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VIA EMAIL ONLY

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Re: MTCA Cleanup Rule Stakeholder and Tribal Advisory Group
Comments on Draft Changes to Cleanup Rule: WAC 173-340-350 (Remedial investigation and feasibility study), -360 (Requirements for cleanup actions), and -370 (Expectations for cleanup actions)

Dear Mr. Stanovsky:

I am providing written comments on draft proposed changes to the MTCA Cleanup Rule related to the RI/FS and remedy selection process, which were discussed during MTCA Cleanup Rule Stakeholder and Tribal Advisory Group ("STAG") meetings between May and July 2020. These comments are submitted in connection with my role on the MTCA STAG.[1]

References in the comments to the preliminary draft rules are to the following version: Ecology, MTCA Cleanup Rulemaking Chapter 173-340 Preliminary Draft – Sections 350, 360, and 370 (May 28, 2020) ("May 28, 2020 Preliminary Draft Materials"). As an interpretive note, I have included a few questions in the comments below. I am not expecting Ecology to respond to the questions, but anticipate that they will highlight relevant issues.

As always, thank you to Ecology for the time and energy spent in developing the proposed revisions to the Cleanup Rule addressed below. The background materials and explanations provided by Ecology continue to be very helpful.

Please do not hesitate to let me know if you have questions. Thank you for considering my comments.

[1] These comments are not submitted on behalf of any clients of Beveridge & Diamond P.C. and do not preclude the firm, any of the firm's attorneys, or any of the firm's clients from taking different or inconsistent positions with respect to any of the issues addressed in these comments or to the comments themselves.

I. Comments on Draft WAC 173-340-350 (Remedial Investigation and Feasibility Study)

Questions on WAC 173-340-350: Remedial investigation and feasibility study

1. Cleanup units

- **Do you support the use, as appropriate, of administrative cleanup units within a site to facilitate site investigations and cleanups?**

Administrative cleanup units within a site can be useful to facilitate site investigations and cleanups – particularly for complex sites.

Ecology should also consider how these administrative divisions can be used to encourage more rapid cleanups. Appropriate incentives would include the willingness to resolve liabilities and provide contribution protection for those administrative units for which parties have performed or entered into cash-out settlements and, where warranted, for the site as a whole. At complex sites, PLP activities and impacts may be limited to well-defined areas with distinctive site features and conditions, and administrative cleanup units may be developed consistent with the PLPs' willingness to perform cleanups for portions (but not all) of the site.[2]

Ecology should continue to utilize tools that allow phased cleanups, which can offer regulatory certainty and help PLPs define and manage potential liabilities. Phased cleanups are also critical for making progress on significant Brownfields projects, and administrative cleanup units can be a tool for tackling complex redevelopment projects. Some of Ecology's tools already contemplate an "administrative unit"-like approach to cleanups.[3] These tools can be helpful for facilitating site redevelopment and real estate transactions even if the entirety of the site has not been cleaned up.

[2] MTCA already allows Ecology to resolve liability for all or part of a site. *See generally* RCW 70A.305.040(4). And Ecology has utilized this authority to facilitate settlements with PLPs with limited or isolated contributions. *See, e.g.*, *Ecology v. Union Pac. R.R. Co*., No. _____(to be filed in Clark Cnty. Super. Ct.) (2020 proposed De Minimis Consent Decree resolving liability for the Pacific Wood Treating site where Union Pacific was determined to have contributed only limited contamination in one part of a much larger site); *see also* Ecology, SCUM II, at p. 2-6 (Dec. 2019) ("Sediment cleanup units may be proposed by Ecology or by PLPs interested in cleaning up a focused area within a larger site to settle responsibilities for that unit.").

[3] *E.g.*, RCW 70A.305.030(1)(i) ("Nothing in this chapter may be construed to preclude the department from issuing a written opinion on whether further remedial action is necessary at any portion of the real property located within a facility, even if further remedial action is still necessary elsewhere at the same facility."); WAC 173-340-440(2) ("Interim actions may … [a]chieve cleanup standards for a portion of the site."); WAC 173-340-515(5) ("It is the department's policy … to promote independent remedial actions by delisting sites or portions of sites ….");

- **If sites are separated into administrative cleanup units, do you have any concerns with how the cumulative impacts of the site or cleanup are considered?**

Ecology's use of the term "cumulative impacts" in this context is unclear given the use of the same term in the draft environmental justice provisions in the rule. Based on the background materials, my understanding is that Ecology likely concerned with multiple potential issues related to the appropriate level of analysis, including site-wide risks, cleanup standards, and selection of cleanup actions.

Depending on the site, it may be appropriate to consider cumulative impacts during site investigation and cleanup. Under both the Sediment Management Standards and current Voluntary Cleanup Guidance, at least some investigation is contemplated to understand site-wide risks and to identify potential cleanup standards before establishing sediment cleanup units or completing property-specific cleanups. Whether administrative cleanup units would facilitate cleanups should be evaluated on a case-by-case basis, as should the need to account for cumulative impacts when establishing cleanup standards or selecting a remedy for an administrative cleanup unit. Appropriately, the Sediment Management Standards and Sediment Cleanup User's Manual identify several different factors that may inform the delineation of administrative cleanup units.[4] Similarly, whether and how cumulative impacts should be considered could be based on an evaluation of relevant factors.

Ecology should keep in mind that the fact that a larger area impacted by multiple releases can be defined as a "facility" under MTCA does not necessarily mean that it is logical to treat the entire area as a single undifferentiated site. The need to consider cumulative impacts also should be weighed against the need to promote cleanups. As mentioned, phasing cleanups over longer periods is a common tool for Brownfield redevelopment and may be valuable even if the phasing makes it more difficult to evaluate cumulative impacts from the site as a whole.

2. Applicability to sediment sites and cleanup units

- **For sediment sites and cleanup units, does the draft rule sufficiently clarify that both rules apply?**

Yes. But please consider following minor clarifications in draft WAC 173-340-350(2):

> **(2) Applicability.** The requirements in this section apply to all contaminated sites. **In addition:**

Ecology, Guidelines for Property Cleanups under the Voluntary Cleanup Program, at p. 1 (July 2015) ("Ecology has decided to also provide opinions on the sufficiency of cleanups of individual parcels … located within sites.").

[4] *See* WAC 173-204-505(20) ("A sediment cleanup unit may be established based on unique chemical concentrations or parameters, regional background, environmental, spatial, or contaminant source characteristics, or other methods determined appropriate by the department, e.g., development-related cleanups, cleanup under piers, cleanup in eelgrass beds, and cleanup in navigational lanes."); Ecology, SCUM II at pp. 12-3 to 12-6 (Dec. 2019).

> **(a) Sediment sites and sediment cleanup units.** For sites where there is a release or threatened release to sediment, a remedial investigation/feasibility study must also comply with the requirements in WAC 173-204-550.

3. Applicability to independent remedial actions

- **For independent remedial actions, does the draft rule sufficiently clarify**:
    - **Whether the substantive requirements of this section apply (i.e., those that govern the sufficiency of the remedial investigation or feasibility study)?**

Generally, yes. But please consider the minor clarifications below in draft WAC 173-340-350(2).

