Indian tribes on a government-to-government basis in accordance with a separate tribal engagement plan under new Section 620.

remedial investigation/feasibility study may need to be amended to address implementation phases.

~~(f)(ii)~~ ~~Plan as part of order or decree.~~ Unless otherwise directed by ecology, A potentially liable person or prospective purchaser requesting an agreed order under WAC 173-340-530 or a consent decree under WAC 173-340-520 ~~will ordinarily be required to~~ must submit a proposed ~~public participation~~ plan as part of its request ~~for an agreed order or a consent decree~~. If a plan already exists for the ~~facility~~ site, the potentially liable person or prospective purchaser may either resubmit the existing plan with any proposed amendments or submit an entirely new proposed plan. The proposed plan may be revised during the course of discussions ~~or negotiations~~ on the agreed order ~~(see WAC 173-340-530)~~ or negotiations on the consent decree (see WAC 173-340-520). The final ~~public participation~~ plan may become part of the agreed order or consent decree.

~~(d)~~ ~~Plans required.~~ As part of requiring or conducting a remedial action, except emergency actions, at any site that has been assigned a hazard ranking score, the department shall ensure that a public participation plan is developed and implemented. The department may also require the development of a public participation plan as part of an agreed order (see WAC 173-340-530) or consent decree (see WAC 173-340-520) for facilities that have not been assigned a hazard ranking score.⁵⁹⁷

~~(g)(d)~~ **Contents.** The ~~A~~ public participation plan ~~shall~~ must include the following:

- (i) Applicable public notice requirements and how these will be met, including:
 - (A) When public notice will occur;
 - (B) ~~¶~~ The length of the comment periods accompanying each notice; and
 - (C) ~~¶~~ The potentially affected vicinity and any other areas to be provided notice, to the extent known;
- (ii) Information repositories. The plan should identify at least one location where the public can review information about the remedial action. Multiple locations may be appropriate;
- (iii) Methods of identifying the public's concerns. Such methods may include:~~¶~~ interviews; ~~¶~~ questionnaires; ~~¶~~ meetings; ~~¶~~ contacts with community groups or other organizations that have an interest in the site; or establishing citizen

⁵⁹⁷ Moved applicability provision to beginning of subsection (9), and expanded applicability to include all Ecology-conducted or Ecology-supervised remedial actions, not just those at sites on hazardous sites list. Under the proposed rule, all sites will be ranked using SHARP and placed on the contaminated site list.

- advisory groups for sites; ~~or obtaining advice from the appropriate regional citizens' advisory committee.~~⁵⁹⁸
- (iv) Methods of addressing the public's concerns and conveying information to the public. These may include any of the methods listed in subsection ~~(6)~~(4) of this section.
- (v) Coordination of public participation requirements. The plan should identify any public participation requirements of other applicable federal, state or local laws, and address how such requirements can be coordinated. For example, if ~~Comprehensive Environmental Response, Compensation and Liability Act (CERCLA)~~the federal cleanup law applies to the proposed action, the plan should explain how ~~CERCLA~~the federal cleanup law and this chapter's public comment periods will be coordinated.
- (vi) Amendments to the plan. The plan should outline the process for amending the plan. Any amendments must be approved by ~~the department~~ecology; and
- ~~(vii) Citizen technical advisor: A statement indicating the availability of the department's citizen technical advisor for providing technical assistance to citizens on issues related to the investigation and cleanup of the site.~~⁵⁹⁹
- (viii) Any other elements that ~~the department~~ecology determines to be appropriate for inclusion in the final public participation plan.
- (e) **Site-specific risk assessment.** If the variables proposed to be modified in a site-specific risk assessment or alternative reasonable maximum exposure scenario may affect the significant public concerns regarding future land uses and exposure scenarios, then ~~the department shall~~ecology will assure appropriate public involvement and comment opportunities will occur as identified in the public participation plan.
- ~~(h)~~(f) **Implementation.** ~~The department shall~~Ecology retains approval authority over the actions taken by a potentially liable person or prospective purchaser to implement the plan.
- (10) **Consent decrees.** ~~In addition to any other applicable public participation requirements, the following shall be required for consent decrees~~Ecology will provide or require the following notice and comment opportunities when negotiating a consent decree under WAC 173-340-520.
- (a) **Public participation plan.** ~~A plan meeting the requirements of subsection (9) of this section shall be developed when required by subsection (9)(d) of this section~~Ecology will develop, or require the development of, a public participation plan in accordance with subsection (9) of this section.

⁵⁹⁸ Deleted reference to regional citizens' advisory committees, which were eliminated by the Legislature in 2001 (see [Laws of 2001, Chapter 291](#) and [SB 5401](#)).

⁵⁹⁹ Eliminated reference to a citizen technical advisor to reflect the fact that this pilot concept, added to the rule in 2001, was never implemented. Eliminating the reference in the rule does not eliminate Ecology's authority to establish such a position in the future. There was no specific legislative direction.

- (b) **Notice of negotiations.** When ~~the department~~ecology decides to proceed with negotiations ~~for a consent decree, it shall place a notice~~ecology will notify the public in the Contaminated Site Register ~~advising the public that negotiations have begun~~. This notice ~~shall~~must include the name of the ~~facility~~site, a general description of the subject of the ~~consent~~ decree, and the deadlines for negotiations.
- (c) **Public ~~N~~notice of proposed decree.** ~~The department shall~~Ecology will provide or require public notice of a proposed consent decree in accordance with subsection (2) of this section.⁶⁰⁰ The public notice may be ~~combined~~consolidated with public notice of other documents under this chapter, such as a cleanup action plan, or notice required under other laws.
- (i) **Timing.**⁶⁰¹ The public must be provided with notice and an opportunity to comment on a proposed consent decree before ecology agrees to a settlement.
- (ii) **Content.** ~~The n~~Notice of a proposed consent decree shallmust briefly:
- (i)(A) Identify and generally describe the facilitysite;
- (i)(B) Identify the person(s) who are parties to the consent decree;
- (i)(C) Generally describe the remedial action proposed in the proposed consent decree, including institutional controls and permit exemptions authorized under RCW ~~70.105D.090~~ 70A.305.090;
- (i)(D) Indicate the ~~date~~, place, date, and time of ~~the any planned~~ public hearing on the proposed consent decree. ~~Where~~if a public hearing is not planned, specify the procedures for requesting one and indicate that ecology will only hold a public hearing will only be held if at least ~~ten~~10 persons request one ~~and the procedures for requesting a public hearing~~; and
- (i)(E) Invite the public to comment at ~~the a~~ public hearing (if applicable) or in writing.
- (iii) **Comment opportunity.** ~~The public comment period shall run for~~Ecology will provide the public at least ~~thirty~~30 days from the date ~~of the issuance of the notice is issued to comment on the proposed consent decree~~.
- (d)(iv) **Public hearing.** ~~The department shall~~Ecology will hold a public hearing on the proposed consent decree for the purpose of providing the public with an opportunity to comment whenever ten or more persons request a public hearing or whenever ~~the department~~ecology determines a public hearing is necessary.

⁶⁰⁰ Clarified that public notice must comply with requirements in subsection (2).

⁶⁰¹ Clarified that public notice of a consent decree must occur before Ecology agrees to a settlement (before decree entered by a court).