    - **Whether the administrative requirements of this section apply (i.e., those that govern reporting, review and approval, and public involvement)?**

While most experienced consultants and attorneys may understand what is meant by "administrative requirements" in draft WAC 173-340-350(4)(b), the term is potentially vague. For example, Ecology has identified "public involvement" as an administrative requirement.[5] Draft rules changes appearing to require public outreach to select cleanup actions (e.g., consultation and mitigation requirements for sites in highly impacted communities) indicate that what qualifies as an administrative requirement may be ambiguous.

- **If more specific direction is needed, should it be included in the rule or in guidance from Ecology? If in rule, should it be included in this section or in Section 515?**

Consider adding a definition in WAC 173-340-200 for "administrative requirements" to clarify what is covered by administrative requirements.

In addition, consider the following minor clarifications in draft WAC 173-340-350(2) and -350(4).

> **(2) Applicability.** The **substantive** requirements in this section apply to all contaminated sites. **However, as provided in subsection (4), applicable administrative requirements are determined by the administrative option under which the remedial investigation/feasibility study is conducted. In addition ….**
>
> **…**
>
> (4) **Administrative requirements** ….
>
> (b) For independent remedial actions, ~~**see**~~ WAC 173-340-515 **provides the** ~~for~~ reporting and

[5] May 28, 2020 Preliminary Draft Materials, at p. 16.

other administrative requirements.

Ecology also should mention the Voluntary Cleanup Program in the Cleanup Rule and describe how it fits into the independent cleanup pathway. The reference to technical consultations in WAC 173-340-515(5) does not clarify how parties are to obtain the technical consultations, and the rule provides multiple potential touchpoints with Ecology for independent cleanups. For example, WAC 173-340-330(7)(b) established a petitioning process for removing sites from the "hazardous sites list." Is the right entry point the VCP?

In addition, Ecology should clarify what substantive standards must be met and how to make this demonstration for simple sites – e.g., sites with minor reported releases where rapid cleanups are feasible.

Further clarification on the applicability of the regulatory requirements to independent sites may be provided in guidance.

4. Site-specific flexibility

- **Does the draft rule provide adequate flexibility to avoid unnecessary investigations of the site and studies of cleanup action alternatives?**

Yes. Draft WAC 173-340-350(5) retains critical language from existing WAC 173-340-350(6). However, if flexibility is contemplated, but never applied, the flexibility allowed by the rule is obviously less useful. For example, contaminated site investigations have an inherent bias toward more data collection. And additional documentation proposed for the evaluation of cleanup action alternatives also reinforces the concern that it may be difficult to determine when streamlining is appropriate.

In terms of specific changes, similar to a comment above, it would be helpful to clarify expectations for investigation and remedy selection for sites that are cleaned up independently before Ecology determines further action is required in the initial investigation/SHA phase and to specify how requirements could be streamlined (or at least clarified) in these circumstances. Sites that can be cleaned up in this timeframe are likely to be simpler and lower risk. Because WAC 173-340-515(3)(b) specifies that "independent remedial actions must still meet the substantive requirements of this chapter," the degree to which the investigation and remedy selection requirements for simple sites can be streamlined is uncertain.

5. Remedial investigation – vapor intrusion

- **Do you have any concerns with the changes in draft rule for investigating the vapor intrusion pathway?**

No. Ecology's changes are consistent with the now prevalent focus on vapor intrusion as a potential risk at contaminated sites. Ecology might also include language indicating that indoor air quality impacts may be suitable for rapid and phased assessments in order to identify and, if needed, mitigate potential

short-term exposure risks. *See, e.g.*, Ecology, Vapor Intrusion (VI) Investigations and Short-term Trichloroethene (TCE) Toxicity, Implementation Memorandum No. 22, at p. 20 (Oct. 1, 2019) ("If VI is causing an exceedance of the TCE short-term indoor air action level, prompt action is needed.").

6. Remedial investigation – climate resilience

- **Does the draft rule adequately specify what information should be collected during the remedial investigation to evaluate the resilience of cleanup action alternatives to the impacts of climate change?**

As a point of clarification, the draft language in WAC 173-340-350(6)(c)(vi) is somewhat ambiguous as to whether the RI is supposed evaluate the likely effects of "local and regional climatological characteristics" on "the migration of hazardous substances or the resilience of cleanup action alternatives" or just to collect information about the characteristics generally. It may be Ecology's intention that the effects are to be evaluated primarily in the FS / cleanup action selection process per draft WAC 173-340-360(3)(a)(v) and (5)(d)(iii)(A)(III). However, in practice and according Ecology's climate change cleanup guidance, the RI is an appropriate phase for considering effects.[6]

For focusing the RI effort and scoping a climate vulnerability assessment, it would be appropriate to consider only local and regional climatological characteristics that are "highly likely" to affect the site and/or cleanup action. To ensure that the investigation is sufficient, a broader range of potentially relevant characteristics may need to be identified initially, but that is a methods-related issue that can be addressed in guidance.

It also may be helpful to clarify that expected cleanup scenarios may inform relevant vulnerabilities and timeframes. For the assessment of climate change vulnerabilities, Ecology's guidance indicates that the relevant timeframe will depend on the expected cleanup timing and permanence.[7]

Finally, the term "sufficient" appears to establish a standard for information collection that is unclear. Including an objective may help provide a standard against which sufficiency can be measured.

[6] "Climate-related impacts can have many site-specific effects on surface water hydrology, sediment, soil, and groundwater—each of which can be evaluated during the Remedial Investigation." Ecology, Adaptation Strategies for Resilient Cleanup Remedies, at p. 31 (Nov. 2017). "By the time the Feasibility Study and Remedial Design are underway, any climate vulnerabilities that apply to the cleanup site will have been identified and evaluated as part of the Remedial Investigation …." *Id*. at p. 38.

[7] Ecology, Adaptation Strategies for Resilient Cleanup Remedies, at p. 22 (Nov. 2017) (characterizing sites' vulnerability to climate change as low to high risk depending on whether sites will be cleaned up in 1-2 years, 10 years, or longer and whether contamination is left in place).

Suggested revision to draft WAC 173-340-350(6)(c)(vi):

> **(vi) Climate**. Sufficient information must be collected **to determine the ~~on~~** current and projected local and regional climatological characteristics that are **highly** likely to affect the migration of hazardous substances or the resilience of cleanup action alternatives."

- **Did Ecology strike the right balance between what is specified in rule versus guidance?**

Generally, yes. The example relevant climatological characteristics in the draft rule should clarify scope of the intended investigation and analysis. However, the evaluation of climate change-related site impacts is complex, and the related knowledge, methods, and tools are evolving quickly, so detailed guidance is necessary to ensure reliable, up-to-date, and consistent assessments.