- ~~(e)~~**(d) Revisions**Public notice of substantial changes to proposed decree. If the state and the potentially liable person or prospective purchaser agree to substantial changes to ~~the~~a proposed consent decree, ~~the department shall~~ecology will provide or require additional public notice ~~and opportunity to comment~~of the proposed changes in accordance with subsection (2) of this section.
- ~~(f)~~ ~~Extensions.~~ ~~The department shall publish in the next Site Register the extension of deadlines for designated high priority sites.~~⁶⁰²
- (11) Agreed orders.** ~~In addition to any other applicable public participation requirements, the following shall be required for~~Ecology will provide or require the following notice and comment opportunities for an agreed orders under WAC 173-340-530.
- (a) Public participation plan.** ~~A plan meeting the requirements of subsection (9) of this section shall be developed when required by subsection (9)(d) of this section~~Ecology will develop, or require the development of, a public participation plan in accordance with subsection (9) of this section.
- (b) Notice of discussions.** When ~~the department~~ecology decides to proceed with discussions for an agreed order, it shall place a noticeecology will notify the public in the Contaminated Site Register~~advising the public that discussions have commenced.~~ This notice ~~shall~~must include the name of the ~~facility~~site, a general description of the subject of the order, and the deadlines for discussions.
- (c) Public ~~N~~notice of proposed agreed orders.**⁶⁰³ ~~Public notice shall be provided by the department for any agreed order~~Ecology will provide or require public notice of a proposed agreed order in accordance with subsection (2) of this section.⁶⁰⁴ The public notice may be consolidated with public notice of other documents under this chapter, such as a cleanup action plan, or notice required under other laws.⁶⁰⁵
- (i) Timing.** Ecology will provide or require notice of a proposed agreed order before or concurrent with the issuance of the agreed order. The ~~For all agreed orders, a notice shall~~must be mailed~~provided~~ no later than three days after ecology issues the issuance of the agreed order. ~~For all agreed orders, the comment period shall be at least thirty days.~~⁶⁰⁶ Unless ecology determines that it is not in the public interest, The~~an~~ agreed order may ~~be~~become effective before the comment period ~~is over~~ends, ~~unless the department determines it is in the public interest to complete the public comment period before the effective date of the agreed order.~~ ~~The department may determine that it is in~~

⁶⁰² Eliminated the concept of “high priority” sites in Section 140, and related requirements throughout the rule. See note on Section 140.

⁶⁰³ Restructured the public notice requirements for proposed agreed orders consistent with other subsections to make them easier to identify and compare.

⁶⁰⁴ Clarified that public notice must comply with requirements in subsection (2).

⁶⁰⁵ Emphasized that Ecology may consolidate public notice of a proposed order with public notice of other documents under this chapter, such as a cleanup action plan. This is stated elsewhere under the current rule.

⁶⁰⁶ Moved to (c)(iii) of this subsection.

~~the public interest to provide public notice before the effective date of any agreed order or to hold a public meeting or hearing on the agreed order.~~⁶⁰⁷

(ii) Content. Notice of a proposed agreed orders ~~shall~~must briefly:

~~(i)~~**(A)** Identify and generally describe the ~~facility~~site;

~~(ii)~~**(B)** Identify the person~~(s)~~s who are parties to the agreed order;

~~(iii)~~**(C)** Generally describe the remedial action proposed in the proposed agreed order, including institutional controls and permit exemptions authorized under RCW ~~70.105D.090~~70A.305.090; and

~~(iv)~~**(D)** Invite the public to comment on the proposed agreed order.

(iii) Comment opportunity. Ecology will provide the public at least 30 days from the date the notice is issued to comment on a proposed agreed order.

(iv) Public hearing. Ecology may hold a public meeting or hearing on a proposed agreed order if it determines that it is in the public interest.

(d) RevisionsPublic notice of substantial changes to proposed order. If ~~the department~~ecology and the potentially liable person or prospective purchaser agree to substantial changes to ~~the~~a proposed agreed order, ~~the department shall~~ecology will provide or require additional public notice ~~and opportunity to comment~~of the proposed changes in accordance with subsection (2) of this section.

~~(e) Extensions. The department shall publish in the next Site Register the extension of deadlines for designated high-priority sites.~~⁶⁰⁸

(12) Enforcement orders.⁶⁰⁹ ~~In addition to any other applicable public participation requirements, the department shall provide public notice of all enforcement orders~~Ecology will provide the public with the following notice and comment opportunities when preparing an enforcement order under WAC 173-340-540.

(a) Public participation plan.⁶¹⁰ Ecology will develop a public participation plan in accordance with subsection (9) of this section.

(b) Public notice of proposed order. Ecology will provide public notice of a proposed enforcement order in accordance with subsection (2) of this section.⁶¹¹ The public

⁶⁰⁷ Moved to (c)(iv) of this subsection.

⁶⁰⁸ Eliminated the concept of "high priority" sites in Section 140, and related requirements throughout the rule. See note on Section 140.

⁶⁰⁹ Restructured the public notice requirements for enforcement orders consistent with other subsections to make them easier to identify and compare.

⁶¹⁰ Emphasized that a public participation plan is required for sites where Ecology supervises remedial actions under and enforcement order. This is currently required under subsection (9).

⁶¹¹ Clarified that public notice must comply with requirements in subsection (2).

notice may be consolidated with notice of other documents under this chapter, such as a cleanup action plan, or under other laws.⁶¹²

(i) Timing. Ecology will provide notice of a proposed enforcement order before or concurrent with the issuance of the order.⁶¹³

(A) Except in ~~the case of~~ emergencies, ecology will provide the notice shall be mailed no later than three days after ~~the date of the issuance of ecology issues~~ the enforcement order.

(B) In emergencies, ecology will provide the notice shall be mailed no later than ~~ten~~ 10 days after ~~the issuance of ecology issues~~ the enforcement order.

~~(a)~~**(ii) Contents of notice.** ~~All notices~~ Notice of a proposed enforcement order shall ~~shall~~ must briefly:

~~(i)~~**(A)** Identify and generally describe the ~~facility~~ site;

~~(ii)~~**(B)** Identify the person ~~(s)~~ s who are parties to the enforcement order;

~~(iii)~~**(C)** Generally describe the terms of the proposed enforcement order, including institutional controls and permit exemptions authorized under RCW ~~70.105D.090~~ 70A.305.090; and

~~(iv)~~**(D)** Invite the public to comment on the proposed enforcement order.

(iii) Comment opportunity.⁶¹⁴ Ecology will provide the public at least 30 days from the date ecology issues the notice to comment on a proposed enforcement order.

~~(b)~~**(c) Public notice of substantial changes to proposed order.** ~~The department~~ Ecology may amend the enforcement order ~~on the basis of~~ based on public comments. ~~The department shall provide additional public notice and opportunity to comment if~~ if ecology substantially changes the enforcement order ~~is substantially changed,~~ ecology will provide additional public notice of the proposed changes in accordance with subsection (2) of this section.

(13) Remedial investigation/feasibility study.⁶¹⁵ ~~In addition to any other applicable public participation requirements, the following shall be required during a remedial investigation/feasibility study.~~ For ecology-conducted and ecology-supervised remedial actions, ecology will require or provide the public with the following notice and comment opportunities

⁶¹² Emphasized that Ecology may consolidate public notice of a proposed order with public notice of other documents under this chapter, such as a cleanup action plan. This is stated elsewhere under the current rule.

⁶¹³ Clarified when Ecology may provide notice of a proposed order.

⁶¹⁴ Emphasized that Ecology will provide at least 30 days for public comment on a proposed order, consistent with existing requirements stated elsewhere in this section.

⁶¹⁵ Restructured the public notice requirements for remedial investigations and feasibility studies consistent with other subsections to make them easier to identify and compare.

during a remedial investigation and/or feasibility study conducted under WAC 173-340-350 and/or 173-340-351.

- (a) **Scoping Public notice of work plan.**⁶¹⁶ ~~When the department elects to perform a remedial investigation/feasibility study, the department shall provide public notice and an opportunity to comment on the scope of the remedial investigation/feasibility study.~~ For ecology-conducted remedial actions, ecology will provide public notice of a remedial investigation work plan in accordance with subsection (2) of this section.⁶¹⁷ Ecology will provide the public at least 30 days from the date ecology issues the notice to comment on the plan.⁶¹⁸
- ~~(b) — Extensions.~~ ~~The department shall publish in the next Site Register the extension of deadlines for designated high priority sites.~~⁶¹⁹
- ~~(c)~~(b) **Public notice of Rreport.** ~~The department shall~~Ecology will provide or require public notice of a remedial investigation and/or feasibility study reports prepared under WAC 173-340-350 in accordance with subsection (2) of this section.⁶²⁰ ~~This~~The public notice may be ~~combined~~consolidated with public notice of ~~the~~a draft cleanup action plan. When deciding whether to consolidate public notice, ecology will consider the factors in subsection (3) of this section.⁶²¹
- (i) **Content.** ~~At a minimum, public notice shall~~Notice of a remedial investigation and/or feasibility study report must briefly:
- ~~(i)~~(A) Describe the site; ~~and~~
 - (B) Describe the remedial investigation and/or feasibility study results;
 - ~~(ii)~~(C) If available, identify ~~the department's~~ecology's proposed cleanup action and provide an explanation for its selection; and
 - ~~(iii)~~(D) Invite public comment on the report.
- (ii) **Comment opportunity.** ~~The public comment period shall extend for~~Ecology will provide the public at least ~~thirty~~30 days from the date ~~of mailing of~~the notice is issued to comment on a remedial investigation and/or feasibility study report.