- **Is any additional guidance needed, including definitions of terms?**

Per WAC 173-340-210(5), the term "include" means "included but not limited to." However, for clarity, consider the following proposed edit:

> "**For example, r~~R~~**elevant characteristics can include temperature extremes, rise in sea level, seasonal patterns of rainfall, the magnitude and frequency of extreme storm events, the potential for landslides, prevailing wind direction and velocity, variations in barometric pressure, and the potential for wildfires;"

7. Remedial investigation – definition of highly impacted communities

- **Does the expanded definition strike the right balance between what is specified in rule versus guidance?**

Several STAG members have commented that the term "minority" is disfavored, because it reinforces the marginalized status of vulnerable populations. Even though Ecology is attempting to track federal environmental justice terminology, Ecology should explore alternative language to address these concerns.

Adding a regulatory definition for the phrase "disproportionate burden of public health risks from environmental pollution" would also help to clarify what is intended by the term highly impacted community and may help to support an appropriate framework for assessing equity issues.

Assuming Ecology chooses to further clarify the definition in guidance, Ecology should take care to apply the term consistently across sites. A formal policy, subject to public comment, on the subject would be appropriate.

For purposes of compliance with the proposed RI/FS requirements, it is not self-evident how the definition of highly impacted community will affect required the analysis and decision-making.

- For example, based on Ecology's remedial action grant and loan program, a highly impacted community may be defined quite broadly and is defined at the census tract level. A highly impacted community may have several subgroups or subpopulations that each experience potential site and cleanup impacts in a different way. Does Ecology expect that the RI/FS analysis will differentiate between impacts to subgroups or subpopulations that are not explicit in the definition of highly impacted communities? Or do the metrics that will be used to determine the existence of a highly impacted community set bounds on how the relevant affected community is defined?

- A census tract-level analysis also may imply potential impacts to communities were none exist, particularly for smaller sites with isolated contamination.[8] Does Ecology intend that the location of a site within a census tract determined to contain a highly impacted community will be presumed to affect that community?[9]

- **Should any other populations be identified explicitly in the rule?**

See comments above.

8. Remedial investigation – effects on highly impacted communities

The draft provisions rightly recognize that human health and environmental risks associated with contaminated sites are more likely to be borne by environmental justice communities – i.e., highly impacted communities. The Cleanup Rule should be clear that contaminated sites and cleanups in highly impacted communities may pose unique considerations, which should be accounted for in the site investigation, remedy selection, and cleanup phases. Yet, every site and every community, along with the stressors impacting such communities, will be different. A challenge is balancing the need to be responsive to community-specific considerations while providing a regulatory framework that encourages expeditious cleanups – which in and of themselves benefit impacted communities – and predictability for the parties performing the cleanups. As evidenced by the number of sites on Ecology's Confirmed and Suspected Contaminated Sites List, cleanups are already time-consuming endeavors.

Ecology has indicated that the agency plans to prepare guidance on how to implement the environmental justice provisions of the draft rule. With this in mind, Ecology should consider linking the effective date of new environmental justice provisions with the issuance of the guidance. While performing parties would make good faith efforts to implement the new provisions, the lack of guidance may result in disagreements or uncertainty about best practices and the intent of the new provisions.

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[8] *See, e.g.*, Census 2010 Seattle, Washington - Census Tracts and Zip Code Boundaries, https://www.seattle.gov/Documents/Departments/OPCD/Demographics/GeographicFilesandMaps/2010CensusTractsandZipCodeBoundaries.pdf. Note that some zip codes contain only a few census tracts.

[9] Ecology has suggested that location alone is insufficient to infer an impact. Ecology, MTCA Cleanup Rulemaking Chapter 173-340 Preliminary Draft – Section 340, at p. 12 (Feb. 25, 2020).

As described below, the draft rule language contains several requirements that may be subject to multiple interpretations. It also bears noting that while environmental justice concepts have been incorporated into the development of certain federal and state permitting, regulations, and programmatic planning and facility-siting processes to varying degrees in recent decades, the on-the-ground implementation of these concepts is still evolving. Further clarity within the draft rule also would help to steer parties toward an actionable analysis of equity issues.

- **Does the draft rule strike the right balance between what is specified in rule (specificity) versus guidance (flexibility and adaptability)? Should anything else be specified in rule?**

The draft rule language in WAC 173-340-350(6)(c)(ix) is generally consistent with the level of detail provided in other Section 350 provisions. The following comments and suggested changes to the draft rule language are intended to highlight implementation considerations and to identify opportunities to achieve more equitable outcomes in site cleanups while still ensuring that cleanups can proceed with reasonable efficiency. The comments also address Ecology's separate questions below about cumulative impacts analysis requirements.

Make threshold effects determination explicit. As structured, draft WAC 173-340-350(6)(c)(ix) appears to contemplate a cumulative impacts analysis after a threshold finding that the site "may affect a highly impacted community."[10] I recommend making this phased approach more explicit.

Basis for making threshold effects determination is unclear. Draft WAC 173-340-350(6)(c)(ix) requires that "[s]ufficient information must be collected to identify whether and how the site may affect a highly impacted community." In background materials, Ecology has indicated that all the analysis required in draft WAC 173-340-350(6)(c)(ix) can be completed using "measures and data available online or in guidance from Ecology" or based on "existing information (available from Ecology or the Department of Health)."[11] However, this limitation is not explicit in the draft rule, which leaves open the possibility that parties will need to conduct further investigations to gather "sufficient information."

Emphasize human health and environmental effects. Consider explicitly linking the investigation and analysis required in draft WAC 173-340-350(6)(c)(ix) to MTCA's human health and environmental goals. *See, e.g.*, RCW 70A.305.010(1) ("Each person has a fundamental and inalienable right to a healthful environment …") (emphasis added). This would help to focus the investigation with respect to highly impacted communities and would help to develop actionable information. This also would be consistent with the overarching RI requirement that "investigations must be performed to characterize [the threat that hazardous substances present at the site] pose to human health and the environment." WAC 173-340-350(6)(c). It also would be more closely tied to Ecology's authority under MTCA to conduct or

[10] Ecology's background materials affirm that the draft rule assumes a threshold effects determination. May 28, 2020 Preliminary Draft Materials, at p. 19 ("The draft rule adds a requirement that the remedial investigation include an investigation of whether the site affects any 'highly impacted communities' and, if so, how the site may impact those communities.") (emphasis added).

[11] May 28, 2020 Preliminary Draft Materials, at p. 20.

require others to conduct "remedial actions." RCW 70A.305.030(1)(b); RCW 70A.305.020(33) (defining remedial action as "any action or expenditure … to identify, eliminate, or minimize any threat or potential threat posed by hazardous substances to human health or the environment").

Include examples of relevant community effects. It would be helpful to include examples in the rule to clarify what Ecology intends by the phrase "whether and how the site may affect a highly impacted community" in draft WAC 173-340-350(6)(c)(ix). Is the presence of a site in a highly impacted community sufficient?[12] If presence is sufficient, would the proposed SHA/ranking process, which will identify sites in highly impacted communities, determine "whether and how the site may affect a highly impacted community"? Or, is site-specific evidence of known or likely exposures and further characterization of the impacted community required to conclude that a site may affect a highly impacted community?