⁶¹⁶ Refocused the notice on the remedial investigation work plan, which includes the scope.

⁶¹⁷ Clarified that public notice must comply with requirements in subsection (2).

⁶¹⁸ Emphasized that Ecology will provide at least 30 days for public comment on a remedial investigation work plan, consistent with existing requirements stated elsewhere in this section.

⁶¹⁹ Eliminated the concept of “high priority” sites in Section 140, and related requirements throughout the rule. See note on Section 140.

⁶²⁰ Clarified that public notice of a RI/FS report must comply with requirements in subsection (2).

⁶²¹ Added requirement that Ecology must consider the factors in subsection (3) when deciding whether to consolidate public notice of a RI/FS report and a draft cleanup action plan.

- (14) Selection of cleanup actions.**⁶²² ~~In addition to any other applicable public participation requirements, the department shall:~~ For ecology-conducted and ecology-supervised remedial actions, ecology will require or provide the public with the following notice and comment opportunities when selecting a cleanup action under WAC 173-340-380.
- ~~(a) — Provide a notice of availability of draft or final cleanup action plans and a brief description of the proposed or selected alternative in the *Site Register*;~~⁶²³
- ~~(b)(a) **Public notice of draft cleanup action plan.** Provide public notice of the draft cleanup action plan. A notice of a draft cleanup plan may be combined with notice on the remedial investigation/feasibility study. Notice of a draft cleanup action plan may be combined with notice on a draft consent decree or on an order. When issuing a draft cleanup action plan, ecology will provide or require public notice of the plan in accordance with subsection (2) of this section.~~⁶²⁴ The public notice may be consolidated with public notice of a remedial investigation/feasibility study report or a proposed order or decree.
- ~~(i) **Content.** At a minimum, public notice shall~~ Notice of a draft cleanup action plan must briefly:
- ~~(i)(A) Describe the site;~~
- ~~(i)(B) Identify the department's ecology's proposed cleanup action, including any model remedy,~~⁶²⁵ and provide an explanation for its selection; and
- ~~(i)(C) Invite public comment on the draft-proposed cleanup action plan.~~
- ~~(ii) **Comment opportunity.** The public comment period shall run for~~ Ecology will provide the public at least thirty30 days from the date of publication of the public notice is issued to comment on a proposed cleanup action.
- ~~(b) **Notice of final cleanup action plan.** When issuing a final cleanup action plan, ecology will;~~⁶²⁶
- ~~(i) Make the plan publicly available on ecology's website under subsection (5) of this section;~~
- ~~(ii) If requested, notify a person electronically of the plan's availability under subsection (6) of this section; and~~

⁶²² Restructured the public notice requirements for cleanup actions consistent with other subsections to make them easier to identify and compare.

⁶²³ Incorporated the *Register* notice requirement for draft cleanup action plans as part of the public notice requirements under subsection (2). Moved the *Register* notice requirement for final cleanup actions plans to (b)(iii) of this subsection.

⁶²⁴ Clarified that public notice of a draft cleanup action plan must comply with requirements in subsection (2).

⁶²⁵ Emphasized that notice of a draft cleanup action plan must identify any model remedy.

⁶²⁶ For final cleanup action plans, added requirement that, in addition to providing notice in the *Contaminated Site Register* (which was required under former (a) of this subsection), Ecology must provide notice on its website and, if requested, through a site-specific electronic alert.

- (iii) Provide notice of the plan’s availability and a brief description of the selected cleanup action in the *Contaminated Site Register* under subsection (7) of this section.
- ~~(c) Whenever the cleanup action plan proposes a restrictive covenant as part of the draft cleanup plan, provide notice to and seek comments from the city or county department with land use planning authority for real property subject to the restrictive covenant. The purpose of this notification is to solicit comment on whether the proposed restrictive covenant is consistent with any current or proposed land use plans.⁶²⁷~~
- (15) Cleanup action implementation.**⁶²⁸ ~~In addition to any other applicable public participation requirements, the following shall be required during cleanup action implementation~~For ecology-conducted and ecology-supervised remedial actions, ecology will require or provide the public with the following notice and comment opportunities during cleanup action implementation under WAC 173-340-400.
- (a) Public notice of engineering design report.** For ecology-conducted remedial actions, ecology will provide public notice of an engineering design report in accordance with subsection (2) of this section.⁶²⁹ Ecology will provide the public at least 30 days from the date ecology issues the notice to comment on the report.⁶³⁰
- ~~(a)(b)~~ **(b) Public notice of plans implementing cleanup action.** Ecology will provide or require public notice and opportunity to comment on any plans prepared under WAC 173-340-400 that represent a substantial change from the cleanup action plan. The public notice must be provided in accordance with subsection (2) of this section.⁶³¹ Ecology will provide the public at least 30 days from the date the notice is issued to comment on the plan.⁶³²
- ~~(b) When the department conducts a cleanup action, public notice and an opportunity to comment shall be provided on the engineering design report and notice shall be given in the *Site Register*.~~
- (16) Routine cleanup**⁶³³ ~~and interim actions.~~⁶³⁴ ~~In addition to any other applicable public participation requirements, the following will be required for routine cleanup actions and~~

⁶²⁷ Eliminated duplicate requirement from Section 440(10) for consulting local governments when proposing institutional controls as part of a cleanup action plan. The requirement in Section 440(10) is also cross-referenced in subsection (22)(f).

⁶²⁸ Restructured the public notice requirements for cleanup action implementation consistent with other subsections to make them easier to identify and compare.

⁶²⁹ Clarified that public notice of a proposed engineering design must comply with requirements in subsection (2).

⁶³⁰ Emphasized that Ecology will provide at least 30 days for public comment on a proposed engineering design, consistent with existing requirements stated elsewhere in this section.

⁶³¹ Clarified that public notice of a proposed cleanup action implementation plan must comply with requirements in subsection (2).

⁶³² Emphasized that Ecology will provide at least 30 days for public comment on a proposed cleanup action implementation plan, consistent with existing requirements stated elsewhere in this section.

⁶³³ Eliminated separate procedures for public notice of routine cleanup actions. Ecology will provide public notice of routine cleanup actions just as for any other cleanup action under subsection (14).

~~interim actions.~~ For ecology-conducted and ecology-supervised remedial actions, ecology will provide or require public notice of a draft interim action plan prepared under WAC 173-340-430. The public notice must be provided in accordance with subsection (2) of this section.⁶³⁵ The public notice may be consolidated with public notice of a proposed order or decree.⁶³⁶

~~(a) — Public notice shall be provided for any proposed routine cleanup or interim actions. This public notice shall be combined with public notice of an order or settlement whenever practicable.~~

~~(b)(a)~~ **Content.** ~~At a minimum, public notice shall~~ Notice of a draft interim action plan must briefly:

- (i) Describe the site;
- (ii) Identify the proposed interim action, including institutional controls and the permit exemptions authorized under RCW ~~70.105D.090~~ 70A.305.090;
- (iii) Identify the likely or planned schedule for the proposed interim action;
- (iv) Reference any planning documents prepared for the proposed interim action;
- (v) Identify ~~department~~ ecology staff who may be contacted for further information; and
- (vi) Invite public comment on the ~~routine cleanup or~~ proposed interim action.

~~(b)~~ **Comment opportunity.** ~~The public comment period shall extend for~~ Ecology will provide the public at least ~~thirty~~ 30 days from the date ~~of the mailing of~~ the notice is issued to comment on a proposed interim action.

~~(17)~~ **Removing sites from contaminated sites list.**⁶³⁷ For ecology-conducted and ecology-supervised remedial actions, ecology will provide public notice before removing a site from the contaminated sites list under WAC 173-340-330. The public notice must be provided in accordance with subsection (2) of this section. Ecology will provide the public at least 30 days from the date ecology issues the notice to comment on the proposed removal from the contaminated sites list.

~~(18)~~ **Periodic reviews.**⁶³⁸ For ecology-conducted and ecology-supervised remedial actions, ecology will provide public notice of a periodic review report prepared under WAC 173-340-420. The

⁶³⁴ Restructured the public notice requirements for interim actions consistent with other subsections to make them easier to identify and compare.

⁶³⁵ Clarified that public notice of a proposed interim action must comply with requirements in subsection (2).

⁶³⁶ Moved from former (a) of this subsection.

⁶³⁷ Consolidated public notice requirements for removing sites from the contaminated sites list in this section instead of in Section 330. Also limited the applicability of these public notice requirements (which include comment opportunities) to Ecology-conducted and Ecology-supervised remedial actions. For independent remedial actions, notice is still required under subsection (20) of this section. That includes notice on Ecology's website and through site-specific electronic alerts.

⁶³⁸ Consolidated public notice requirements for periodic reviews in this section instead of in Section 420. Also limited the applicability of these public notice requirements (which include comment opportunities) to Ecology-

public notice must be provided in accordance with subsection (2) of this section. Ecology will provide the public at least 30 days from the date ecology issues the notice to comment on a periodic review.

(19) Institutional controls.⁶³⁹ For ecology-conducted and ecology-supervised remedial actions, before amending or removing an institutional control required under WAC 173-340-440, ecology will provide or require public notice on the proposal in accordance with subsection (2) of this section. Ecology will provide the public at least thirty days from the date the notice is issued to comment on the proposal.

(20) Independent remedial actions.⁶⁴⁰

(a) For independent remedial actions, ecology will notify the public of the following using the methods specified in subsections (5) and (6) of this section:⁶⁴¹

(i) Any change to the site's listing or remedial action status identified under WAC 173-340-330;

(ii) Any change to the site's hazard rankings identified under WAC 173-340-320;

(iii) Any initial investigation report prepared under WAC 173-340-310;

(iv) Any independent investigation, interim action, or cleanup action report required under WAC 173-340-515(4) and received by ecology;

(v) The results of any ecology review of an independent remedial action, including any written opinion issued by ecology under WAC 173-340-515(5);

(vi) Any periodic review report prepared under WAC 173-340-420; and

(vii) Any document implementing, amending, or removing an institutional control under WAC 173-340-440.

(b) Ecology will provide notice of the following independent remedial actions in the *Contaminated Site Register* under subsection (7) of this section:⁶⁴²

conducted and Ecology-supervised remedial actions. For independent remedial actions, notice is still required under subsection (20) of this section. That includes notice on our website and through site-specific electronic alerts.

⁶³⁹ Consolidated public notice requirements for amending or removing an institutional control in this section instead of in Section 440. Also limited the applicability of these public notice requirements (which include comment opportunities) to Ecology-conducted and Ecology-supervised remedial actions. For independent remedial actions, notice is still required under subsection (20). That includes notice on Ecology's website and through site-specific electronic alerts.

⁶⁴⁰ Consolidated notice and participation requirements for independent remedial actions in subsection (20) for ease of reference.

⁶⁴¹ In subsection (20)(a), added requirement that Ecology must notify the public of specific information about independent remedial actions on Ecology's website and, if requested, through site-specific electronic alerts. Except for a site's initial listing based on an initial investigation, this notice is replacing Ecology's notice on the *Contaminated Site Register*. Ecology must also continue to provide notice of the information specified in subsection (20)(b) on the *Contaminated Site Register*.

- (i) Any notice of a planned independent interim action or cleanup action submitted to ecology in anticipation of a private right of action under WAC 173-340-545(3)(a); and
 - (ii) Any proposed area-wide groundwater conditional point of compliance under WAC 173-340-720(8)(d)(iii)(D).
 - (c) For independent remedial actions, ecology may provide public notice of any proposed action for which public notice is required under this chapter for an ecology-conducted or ecology-supervised remedial action.⁶⁴³
- (1721) Public participation grants.** RCW ~~70.105D.070~~70A.305.180(4) requires funds be allocated for public participation grants to persons, including groups, who may be adversely affected by a release or threatened release of a hazardous substance. Persons interested in applying for such grants are encouraged to contact ~~the department~~ecology to learn about available funding, grant application procedures, and deadlines. See chapter 173-321 WAC for additional information on public participation grants.
- ~~(18) **Technical assistance.** There is created within the department a citizen technical advisor office to provide independent technical assistance to citizens concerning the Model Toxics Control Act and remedial actions occurring under the act. This office will be established upon the effective date of this rule revision and continue for three years. Before the end of the three-year period, the department will work with citizen and business representatives to evaluate the effectiveness of this office and to determine whether the office should continue. The costs of this office shall be recovered by the department as provided for in WAC 173-340-550.~~⁶⁴⁴
- (22) Other requirements.**⁶⁴⁵ The following sections of this chapter specify additional requirements for providing notice or opportunity to comment.
- (a) WAC 173-340-310(6)(e)(vi) contains focused notice requirements for emergency or interim actions required by ecology as a result of an initial investigation.
 - (b) WAC 173-340-320(2)(b) contains notice and comment requirements for developing and updating the site hazard assessment and ranking process.
 - (c) WAC 173-340-330(9)(a) and 173-340-335(5)(a) contain requirements for making the contaminated sites list and the no further action sites list publicly available.

⁶⁴² In subsection (20)(b), consolidated remaining *Contaminated Site Register* notice requirements regarding independent remedial actions.

⁶⁴³ In subsection (20)(c), emphasized Ecology existing discretion to provide, on a site-specific basis, public notice for independent remedial actions.

⁶⁴⁴ Eliminated reference to a citizen technical advisor to reflect the fact that this pilot concept, added to the rule in 2001, was never implemented. Eliminating the reference in the rule does not eliminate Ecology's authority to establish such a position in the future. There was no specific legislative direction.

⁶⁴⁵ Moved from former subsection (2) the cross-references to other notice or participation requirements in the rule. The references were updated and expanded to include new or previously omitted requirements. Refer to the referenced sections for any changes to the requirements.

- (d)** WAC 173-340-340(4)(a) contains requirements for making ecology’s strategic plans and performance assessments publicly available.
- (e)** WAC 173-340-390(2)(c) contains notice and comment requirements for developing model remedies.
- (f)** WAC 173-340-440(10) contains local government consultation requirements for proposing institutional controls.
- (g)** WAC 173-340-545(3) contains public notice requirements for private rights of action.
- (h)** WAC 173-340-720(6)(c)(A) contains focused notice and comment requirements for establishing site-specific nonpotable groundwater cleanup levels.
- (i)** WAC 173-340-720(8)(d) contains focused notice and comment requirements for establishing off-property conditional points of compliance.