Include cumulative impacts analysis as a potential tool, not a mandatory requirement. Consider identifying cumulative impacts analysis as a tool to evaluate the effects of a contaminated site on a highly impacted community, but not requiring one at all sites that "may affect a highly impacted community."

Ecology could specify in guidance (and/or through its enforcement authority on a case-by-case basis) when a cumulative impacts analysis is necessary. For example, early investigation may conclude early on that site contamination is isolated and there are no exposures to highly impacted communities even if the initial investigation / SHA process were to identify possible impacts. This conclusion could be revisited if Ecology and/or the performing party receives contrary information and/or the site ranking increases pending further investigation.

Scope and purpose of cumulative impacts analysis in MTCA cleanup process is not wholly clear. Ecology has not clarified how cumulative impacts analyses in the RI phase will be used in the cleanup process or whether such analyses are necessary to accurately assess and avoid the inequitable effects of a contaminated site on a highly impacted community. (See also comments below regarding consideration of equity in the draft FS and remedy selection regulations.)

- **Causes v. effects**. The draft language states that "effects" of a contaminated site may be "health, social, cultural, or economic." Social, culture, and economic factors are often used as <u>inputs</u> into a cumulative impacts analysis (and may be relevant to identifying and addressing exposures from site contamination). For example, California EPA (and others) define "cumulative impacts" as "<u>exposures, public health or environmental effects from the combined emissions and discharges in a geographic area</u>, including environmental pollution from all sources, whether single or multi-media, routinely, accidentally, or otherwise released. Impacts

[12] The draft rule materials for WAC 173-340-340 suggest that presence likely is not sufficient to demonstrate an effect. Ecology, MTCA Cleanup Rulemaking Chapter 173-340 Preliminary Draft – Section 340, at p. 12 (Feb. 25, 2020).

will take into account sensitive populations and socio-economic factors, where applicable and to the extent data are available."[13]

- **Necessity of analysis of cumulative impacts on social, cultural, and economic effects of site?** How a cumulative impacts analysis is to be used to evaluate economic, social, and cultural effects of a site is not apparent. It also is unclear why a cumulative impacts analysis is needed to ensure proper consideration of these factors.[14] (As noted above, cumulative impacts analyses tend to focus on health risks.)

- **Quantitative and qualitative information and methodological flexibility**. The use of the term "data" in the draft rule suggests that Ecology expects a quantitative cumulative impacts analysis. However, there is not a standard methodology for performing cumulative impacts analyses. Techniques range from highly quantitative to highly qualitative.[15] Depending on the site and available information, methodological flexibility may be appropriate. Ecology has not signaled a preferred cumulative impacts analysis methodologies or guidelines.

- **Screening tool v. site-specific assessment**. Cumulative impacts analyses are often done at the zip code or census tract level and are used for screening purposes.[16] Is Ecology intending that the cumulative impacts analysis be conducted on a more granular level? Is Ecology intending that the analysis reflect impacts to subgroups or subpopulations within highly impacted

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[13] *See, e.g.*, Cal. Communities Envtl. Health Screening Tool, at p. 4 (Sept. 2013 updated), https://oehha.ca.gov/media/downloads/calenviroscreen/report/calenviroscreenver11report.pdf. The California EPA working group noted that a cumulative impacts that addresses environmental justice issues is different than the cumulative effects or impacts analysis that may be undertaken under state NEPAs. *Id*. at p. 4 n.4.

[14] Analyzing the economic impacts of a site on specific communities also creates additional potential liabilities for performing parties, as such analyses could be used in support of legal claims for economic damages. Consequently, I am reluctant to endorse an analysis of economic impacts. As an alternative, performing parties could be required in WAC 173-340-400 to minimize impacts to businesses in highly impacted communities during cleanup implementation. In addition, substantial economic impacts, which are more likely to be associated with large sites, can be identified during the public engagement process and can be evaluated in the context of public concerns during the remedy selection process.

[15] "Some cumulative impact assessment methodologies focus on populations or geographic areas, whereas others evaluate the impacts of emission sources, chemicals, policies, or programs …. Few approaches to cumulative impacts aim to incorporate all types of stressors and vulnerabilities. Methodologies also differ in the degree to which they require quantitative or qualitative data, as well as the degree of community engagement they include …. " G. Solomon et al., "Cumulative Environmental Impacts: Science and Policy to Protect Communities," Annual Review of Public Health (March 2016), available at https://www.annualreviews.org/doi/full/10.1146/annurev-publhealth-032315-021807.

[16] *See, e.g.*, Duwamish Valley Cumulative Health Impacts Analysis (March 2013) ("In accordance with California EPA's cumulative impacts ranking methodology, a total of 15 indicators in five categories were selected and input into a formula to calculate cumulative heath impact scores for ten representative Seattle ZIP codes."), https://static1.squarespace.com/static/5d744c68218c867c14aa5531/t/5e0edc05d2e16f330fa0071d/1578032180988/CHIA_low_res+report.pdf.

communities? Or are all members of a highly impacted community assumed to be facing the same cumulative burdens? Added granularity likely would pose further data and methodological challenges while screening-level data may not represent actual site impacts.

- "**Existing and available data**." To date, Ecology has not clarified what existing and available data would be used in a cumulative impacts analysis or who will be responsible for making determinations about what data is sufficient. Similarly, Ecology has not clarified what "stressors" would be considered in a cumulative impacts analysis. Will this be defined by what is available in online tools, such as EJSCREEN or Washington Tracking Network? Is site-specific data expected to be included?

- **Alternative to cumulative impacts analysis: Communications and explicit multi-faceted analytical framework?** In the STAG meetings, many of the environmental justice examples have involved the failure to communicate information about exposures during site investigation or to consider exposures and community impacts when designing and implementing a remedy. Even without a cumulative impacts analysis, these concerns could be addressed through effective public communication for appropriate sites and/or more explicit instructions to evaluate how social, cultural, and economic factors may affect risks and/or would be affected by cleanup decisions in highly impacted communities.

Suggested revision to draft WAC 173-340-350(6)(c)(ix) (in light of comments above and information provided by Ecology):

> "~~Sufficient~~ Existing and available information determined by Ecology must be collected to identify whether and how the site may affect a highly impacted community due to exposures to hazardous substances and considering likely cleanup action alternatives. When ~~identifying effects~~ evaluating how a site may affect a highly impacted community, a cumulative impacts analysis may be necessary ~~must be conducted based on existing and available data~~. If a cumulative impacts analysis is undertaken, it shall be based on existing and available information identified by Ecology ~~data~~, and may consider how relevant chemical and non-chemical stressors, such as environmental, human health, social, cultural, and economic factors, influence how a site and likely cleanup action alternatives may affect a highly impacted community. ~~Effects may be health, social, cultural, or economic.~~"

If cumulative impacts analysis is mandatory, define what it means. If a cumulative impacts analysis is to be mandatory, consider defining what is meant by the term – with an emphasis on the range of acceptable methodologies depending on a case-by-case evaluation of the site, the site's known or likely relationship to the a highly impacted community, and the existing and available information.