~~WAC 173-340-610~~ **Regional citizens' advisory committees.**⁶⁴⁶

- ~~(1) The department shall establish regional citizens' advisory committees as part of a public participation program. The regional citizens' advisory committees are intended to promote meaningful and effective public involvement in the department's remedial action program under chapter 70.105D RCW. The committees will advise the department as to the concerns of citizens locally and regionally regarding the remedial actions within each committee's region, with emphasis on issues that affect the region as a whole, rather than site-specific concerns.~~
- ~~(2) **Location.** There shall be a regional citizens' advisory committee representing each geographic region of the state served by a regional office of the department.~~
- ~~(3) **Membership.** At any time, each committee shall have no fewer than five and no more than twelve members. The director shall, no later than July 1, 1990, appoint five members to each committee to represent citizens' interests in the region. These members shall serve three-year terms that may be renewed at the director's discretion. These members should represent citizen interests in the region.~~
- ~~(a) The director may appoint up to seven additional members to represent communities that may be affected by the remedial actions within each region. These members shall serve two-year terms that may be renewed at the director's discretion.~~
- ~~(b) At no time shall more than twenty five percent of the membership of any committee consist of persons who are elected or appointed public officials or their representatives.~~
- ~~(c) The department shall advise the public as to whether any vacancies exist on the committees, and shall accept applications from interested citizens.~~
- ~~(d) The following persons shall not be eligible to serve on any committee:~~
- ~~(i) Persons whom the department has found are potentially liable persons under WAC 173-340-500 with regard to any facility that is currently the subject of department investigative, remedial or enforcement actions, not including compliance monitoring;~~
- ~~(ii) Agents or employees of such potentially liable persons as described in (d)(i) of this subsection; and~~
- ~~(iii) Agents or employees of the department.~~
- ~~(e) A member shall refrain from participating in a committee matter if that member for any reason cannot act fairly and in the public interest with regard to that matter.~~
- ~~(f) The director may dismiss a member for cause in accordance with the terms of the regional citizens' advisory committee charter.~~

⁶⁴⁶ Eliminated Section 610, which governs use of the regional citizens' advisory committees. The committees were eliminated by the Legislature in 2001 (see [Laws of 2001, Chapter 291](#) and [SB 5401](#)).

- ~~(4) — **Meetings.** The committees shall meet at least twice a year at the regional offices or elsewhere as agreed upon by a committee and the department. Appropriate department staff may attend these meetings. The department shall brief the committees on the program's major planned and ongoing activities for the year.~~
- ~~(a) — The department and the committees may agree to additional meetings.~~
- ~~(b) — Each committee will designate one of its members to serve as chair. The committee chairs shall meet every year with the program manager or his/her designee.~~
- ~~(c) — All committee meetings shall be open to the public. The department shall inform the public of committee meetings.~~
- ~~(5) — **Resources allocated to the committees.**~~
- ~~(a) — The department shall determine, after consulting with the committees, the amount of staff time and other department resources that shall be available to the committees for each biennium.~~
- ~~(b) — The department shall designate staff to work with the committees.~~
- ~~(c) — Members shall be reimbursed for travel expenses (as provided for in chapter 43.03 RCW) for any meetings approved by the department.~~
- ~~(6) — **Responsibilities.** The committees are directed to:~~
- ~~(a) — Meet at least twice annually;~~
- ~~(b) — Inform citizens within each region as to the existence of the committees and their availability as a resource;~~
- ~~(c) — Review the department's biennial program priorities, and advise the department of citizen concerns regarding the program priorities;~~
- ~~(d) — Advise the department of community concerns about the cleanup program's activities and develop proposals for addressing these concerns. Committees may use issues at specific sites as a foundation for understanding regional issues;~~
- ~~(e) — Annually prepare a brief report to the department describing:~~
- ~~(i) — Major citizen concerns that have been brought to the committee's attention during the past year;~~
- ~~(ii) — Any committee proposals or recommendations to address these concerns;~~
- ~~(iii) — The committee's plans for the coming year; and~~
- ~~(iv) — Any other information or issues which the committee believes appropriate for inclusion.~~
- ~~(f) — The committees are encouraged to work with the department and the public to develop additional committee goals or responsibilities.~~

WAC 173-340-620 Tribal engagement.⁶⁴⁷

- (1) Purpose.** Tribal engagement is an integral part of ecology’s responsibilities under chapter 70A.305 RCW, the Model Toxics Control Act. Ecology’s goal is to provide Indian tribes with timely information, effective communication, continuous opportunities for collaboration and, when necessary, government-to-government consultation, as appropriate for each site.
- (2) Applicability.**⁶⁴⁸ This section applies to ecology-conducted and ecology-supervised remedial actions affecting Indian tribes’ rights or interests.⁶⁴⁹
- (3) Tribal engagement plan.**⁶⁵⁰

 - (a)** Ecology will develop a site tribal engagement plan that identifies Indian tribes that may be adversely affected by the site, opportunities for government-to-government collaboration and consultation, and protocols for communication.
 - (b)** Ecology encourages early planning and engagement. Ecology will seek to engage affected Indian tribes before initiating a remedial investigation or an interim action at a site.
- (4) Relationship with public participation.**⁶⁵¹ Engagement of Indian tribes under this section must be in addition to and independent of any public participation process under this chapter or applicable laws.

⁶⁴⁷ Established requirements for tribal engagement in new Section 620 that are separate from the public participation requirements in Section 600.

⁶⁴⁸ Limited the applicability of the requirements in this section to Ecology-conducted and Ecology-supervised remedial actions. The requirements do not apply to independent remedial actions. The applicability of this section reflects the applicability of the public participation requirements in Section 600.

⁶⁴⁹ Limited the applicability of the requirements in this section to Indian tribes’ rights or interests. The term “Indian tribe” is defined in Section 200 to mean the term as defined in RCW [43.376.010](#)(1), which includes federally-recognized Indian tribes whose traditional lands and territories included parts of Washington. Ecology will continue to engage indigenous peoples (whether or not a member of an Indian tribe) as part of its community engagement under Section 600.

⁶⁵⁰ Added requirement for Ecology to develop a tribal engagement plan for each site that identifies affected Indian tribes and opportunities for engagement. Ecology intends to develop a template that can be modified on a site-specific basis as needed based on tribal interest. Ecology encourages early planning and engagement.

⁶⁵¹ Added requirement that engagement of Indian tribes must be independent of any public participation process. This statement is based on a similar statement in the HEAL Act (see RCW [70A.02.100](#)(3)).

Part 7 – Cleanup Standards

What is included in Part 7?

As part of the rule proposal, Ecology is not proposing to change the cleanup standards in Part 7 of the rule. However, we are proposing to make the following types of changes to Part 7:

- Minor corrections identified by practitioners since the last rulemaking.
- Changes needed to conform to proposed changes in other Parts of the rule.

To facilitate your review of the limited changes to Part 7, this document lists the changes instead of showing the changes in the rule text. We are displaying the changes to Part 7 in this manner to make it easier for you to identify and compare them.

You can view the changes in the text of the relevant sections in the Order Typing Service (OTS) text, which is available on our website: <https://ecology.wa.gov/Regulations-Permits/Laws-rules-rulemaking/Rulemaking/WAC-173-340>.

List of changes to Part 7

Section or Equation	Change
Universal style changes	
	one (1) one ten 10 percent fifteen 15 percent twenty 20 percent fifty 50 percent ninety 90 percent ninety-five 95 percent fifteen 15 feet ten 10 times twenty-four 24 hour two two liters/day one in one hundred thousand 100,000 one in one million 1,000,000
Universal word changes	
	Contaminated Site Register hazardous waste site Indian tribes mailed provided
Equations ⁶⁵²	
Equation 720-1	ED = Exposure duration (1.0) (6 years)

⁶⁵² Made corrections in equations, including terms, units, and typos.

Section or Equation	Change
Equation 720-3	INH(i) = Inhalation correction fraction <u>factor</u> for petroleum component (i) (use value of 2 for volatile organic compounds and 1 for all other components [unitless])
Equation 730-1	UCF2 = Unit conversion factor (1,000 grams/ kg <u>liter</u>)
Equation 730-2	UCF2 = Unit conversion factor (1,000 grams/ kg <u>liter</u>)
Equation 740-3	<p>ABS = Dermal absorption fraction for petroleum component (i) (unitless). May use chemical-specific values or the following defaults:</p> <ul style="list-style-type: none"> • 0.0005 for volatile petroleum components with vapor press<u>pressure</u> > = benzene • 0.03 for volatile petroleum components with vapor press<u>pressure</u> < benzene • 0.1 for other petroleum components
Equation 740-4	<p>ABS = Dermal absorption fraction (unitless). May use chemical-specific values or the following defaults:</p> <ul style="list-style-type: none"> • 0.01 for inorganic hazardous substances • 0.0005 for volatile organic compounds with vapor press<u>pressure</u> > = benzene • 0.03 for volatile organic compounds with vapor press<u>pressure</u> < benzene • 0.1 for other organic hazardous substances
Equation 740-5	<p>ABS = Dermal absorption fraction (unitless). May use chemical-specific values or the following defaults:</p> <ul style="list-style-type: none"> • 0.01 for inorganic hazardous substances • 0.0005 for volatile organic compounds with vapor press<u>pressure</u> > = benzene • 0.03 for volatile organic compounds with vapor press<u>pressure</u> < benzene and for mixtures of dioxins and/or furans • 0.1 for other organic hazardous substances
Equation 745-3	<p>ABS = Dermal absorption fraction for petroleum component (i) (unitless). May use chemical-specific values or the following defaults:</p> <ul style="list-style-type: none"> • 0.0005 for volatile petroleum components with vapor press<u>pressure</u> > = benzene • 0.03 for volatile petroleum components with vapor press<u>pressure</u> < benzene • 0.1 for other petroleum components

Section or Equation	Change
Equation 745-4	<p>ABS = Dermal absorption fraction (unitless). May use chemical-specific values or the following defaults:</p> <ul style="list-style-type: none"> • 0.01 for inorganic hazardous substances • 0.0005 for volatile organic compounds with vapor presspressure \geq benzene • 0.03 for volatile organic compounds with vapor presspressure $<$ benzene • 0.1 for other organic hazardous substances
Equation 745-5	<p>ABS = Dermal absorption fraction (unitless). May use chemical-specific values or the following defaults:</p> <ul style="list-style-type: none"> • 0.01 for inorganic hazardous substances • 0.0005 for volatile organic compounds with vapor presspressure \geq benzene • 0.03 for volatile organic compounds substances with vapor presspressure $<$ benzene and for mixtures of dioxins and/or furans • 0.1 for other organic hazardous substances
Equation 747-2	<p>Koc = Soil organic carbon-water partitioning coefficient (ml/g)(L/kg). See (c)(i) of this subsection.</p>
Sections	
173-340-700(4)(a)	<p>This partPart 7 of this chapter⁶⁵³</p>
173-340-700(4)(b)	<p>Other parts of this rulechapter⁶⁵⁴</p>
173-340-700(6)(a)	<p>RCW 70.105D.030(2)(d)70A.305.030(2)(e)⁶⁵⁵</p>
173-340-700(8)(b)(i), (ii)(C), and (ii)(D)	<p>under Method 6 (see WAC 173-340-830 (3)(a)(vi)) in the "<u>Analytical Methods for Petroleum Hydrocarbons</u>," publication number 97-602, dated <u>June 1997</u>⁶⁵⁶</p>
173-340-702(10)	<p>When evaluating cleanup actions performed under the federal cleanup law, the department shall consider WAC 173-340-350, <u>173-340-351</u>,⁶⁵⁷ 173-340-355, 173-340-357, 173-340-360, <u>173-340-370</u>,⁶⁵⁸ 173-340-410, 173-340-420, 173-340-440, 173-340-450, 173-340-700 through 173-340-760, and 173-340-830 to be legally applicable requirements under Section 121(d) of the Federal Cleanup Law.</p>

⁶⁵³ Clarified reference.

⁶⁵⁴ Clarified reference.

⁶⁵⁵ Updated reference.

⁶⁵⁶ Consistent with changes to Section 830, replaced reference to Section 830 with a direct reference to document. See notes on Section 830.

⁶⁵⁷ Reflected split of Section 350 into two sections.

⁶⁵⁸ Added Section 370 to list consistent with change in role of cleanup action expectations in feasibility study. Added explicit requirement that the cleanup action expectations in Section 370 must be considered when

Section or Equation	Change
173-340-702(11)	WAC 173-340-700 through 173-340-760 Part 7 of this chapter ⁶⁵⁹
173-340-702(15)	RCW 70.105D.040(4)(c) 70A.305.040(4)(c) ⁶⁶⁰
173-340-704(2)(c)	WAC 173-340-7490 through 173-340- 7493 7494 ⁶⁶¹
173-340-710(7)(d)	... In addition, a remedial investigation/feasibility study conducted under WAC 173-340-350 and 173-340-351 ⁶⁶² shall also comply with the cleanup study plan requirements under chapter 173-204 WAC. ...
173-340-710(9)(b), (d)(i), and (d)(iii)	RCW 70.105D.090 70A.305.090 ⁶⁶³
173-340-710(9)(b)	... This exemption applies to the following laws: ⁶⁶⁴ (i) Chapter 70.94 70A.15 RCW; (ii) Chapter 70.95 70A.205 RCW; (iii) Chapter 70.105 70A.300 RCW; (iv) Chapter 75.20 77.55 RCW; (v) Chapter 90.48 RCW; (vi) Chapter 90.58 RCW; and (vii) Any laws requiring or authorizing local government permits or approvals for the remedial action.
173-340-730(2)(b)(i)(B)	Water quality criteria based on the protection of aquatic organisms (acute and chronic criteria) and human health published under section 304 of the Clean Water Act.; and
173-340-747(1)	... (see WAC 173-340-740 (3)(b)(iii)(A)) (see WAC 173-340-745 (5)(b)(iii)(A)).
173-340-745(3)(b)(iii)	WAC 173-340-7490 through 173-340- 7493 7494 ⁶⁶⁵
173-340-7490(1)(a)(ii)	Characterizing existing or potential threats ⁶⁶⁶ to terrestrial plants or animals exposed to hazardous substances in soil; and
173-340-7490(1)(b)	WAC 173-340-350(7)(c)(iii)(F)(H) (6)(i) ⁶⁶⁷

evaluating cleanup action alternatives in the feasibility study (see Section 351(6)(d)). Also added explicit requirement that any non-conformance of the preferred cleanup action alternative to the expectations must be documented and explained in the feasibility study report (see Section 351(6)(f)(viii)(A)). See notes on Section 370

⁶⁵⁹ Clarified reference.

⁶⁶⁰ Updated reference.

⁶⁶¹ Corrected reference.

⁶⁶² Reflected split of Section 350 into two sections.

⁶⁶³ Updated reference.

⁶⁶⁴ Reflected updated citations to laws.

⁶⁶⁵ Corrected reference.

⁶⁶⁶ Eliminated usage of “potential” when referring to “threats” throughout rule, as the term “threat” means the potential to cause harm.

Section or Equation	Change
173-340-7490(1)(c)	These procedures are not intended to be used to evaluate potential threats ⁶⁶⁸ to ecological receptors in sediments, surface water, or wetlands.
173-340-7490(5)	The department may require additional measures to evaluate potential threats ⁶⁶⁹ to terrestrial ecological receptors notwithstanding the provisions in this and the following sections, when based upon a site-specific review, the department determines that such measures are necessary to protect the environment.
173-340-7493(1)(d)(ii)	A simplified terrestrial ecological evaluation may be conducted under WAC 173-340-7492 because this evaluation will adequately identify and address any existing or potential threats ⁶⁷⁰ to ecological receptors.
173-340-7493(2)(a)(i)	WAC 173-340- 708 <u>703</u> (2)(b). ⁶⁷¹
173-340-7493(2)(b)	The following is an example of a site-specific issue developed in this step: Is dieldrin contamination a potential threat ⁶⁷² to reproduction in birds feeding on invertebrates and ingesting soil at the site? If so, what measures will eliminate any significant adverse effects?
173-340-7493(3)(b)(i)	... For issues where existing or potential threats ⁶⁷³ to plant life are a concern, the test described in <i>Early Seedling Growth Protocol for Soil Toxicity Screening</i> . Ecology Publication No. 96-324 may be used. ...
173-340-750(3)(c)(i)	The inhalation absorption percentage <u>fraction</u> ⁶⁷⁴ may be modified if the requirements of WAC 173-340-702 (14), (15), (16) and WAC 173-340-708(10) are met;
173-340-750(6)	Points of compliance. Cleanup levels established under this section shall be attained in the ambient (<u>outdoor</u>) air <u>and air within any building, utility vault, manhole or other structure large enough for a person to fit into</u> , throughout the site. For sites determined to be industrial sites under the criteria in WAC 173-340-745, the department may approve a conditional point of compliance not to exceed the property boundary. A conditional point of compliance shall not be approved if use of a conditional point of compliance would pose a threat to human health or the environment. ⁶⁷⁵

⁶⁶⁷ Updated reference based on changes to Section 350.