- **Do you have any concerns with being able to conduct the required investigation?**

This depends on the scope of the required investigation and the administrative pathway under which a site is being cleaned up. As written, there appear to be two pieces to draft WAC 173-340-360(6)(c)(ix).

The first component is information gathering for a threshold effects determination. The second is the cumulative impacts analysis.

Cumulative impacts analysis. Taking the cumulative impacts analysis first: If the cumulative impacts analysis under draft WAC 173-340-360(6)(c)(ix) is based on "existing and available" information, Ecology has set out in guidance what existing and available information should be consulted, and multiple analytical methodologies are acceptable, the mechanics of completing a cumulative impacts analysis is not likely to involve major challenges. However, the relative utility of the analysis will depend on what "existing and available" information is used. Thus, implementation difficulties could arise due to information quality and completeness issues.

As mentioned, what "existing and available data" is to be used is not apparent from the draft rule itself. If Ecology intends that all "existing information" will be "available from Ecology or the Department of Health," as indicated in the background document,[17] this should be specified in the rule.

Information gathering / threshold effects determination. As written, draft WAC 173-340-350(6)(c)(ix) could be interpreted to require the collection of new site- and community-specific information to support a threshold effects determination. While Ecology has indicated that performing parties would "[u]se measures and data resources available online or in guidance from Ecology to determine and document whether the site may affect a highly impacted community,"[18] the draft rule does not include this limitation.

Without this limitation in the rule, the actual data or information collection requirements could be more significant. If Ecology anticipates that information-gathering beyond "existing and available data" would be required, it would be helpful to identify the circumstances.

Existing information regarding social, cultural, and economic impacts. Ecology has presented EJSCREEN and the Washington Tracking Network as examples of how online tools can assist with identifying highly impacted communities and possibly how those communities may be affected by contaminated sites. The tools appear to be designed primarily to identify, at a census tract level, communities that are experiencing significant cumulative environmental and human health burdens. However, it is unclear how these tools would be used to evaluate social, cultural, and economic effects of a site.[19] To date, Ecology has not provided clear expectations for how social, cultural, and economic

[17] May 28, 2020 Preliminary Draft Materials, at p. 20.

[18] May 28, 2020 Preliminary Draft Materials, at p. 20.

[19] The Washington Tracking Network datasets include information intended to assess census tract or county level potential health and environmental impacts. *See* A Complete List of All Data on WTN's Query Tool (Nov. 2019), https://www.doh.wa.gov/Portals/1/Documents/4000/334-411-WTNAllMeasures.pdf. While the data includes statistical information about general social, cultural, and economic community characteristics, this data does not necessarily capture data sufficient to determine how cultural and social practices relate to site-specific effects on a community.

impacts should be documented and considered in a cumulative impacts analysis or how it intends to interpret "existing and available data" outside of the online tools.

Considerations regarding the possibility of additional information gathering. If additional information-gathering through community engagement and public outreach were required under draft WAC 173-340-360(6)(c)(ix), it likely would be easier for Ecology-supervised or -conducted cleanups.

- Ecology has existing relationships with some highly impacted communities, such as tribes, and consultation with tribes is required for formal cleanups by WAC 173-340-130(7) (Ecology "shall ensure appropriate … tribal governments are kept informed ….").

- Ecology has an "Environmental Justice Coordinator" and the TCP has an environmental justice lead, who may be able to provide input on how best to identify and evaluate risks to highly impacted communities.

- These sites also require a public participation plan. *See* WAC 173-340-120(9); WAC 173-340-610(9). These plans, and the process of assembling them, may include "identifying and conferring with individuals, community groups … tribes … or any other organizations that may have an interest in or knowledge of the facility" and may include such "[m]ethod's of identifying the public's concerns" including "[i]nterviews; questionnaires; meetings; [and] contacts with community groups or other organizations with an interest in the site …." WAC 173-340-610(9)(c).[20]

- Even without the draft rule language, formal sites often involve an assessment of highly impacted communities to complete site characterization and risk assessments.[21]

Generally speaking, independent cleanups are less suited for extensive information-gathering to assess effects on highly impacted communities. As noted regularly by Ecology rulemaking staff, the public involvement requirements for independent cleanups are limited – especially during the investigation

[20] *See, e.g.*, In re University of Washington, Agreed Order No. DE 11081, § F, at p. 16 (May 18, 2016) ("Ecology shall maintain the responsibility for public participation at the Site;"). Note that the public participation plan requirement currently only applies to "any site that has been assigned a hazard ranking score" or to sites under an agreed order or consent decree for which Ecology requires a public participation plan. WAC 173-340-600(9)(d). Incidentally, it is unclear whether, based on Ecology's proposal to rank all sites, Ecology intends all sites to develop and execute a public participation plan.

[21] *See, e.g.*, Ecology, Response to 2011 Comments re RI/FS for Port Gamble Bay, at p. 16 (Feb. 2013) ("Additional information was collected to augment the RI based on further interaction with the Tribe and information needs identified by Ecology. This included collection of additional sediment, tissue, and bioassay data in 2011, and thorough updates to the human health, natural background comparisons, source evaluation, transport pathways, cleanup standards, and SMA/site boundary identification sections.").

phase.[22] Additionally, public hearings and information requests from Ecology are likely to result in greater participation from impacted communities. Private parties are also less likely to have contacts with tribes, community groups, churches, schools, and other organizations with information relevant to assessing site impacts.

To facilitate compliance with the draft RI requirements for independent cleanups, Ecology should consider the following:

- **Ecology guidance, resources, and assistance**. At minimum, Ecology should plan to provide guidance to parties performing independent cleanups to confirm what existing information should be consulted and how that information should be interpreted, to determine when, if at all, additional information collection is required, and to assist with any related community outreach and engagement. This would necessitate regular coordination among Ecology and local governments, tribal governments, and other community partners to ensure that information is current and accessible. As an example of an Ecology-developed resource, Ecology could offer standardized notices in multiple languages to support public communications.[23]

- **Checklist with minimum expectations**. A checklist that specifies best practices and minimum expectations for information collection and analysis and for community engagement, if required, would also assist parties performing independent cleanups with ensuring that their efforts are productive.

- **Opportunities to streamline** (particularly <u>if</u> Ecology anticipates that additional information may be required to determine effects).

    - <u>Require formal cleanup pathway if enhanced public engagement is necessary</u>. Ecology should consider whether community engagement needs for certain independent sites in highly impacted communities are such that those sites should be in a formal cleanup pathway.[24] This would provide clarity that <u>independent</u> cleanups could rely on readily

[22] *See* Model Toxics Control Act Public Involvement for Cleanup Sites – Summary for Rule Team Discussion (Dec. 19, 2019). Ecology staff have suggested that the requirements in WAC 173-340-545 pertaining to cost recovery requirements for MTCA private rights of action may motivate additional public engagement. However, the provisions state explicitly that "[f]or independent remedial actions consisting of site investigations and studies, it is anticipated that public notice would <u>not</u> normally be done since often these early phases of work are to determine if a release even requires an interim action or cleanup action." (Emphasis added.) In addition, many site cleanups are conducted without an eye toward subsequent contribution litigation (other PLPs may be unknown or may have already agreed to contribute to site costs).