⁶⁶⁸ Eliminated usage of “potential” when referring to “threats” throughout rule.

⁶⁶⁹ Eliminated usage of “potential” when referring to “threats” throughout rule.

⁶⁷⁰ Eliminated usage of “potential” when referring to “threats” throughout rule.

⁶⁷¹ Corrected reference.

⁶⁷² Eliminated usage of “potential” when referring to “threats” throughout rule.

⁶⁷³ Eliminated usage of “potential” when referring to “threats” throughout rule.

⁶⁷⁴ Corrected term.

⁶⁷⁵ Corrects inconsistency with applicability statement in Section 750(1)(a).

Part 8 – General Provisions

WAC 173-340-810 Worker ~~safety and health~~ and safety.

- (1) **General provisions.** Requirements under the Occupational Safety and Health Act of 1970, as amended (29 U.S.C. Sec. 651 et seq.) and the Washington Industrial Safety and Health Act (chapter 49.17 RCW), and regulations promulgated pursuant thereto shall be applicable to remedial actions taken under this chapter. These requirements are subject to enforcement by the designated federal and state agencies. All governmental agencies and private employers are directly responsible for the safety and health of their own employees and compliance with those requirements. Actions taken by the department under this chapter do not constitute an exercise of statutory authority within the meaning of section (4)(b)(1) of the Occupational Safety and Health Act.
- (2) **~~Safety and h~~Health and safety plan.** Persons responsible for undertaking remedial actions under this chapter shall prepare a health and safety plan when required by chapter ~~296-62~~296-843 WAC. Plans prepared under an order or decree shall be submitted for the department's review and comment. The ~~safety and health~~ and safety plan must be consistent with chapter 49.17 RCW and regulations adopted under that authority.

WAC 173-340-815 Cultural resource protection.

- (1) Purpose.**⁶⁷⁶ This section specifies requirements that are intended to avoid, minimize, or mitigate adverse effects from remedial actions on archaeological and historic archaeological sites, historic buildings and structures, traditional cultural places, sacred sites, and other cultural resources.
- (2) Applicable laws.**⁶⁷⁷ Remedial actions must comply with applicable state and federal laws regarding cultural resource protection, including:
- (a)** The National Historic Preservation Act of 1966, as amended (54 U.S.C. 300101 et seq.);
 - (b)** The Archaeological and Historic Preservation Act of 1974, as amended (54 U.S.C. 312501 et seq.);
 - (c)** The Archaeological Resource Protection Act of 1979, as amended (16 U.S.C. 470aa et seq.);
 - (d)** The Native American Graves Protection and Repatriation Act of 1990, as amended (25 U.S.C. 3001 et seq.);
 - (e)** Chapter 27.53 RCW, Archaeological sites and resources;
 - (f)** Chapter 27.44 RCW, Indian graves and records;
 - (g)** Chapter 68.50 RCW, Human remains;
 - (h)** Chapter 68.60 RCW, Abandoned and historic cemeteries and historic graves; and
 - (i)** Chapter 43.21C RCW, State Environmental Policy Act, and chapter 197-11 WAC, SEPA rules.
- (3) Consultations and inadvertent discovery plans.**⁶⁷⁸
- (a) Applicability.**⁶⁷⁹ The requirements in this subsection apply to:
 - (i)** Ecology-conducted remedial actions, except initial investigations,⁶⁸⁰
 - (ii)** Ecology-supervised remedial actions; and
 - (iii)** Ecology-funded independent remedial actions.

⁶⁷⁶ Added statement of purpose, which is based on Section 3 of Executive Order [21-02](#).

⁶⁷⁷ Identified federal and state laws applicable to cultural resource protection. The identification of applicable laws is consistent with the approach used in Section [810](#) for health and safety requirements.

⁶⁷⁸ Added cultural resource consultation and inadvertent discovery planning requirements for remedial actions that Ecology either conducts, requires, or funds.

⁶⁷⁹ The applicability of the consultation requirements is consistent with Executive Order [21-02](#), except that we also included Ecology-supervised remedial actions not funded by Ecology. The applicability of the inadvertent discovery planning requirements is consistent with existing agency policy.

⁶⁸⁰ Exempted initial investigations from the cultural resource consultation requirements, consistent with the scope of Executive Order [21-02](#). However, we plan to develop procedures for initial investigations involving sampling activities, including use of inadvertent discovery plans.

- (b) Requirements.** Before any person conducts a field activity capable of affecting a cultural resource, if encountered, ecology will:
- (i)** Consult with the department of archaeology and historic preservation and affected Indian tribes on the potential effects of planned remedial actions on cultural resources at the site, unless the remedial action is subject to Section 106 review under the National Historic Preservation Act of 1966, as amended (54 U.S.C. 300101 et seq.).⁶⁸¹ Based on the consultations, ecology may require the development and implementation of a cultural resources work plan, such as a survey or monitoring plan, to identify cultural resources and to avoid, minimize, or mitigate adverse impacts to cultural resources at the site;⁶⁸² and
- (ii)** Prepare or require an inadvertent discovery plan for the site.⁶⁸³
- (A)** The inadvertent discovery plan must be prepared using the applicable form provided by ecology or an equivalent document that includes the same or more comprehensive information.
- (B)** For ecology-supervised remedial actions, ecology may require submittal of the inadvertent discovery plan for its review.
- (C)** The inadvertent discovery plan must be readily available during all remedial actions at the site. Persons conducting remedial actions at the site must be familiar with the contents and location of the plan.
- (D)** The inadvertent discovery plan must be updated as needed to reflect the discovery of cultural resources.

⁶⁸¹ Added cultural resource consultation requirement consistent with Executive Order [21-02](#). However, unlike EO 21-02, Ecology will not delegate consultation responsibility to other parties, such as potentially liable persons or grant recipients.

⁶⁸² Added authority for Ecology to require development and implementation of a cultural resources work plan, such as a survey or monitoring plan, to identify cultural resources and to avoid, minimize, or mitigate adverse impacts to cultural resources at the site. Ecology would determine the need for such actions based on the results of the consultations.

⁶⁸³ Added inadvertent discovery planning (IDP) requirement consistent with current agency policy. One may use the IDP form provided by Ecology or an equivalent document. Unlike for cultural resource consultations, Ecology may require another party to prepare an IDP. Consistent with program policy, the IDP must be kept at the site during all remedial actions and persons conducting remedial action must be familiar with its contents and its location at the site. The plan must be kept up to date based on any discoveries at the site.

WAC 173-340-830 ~~Analytical~~ Sampling and analysis procedures.