[23] Standardized materials may also be helpful in alleviating concerns about public risk communication.

[24] *See, e.g.*, Ecology, Voluntary Cleanup Program (VCP): Guidance for the Expedited VCP Process, at pp. 8, 10, 35 (July 2020) (stating that Ecology may "reject" applications for the new Expedited VCP if "[t]here is, or is likely to be, significant public interest in the site cleanup" and that Ecology may also "may decide to supervise further remedial actions at the site under an order or decree").

accessible information identified by Ecology without further community engagement beyond what is required in the current rule.

- If no exposures, do not require additional information collection. If site has low SHA/ranking score or initial investigation determines that there are no known or likely exposures to highly impacted community, specify that additional public outreach is not required to assess and address impacts. If evidence of exposures is obtained later, supplemental analysis could be performed.
- If demonstrated lack of public interest in the site, specify that additional public outreach is not required to address and address impacts. For example, a simple survey could be distributed as part of the initial investigation and, pending responses or lack thereof, assessment of potential impacts could be tailored appropriately or omitted.
- As a further consideration, independent cleanups tend to involve smaller and less complex sites. An intensive public process may not be warranted by the limited potential impacts.

Good faith efforts. A critical issue will be how Ecology will view good faith efforts to gather information from or about highly impacted communities that ultimately do not yield responsive information or information in a timely fashion. Unlike other aspects of the RI process, the success of this information collection depends on the quality and completeness of the existing and available information or, if additional community outreach is required, on third parties. These circumstances should not prevent the site cleanup from moving ahead or lead to uncertainty about whether a cleanup performed without this information is adequate.[25] This could be a "non-conformance" issue under draft WAC 173-340-370, but clarity would be helpful.

- **Should cumulative impacts on a highly impacted community be considered when assessing the effects of a site? If so, should only existing and available information about such impacts be considered?**

Please see comments above.

9. Remedial investigation – ecological evaluations

- **Is it appropriate to defer ecological evaluations until after the completion of human health evaluations and the selection of a preferred cleanup action alternative that is protective of human health (i.e., phase the RI/FS)?**

For sites where the ecological impacts are less likely to be relevant, and thus less likely to drive the cleanup decisions, it is important to retain the efficiencies in the current rule (e.g., exclusions based on future site plans, use of conditional points of compliance, etc.). However, to the extent that Ecology has

[25] WAC 173-340-130(7)(a) indicates that Ecology will assist PLPs if they "demonstrate[] that they are unable to obtain adequate involvement …. by a particular government agency or tribe"). However, this only applies at formal cleanup sites, may be impractical to offer for independent cleanups, and may be irrelevant if the analysis is intended to be limited to existing and available information.

found that performing parties do not complete an ecological evaluation at all or document the basis for exclusions, the rule could be clarified to ensure that the ecological impacts are considered and exclusions documented appropriately in the RI/FS phase.

- **Is it appropriate to base ecological evaluations on the conditions anticipated to exist after a cleanup based on protection of human health?**

This may depend on the site. Requiring additional investigation and analysis for sites that do not have any habitat and/or are unlikely to result in exposures to ecological receptors seems unnecessary, as would requiring that contamination be cleaned up to address an exposure scenario that is not reasonably likely to occur. In addition, if anticipated conditions do not exist after a cleanup based on human health, and the residual contamination still poses unacceptable ecological risks, the performing parties run the risk of further cleanup being required to address the residual risks. Thus, performing parties have an incentive to account for ecological risks when selecting and designing the remedy. To this end, Ecology could further clarify that cleanup standards must address relevant risks to human and ecological receptors.

10. Feasibility study – applicability

- **Is the draft rule clear as to when a feasibility study is not required?**

Generally, yes.

Please also retain the following language from WAC 173-340-350(8)(a): "If concentrations of hazardous substances do not exceed the cleanup level at a standard point of compliance, no further action is necessary." This language clarifies that contamination below cleanup levels does not need to be remediated. This is helpful for PLPs and in real estate transactions involving contaminated property. I did not see it elsewhere in the draft rule language.

11. Feasibility study – procedural steps

- **Do you have any concerns with the steps for how to conduct a feasibility study specified in the draft rule?**

No major concerns. See below for minor comments.

- **In particular:**
  - **Does the draft rule strike the right balance between what is specified in rule (certainty and direction) versus guidance (flexibility and adaptability)?**

Draft WAC 173-340-350(7) provides a useful roadmap for conducting and reporting feasibility studies.

- **Do the steps inappropriately constrain how a study may be conducted?**

No. The key provision is draft 173-340-350(7)(c)(ii)(A), which requires only a "reasonable number of types and alternatives, taking into account the characteristics and complexity of the site." While WAC 173-340-130(5) provides that site investigations and cleanup selections should be flexible and that "decisions be made and cleanups proceed expeditiously once adequate information is obtained," it is helpful to reinforce that intent in the Cleanup Rule's substantive provisions.

- **Did we omit or obscure any step in the study?**

In draft Step 2: Identify Alternatives, subparagraph (C) is ambiguous as to whether at least one alternative must be based on a "standard point of compliance" for "each environmental medium" or whether, collectively, the alternatives include a standard point of compliance for each environmental medium even if no single alternative does so for all environmental media.

Minor suggested revision to draft WAC 173-340-350(7)(iv):

> **Step 4: Evaluate remaining alternatives**. 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.

It is not clear that the references to "equity" and to draft "WAC 173-340-360(3)(d)" in draft WAC 173-340-350(7)(d)(viii) are necessary. It appears to be the only instance where the term "equity," which is undefined and therefore potentially confusing, is used in the draft rule. In addition, the draft language specifies that the FS report will include "[d]ocumentation of the detailed evaluation process in Step 4." Draft Step 4 already requires alternative evaluations "to determine whether [the alternatives meet] the requirements in WAC 173-340-360," which includes considerations of impacts to highly impacted communities.

12. Feasibility study – Consideration of cleanup action expectations in Section 370

- **Do you have any concerns with how Ecology's expectations for cleanup actions in Section 370 must be considered in the feasibility study and how any non-conformance must be documented in the report?**

Based on the draft rule, it is not clear if Ecology is intending to add a substantive requirement that cleanup actions must conform to the expectations in Section 370, or is only adding process requirements that the expectations in Section 370 must be considered when evaluating cleanup alternatives and that any non-conformance of the preferred cleanup action alternative must be documented. As written and consistent with the origins of the provision, a reasonable interpretation is that Ecology is not intending to add new substantive requirements – that is, a cleanup alternative will

not be carried forward or eliminated on the basis of the expectations in Section 370 alone.[26] If Ecology intends that draft WAC 173-340-350(7)(c) and the draft changes in the prefatory language in WAC 173-340-370 will result in differences to the outcomes of the remedy selection process, this intent should be discussed.

13. Feasibility study – Reporting hazardous substances eliminated or remaining behind

- **Do you have any concerns with requiring that this information, which is necessary to conduct the study, be included in the report?**

Not at this time.

14. Regulatory impacts –

- **What, if any, economic effects might the following changes to the remedial investigation and feasibility study requirements have on you or your constituents:**
    - **Investigation of climatological characteristics that are likely to affect the resilience of cleanup action alternatives?**

I am unable to generate a specific estimate at this time, as the marginal costs will vary by site.

    - **Investigation of whether and how highly impacted communities may be affected by a site?**

The extent to which the proposed investigation requirements for highly impacted communities would add to the investigation costs depends on the scope of the eventual requirements. If the analysis is based only on existing information, the additional costs likely would be limited for most sites. However, as mentioned, the draft rule does not limit the investigation to existing information, which contributes uncertainty to expected costs projections.

    - **Other changes to WAC 173-340-350?**

As a whole, the proposed RI/FS requirements in draft WAC 173-340-350 would result in more work, and therefore more cost, for site investigations. Even mainly process requirements – such as estimates for contamination removed/treated and remaining on site and thorough documentation of the FS analysis – will generate expenses. For smaller entities in particular, any additional costs could have significant economic impacts.

[26] Draft WAC 173-340-360 (Selection of cleanup actions) does not appear to contain any references to Section 370, for example.

- **Can you identify a less burdensome regulatory approach to implement the draft rule changes that complies with statutory requirements?**

Several of the comments above identify opportunities to clarify and/or streamline applicable requirements, which would have the effect of reducing the regulatory burden.

- **Would the draft rule changes have a disproportionate impact on small businesses or local governments?**

Any additional requirements are likely to have a disproportionate impact on small businesses and local governments. The costs of an investigation typically do not vary based on a PLP's financial status.

- **Would the draft rule changes provide an advantage or disadvantage to Washington businesses compared to businesses in other states?**

I do not have a view on this issue at this time.

II. Comments on Draft WAC 173-340-360 (Requirements for Cleanup Actions) and WAC 173-340-370 (Expectations for Cleanup Actions

Questions on WAC 173-340-360: Requirements for cleanup actions

1. **Applicability – sediment sites and cleanup units**

- **For sediment sites and cleanup units, does the draft rule sufficiently clarify that both rules apply?**

Yes. Based on draft WAC 173-340-360(2), the application of WAC 173-340-360 to sediment sites and cleanup units is generally clear.

Minor suggested clarification in draft WAC 173-340-360(2)(a):

> **(a) Sediment sites and sediment cleanup units**. For sites where there is a release or threatened release to sediment, cleanup actions must also comply with the requirements in WAC 173-204-570.

2. **Requirements – reorganization**

- **Do you have any concerns with how the draft rule restructures the list of requirements?**

No. The reorganization in subsection (3) is logical.

The reference to WAC 173-340-600 in draft WAC 173-360(3)(a)(ix) suggests that the requirement to consider public concerns will be satisfied as long as any applicable provisions of WAC 173-340-600 are followed. As discussed above, the draft provisions concerning highly impacted communities appear to envision the potential for additional public outreach and consideration of public concerns. For some sites, this may involve public notice / community engagement that is not specified in WAC 173-340-600.

The phrasing in draft WAC 173-340-360(3)(b)(v), which tracks the existing phrasing in in WAC 173-340-360(2)(e)(iii) and WAC 173-340-440(6), also is potentially ambiguous.

Suggested revision to draft WAC 173-340-360(3)(b)(v)[27]:

> (v) Not rely primarily on institutional controls and monitoring **at a site, or portions thereof,** where it is technically possible to implement a more permanent cleanup action ~~**for all or a portion of the site**~~.

3. Requirements – climate resilience

- **Is it appropriate to include climate change resilience as both a general (absolute) requirement for cleanup action alternatives, and in the long-term effectiveness (comparative) criterion in the disproportionate cost analysis?**

Yes. For an absolute requirement, the draft WAC 173-340-360(3)(a)(v) focuses only on "resilience to climate change impacts that have a high likelihood of occurring and severely compromising its long-term effectiveness." This provides an appropriate baseline, as a remedy that is "severely compromised" by a climate change impact that has a "high likelihood of occurring" is not protective of human health and the environment. The consideration of climate change resilience in the DCA process contemplates the possibility of a greater degree of long-term protectiveness but only if practicable.[28]

- **Is it appropriate to also include a separate expectation regarding climate change resilience in WAC 173-340-370?**

If climate change resilience is an absolute requirement under WAC 173-340-360(3)(a)(v), it is not clear why it would also need to be an expectation in WAC 173-340-370.

[27] I recognize that this draft language reflects language in the current rule.

[28] As a general observation, parties performing cleanups are motivated to implement cleanups that do not "fail" – whether due to climate change impacts or other reasons. For example, Ecology's consent decrees typically contain re-openers that require additional work Ecology determines that "remedial action … is necessary to abate an imminent and substantial endangerment to human health or environment."

4. Requirements and expectations – environmental justice

- **Which of the following approaches is preferable:**
  - **As specified in the draft rule, make equity a factor that must be considered when evaluating the existing requirements in Section 360 (such as whether an alternative is protective or whether the restoration time frame is reasonable) and create an equity expectation in Section 370?**

This option is likely preferable. However, it depends on the specifics of the equity requirements. At present, the draft rule contains several uncertainties with respect to how the equity analysis is to be conducted.

Draft WAC 173-340-360(3)(d) requires that equity be considered when "determining whether a cleanup action alternative meets the requirements of this subsection." As confirmed in Ecology's background document, equity would be considered in determining whether a cleanup action alternative meets the other remedy requirements, "such as whether it is protective or whether the restoration time frame is reasonable"[29] – i.e., requirements in draft WAC 173-340-360(3)(a)-(c).

This approach could present complications. First, it is not clear that the equity framework proposed by Ecology aligns with all the general, media-specific, and action-specific requirements. For example, draft WAC 173-340-360(4) lists factors that must be considered in determining whether a cleanup action provides a reasonable restoration timeframe. Some requirements, such as the technical feasibility determination for use of institutional controls in draft WAC 173-340-360(3)(b)(v), do not readily lend themselves to equity analyses.

Second, it is not clear whether Ecology intends that the cleanup requirements in draft subsection 360(3) would inform what benefits and burdens should be considered in the proposed equity analysis under draft WAC 173-340-360(3)(d)(ii). Draft WAC 173-340-360(3)(d)(ii) generally refers to "heath, social, cultural, or economic" burdens. The term "benefits" is undefined. With the exception of the term "health," this terminology is not used elsewhere in draft WAC 173-340-360.

Third, considering equitable distribution of benefits and burdens for each requirement in subsection 360(3) would add to costs and complicate the remedy selection process without necessarily changing outcomes as compared to a more targeted equity assessment.

Fourth, it is unclear whether draft WAC 173-340-360(3)(i) imposes substantive requirements on remedy selection. For example, are equity issues supposed to affect the DCA scoring?