(1) **Purpose.** This section specifies ~~acceptable analytical methods and other testing requirements for sites where remedial action is being conducted under this chapter~~ requirements for sampling and analysis activities conducted as part of a remedial action. These activities include sample collection, handling, preservation, transportation, holding time, preparation, laboratory analysis, method detection limits, practical quantitation limits, quality assurance, quality control, data reporting, and other technical requirements and specifications.⁶⁸⁴

~~(2)~~ ~~General requirements.~~⁶⁸⁵

- ~~(a)~~ All hazardous substance analyses shall be conducted by a laboratory accredited under chapter 173-50 WAC, unless otherwise approved by the department.
- ~~(b)~~ All analytical procedures used shall be conducted in accordance with a sampling and analysis plan prepared under WAC 173-340-820.
- ~~(c)~~ Tests for which methods have not been specified in this section shall be performed using standard methods or procedures such as those specified by the American Society for Testing of Materials, when available, unless otherwise approved by the department.
- ~~(d)~~ Samples shall be analyzed consistent with methods appropriate for the site, the media being analyzed, the hazardous substances being analyzed for, and the anticipated use of the data.
- ~~(e)~~ The department may require or approve modifications to the standard analytical methods identified in subsection (3) of this section to provide lower quantitation limits, improved accuracy, greater precision, or to address the factors in (d) of this subsection.
- ~~(f)~~ Limits of quantitation. Laboratories shall achieve the lowest practical quantitation limits consistent with the selected method and WAC 173-340-707.
- ~~(g)~~ Where there is more than one method specified in subsection (3) of this section with a practical quantitation limit less than the cleanup standard, any of the methods may be selected. In these situations, considerations in selecting a particular method may include confidence in the data, analytical costs, and considerations relating to quality assurance or analysis efficiencies.
- ~~(h)~~ The department may require an analysis to be conducted by more than one method in order to provide higher data quality. For example, the department may require that different separation and detection techniques be used to verify the presence of a hazardous substance (“qualification”) and determine the concentration of the hazardous substance (“quantitation”).
- ~~(i)~~ The minimum testing requirements for petroleum contaminated sites are identified in Table 830-1.

⁶⁸⁴ Moved sentence from former subsection (3)(a) to expand on what the requirements in this section cover.

⁶⁸⁵ Broke apart former subsection (2) into four different subsections. See new subsections (2) through (5). Disposition of each provision is identified in the footnotes.

~~(3) Analytical methods.~~⁶⁸⁶

- ~~(a) The methods used for sample collection, sample preservation, transportation, allowable time before analysis, sample preparation, analysis, method detection limits, practical quantitation limits, quality control, quality assurance and other technical requirements and specifications shall comply with the following requirements, as applicable:~~
- ~~(i) **Method 1. Test Methods for Evaluating Solid Waste**, Physical/Chemical Methods, U.S. EPA, SW-846, fourth update (2000);~~
 - ~~(ii) **Method 2. Guidelines Establishing Test Procedures for the Analysis of Pollutants**, 40 C.F.R. Chapter 1, Part 136, and Appendices A, B, C, and D, U.S. EPA, July 1, 1999;~~
 - ~~(iii) **Method 3. Standard Methods for the Examination of Water and Wastewater**, American Public Health Association, American Water Works Association, and Water Pollution Control Federation, 20th edition, 1998;~~
 - ~~(iv) **Method 4. Recommended Protocols for Measuring Selected Environmental Variables in Puget Sound**, Puget Sound Estuary Program/Tetra Tech, 1996 edition;~~
 - ~~(v) **Method 5. Quality Assurance Interim Guidelines for Water Quality Sampling and Analysis**, Groundwater Management Areas Program, Washington Department of Ecology, Water Quality Investigations Section, December 1986;~~
 - ~~(vi) **Method 6. Analytical Methods for Petroleum Hydrocarbons**, Ecology publication #ECY 97-602, June 1997; or~~
 - ~~(vii) Equivalent methods subject to approval by the department.~~
- ~~(b) The methods used for a particular hazardous substance at a site shall be selected in consideration of the factors in subsection (2) of this section.~~
- ~~(c) **Groundwater.** Methods 1, 2, 3 and 4, as described in (a) of this subsection, may be used to determine compliance with WAC 173-340-720.~~
- ~~(d) **Surface water.** Methods 1, 2, 3, 4 and 5 as described in (a) of this subsection, may be used to determine compliance with WAC 173-340-730.~~
- ~~(e) **Soil.** Method 1, as described in (a) of this subsection, may be used to determine compliance with WAC 173-340-740 and 173-340-745.~~
- ~~(f) **Air.** Appropriate methods for determining compliance with WAC 173-340-750 shall be selected on a case-by-case basis, in consideration of the factors in subsection (2) of this section.~~

⁶⁸⁶ Eliminated former subsection (3). We eliminated the list of Ecology-approved methods from the rule to make it easier to update the list based on technological changes. Under the new rule, Ecology is required to maintain and make available to the public a list of Ecology-approved methods. Ecology may add or remove methods from the list without changing the rule. Ecology must maintain a record of any such decision. See new subsection (4)(a).

- (2) Applicability.** All sampling and analysis activities conducted as part of a remedial action must comply with the requirements in this section and, for sites where there is a release or threatened release to sediment, the requirements in chapter 173-204 WAC.⁶⁸⁷
- (3) Plans.** All sampling and analysis must be conducted in accordance with a sampling and analysis plan prepared under WAC 173-340-820.⁶⁸⁸
- (4) Methods.**
- (a)** All sampling and analysis must be conducted in accordance with an ecology-approved method or, if ecology has not approved an applicable method, a standard method or procedure such as those specified by the American Society for Testing of Materials, when available.⁶⁸⁹
- (i)** Ecology will maintain a list of ecology-approved methods and make the list publicly available on ecology's website.
- (ii)** Ecology will provide notice in the *Contaminated Site Register* when ecology adds or removes a method from the list of ecology-approved methods.
- (iii)** Ecology will maintain a record of its decisions to add or remove a method from the list of ecology-approved methods.
- (iv)** Any person may propose another method for ecology review and approval.
- (b)** The methods used to collect, handle, and analyze samples must be appropriate for the site, the media being analyzed, the hazardous substances being analyzed for, and the anticipated use of the data.⁶⁹⁰
- (c)** Ecology may require or approve modifications to a method identified under (a) of this subsection to provide lower quantitation limits, improved accuracy, greater precision, or to address the factors in (b) of this subsection.⁶⁹¹
- (d)** Ecology may require an analysis to be conducted by more than one method in order to provide higher data quality. For example, ecology may require that different separation and detection techniques be used to verify the presence of a hazardous substance

⁶⁸⁷ Added applicability provision to clarify that, for sites where there is a release or threatened release to sediment, sampling and analysis activities must also comply with the requirements in chapter 173-204 WAC.

⁶⁸⁸ Moved from former subsection (2)(b).

⁶⁸⁹ Eliminated list of Ecology-approved methods from the rule to make it easier to update the list based on technological changes. Under the new rule, Ecology is required to maintain and make available to the public a list of Ecology-approved methods. Ecology may add or remove methods from the list without changing the rule. Ecology must maintain a record of any such decision, and notify the public of any such decision in the *Contaminated Site Register*. As under the current rule, when Ecology has not identified an approved method, a standard method (such as those specified by ASTM) may be used, if available (see former subsection (2)(c)).

⁶⁹⁰ Moved from former subsection (2)(d).

⁶⁹¹ Moved from former subsection (2)(e).

(qualification) and determine the concentration of the hazardous substance (quantitation).⁶⁹²

(e) If ecology has approved more than one method with a practical quantitation limit less than the cleanup level, any of those methods may be used. When selecting a method in these situations, consider confidence in the data, analytical costs, quality assurance, and analysis efficiencies.⁶⁹³

(5) Laboratories.

(a) All hazardous substance analyses must be conducted by a laboratory accredited under chapter 173-50 WAC, unless otherwise approved by ecology.⁶⁹⁴

(b) Laboratories must achieve the lowest practical quantitation limits consistent with the selected method and WAC 173-340-707.⁶⁹⁵

(6) Petroleum testing. The minimum testing requirements for petroleum releases are identified in Table 830-1.⁶⁹⁶

⁶⁹² Moved from former subsection (2)(h).

⁶⁹³ Moved from former subsection (2)(g).

⁶⁹⁴ Moved from former subsection (2)(a).

⁶⁹⁵ Moved from former subsection (2)(f).

⁶⁹⁶ Moved from former subsection (2)(i).

WAC 173-340-860 Endangerment.

In the event that the department determines that any activity being performed at a ~~hazardous-waste~~ site is creating or has the potential to create a danger to human health or the environment, the department may direct such activities to cease for such period of time as it deems necessary to abate the danger.