With these items in mind, consider the following alternative to the existing language in draft WAC 173-340-360(3): Identify the specific issues in Section 360 for which an equity analysis should be conducted. Some DCA criteria could be a useful framework, because they dovetail with issues that are likely to

[29] May 28, 2020 Preliminary Draft Materials, at p. 25.

involve equity considerations – protectiveness, permanence, long-term effectiveness, management of short-term risks, and consideration of public concerns. Some reasonable restoration factors also may be relevant – potential risks, effectiveness of institutional controls, current and potential uses of site and surrounding areas. Equity would remain an expectation while the alternatives analysis may inform options for addressing inequities. The DCA process would continue to determine what alternatives are practicable.

- **Make equity a separate, stand-alone requirement that must be evaluated in Section 360?**

See comments above.

- **What burdens should be considered when assessing the burdens of an alternative – health, social, cultural, economic?**

Considering health, social, and cultural impacts of cleanup alternatives seems reasonable, as long as Ecology is clear about what is expected for analysis of these impacts and primary importance is given to environmental and human health impacts.[30] In addition, this sort of analysis implicates a number of methodological and data/information quality issues, particularly with respect to cumulative impacts assessments. Thus, Ecology should consider whether a cumulative impacts analysis is necessary to evaluate and consider health, social, and cultural impacts in the remedy selection process.

- **Do you have any concerns with being able to analyze cumulative impacts on a highly impacted community when assessing the effects of an alternative?**

Please see comments above regarding cumulative impact analyses in the RI, which also apply to the use of a cumulative impacts analysis in draft WAC 173-340-360(3)(d). With those in mind, please consider including cumulative impacts analysis as a potential tool in remedy selection, not a mandatory requirement.

Ecology's draft WAC 173-340-360(3)(d) also raises issues specific to the use of a cumulative impacts analysis and consideration of social, cultural, and economic impacts in the remedy selection process, including:

- Whether this cumulative impacts analysis is different than the analysis to be required in the RI.
- Whether social, cultural, and economic burdens can be identified reliably with reference to "existing and available data."

- **Do you have any concerns with being able to consider equity in the feasibility study?**

[30] As stated above, I am reluctant to endorse mandatory analysis of economic impacts. Depending on what Ecology is envisioning, this line of analysis could create additional liabilities for performing parties. An alternative could be to instruct in WAC 173-340-400 that cleanups should be designed to minimize impacts on businesses in highly impacted communities – e.g., avoiding street closures during business hours.

Draft WAC 173-340-360(3)(d)(ii) and draft WAC 173-340-370(9) appear to be the two provisions requiring consideration of equity in the FS (in contrast to draft WAC 173-340-360(d)(i), which is an evaluation of benefits and burdens for a highly impacted community, not an evaluation of how benefits and burdens are distributed across highly impacted and other communities). Comments on these draft provisions are provided separately below. In addition, please see comments above on the general approach for considering equity in the FS.

Draft WAC 173-340-360(3)(d)(ii).

- **Determining relevant affected communities**. This provision requires parties to identify which "highly impacted and other communities" are "affected by the site." This raises questions about what "effects" are relevant. Is there a materiality limitation implicit in the "affected by" determination? The human health and environmental impacts may also be easier to evaluate than the cultural, social, and economic impacts.

- **Role of cumulative impacts analysis**. In order to compare the distribution of benefits and burdens between highly impacted and other communities, would a cumulative impacts analysis need to be performed for all impacted communities?

- **Definition of benefits**. The draft rule does not define "benefit." It specifies four types of "burdens." Should cleanup alternative benefits be measured primarily in terms of risk reduction or environmental improvements? If benefits are to be construed more broadly, what information is Ecology expecting performing parties will use to identify and measure the benefits of cleanup alternatives? Including examples in the rule itself would be helpful.

- **Public engagement / information collection requirements?** Does the benefits determination require additional public engagement or information gathering beyond what is specified explicitly in the RI provisions? Per the draft rule, burdens are supposed to be assessed based on "existing and available data." But this limitation does not appear to apply to benefits.

- **Quantitative v. qualitative comparison**. The use of the term "degree" in the draft rule suggests a quantitative comparison of the distribution of benefits and burdens across impacts communities. Yet, due to information/data limitations and uncertainty, as well as the need to compare across different categories of benefits and burdens, a qualitative evaluation seems more practical and defensible.

- **Confirmation of when the analysis under draft WAC 173-340-360(3)(d)(ii) is <u>not</u> required**. As written, draft rule subparagraph (d)(ii) appears to be triggered only when a contaminated site affects highly impacted and other communities. Thus, if a site affects only a highly impacted community, a comparative equity analysis would not be required in the FS. Is this correct?

- Along these lines, it would be helpful to know if Ecology intends that the effects threshold determination for "other communities" will be the same as for highly impacted communities.

Draft WAC 173-340-370(9).

- **Additional public engagement requirements for FS?** The draft rule contains the expectation that "any inequitable distribution will be mitigated in consultation with highly impacted communities." This indicates that additional community engagement will be required. Particularly for independent cleanups, this consultation requirement may be difficult to satisfy without undertaking activities not contemplated in the current rule (or preliminary draft rule). When does Ecology anticipate that this consultation would occur and in what form?

- **Mitigation of inequitable distribution of burdens / benefits**. The draft rule leaves open number of issues related to the mitigation expectation:

    - The mitigation instruction in Section 370 is potentially redundant. Draft WAC 173-340-350(7)(c)(iv) states that, for the FS, parties should "[c]onduct 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." (Emphasis added.) Thus, any mitigation measures included in the cleanup alternatives would be accounted for, rendering the mitigation instruction unnecessary.

    - The scope of the expected mitigation for the inequitable distribution of benefits and burdens of a cleanup is unclear. What are examples that Ecology would consider as appropriate mitigation? If the mitigation expectation would result in substantive changes to the selected cleanup alternative, in contrast to focused modifications to the design and implementation of the selected remedy, it could create tension with the existing DCA process.

    - How, if at all, would performing parties be expected to take into account risk factors / stressors outside the control of the performing parties? Or does the term "cleanup actions" in draft WAC 173-340-350(9) constrain the inequities that performing parties are expected to mitigate – i.e., only impacts from the cleanup action?

    - How does Ecology expect that community consultation and mitigation measures would be documented?

    - As an alterative to the "mitigation" component in the draft expectations section, Ecology could include instructions in WAC 173-340-400 that options for alleviating residual inequities should be considered when designing and implementing the selected remedy. This would minimize the potential ambiguities of including a mitigation component in the expectations section and would clarify the scope of what sort of mitigation is contemplated.

    - Ecology should consider specifying that selection of mitigation measures should reflect best professional judgment, since communities may not present uniform views.

- **Confirmation that mitigation not expected if no inequitable distribution of benefits and burdens**. As written, the mitigation expectation in draft WAC 173-340-370(9) would only be triggered if the selected cleanup alternative would result in an inequitable distribution of benefits and burdens as between highly impacted and other communities affected by the site. Is this correct?

    - **What type of expertise do you think is needed to consider equity in the feasibility study?**

The expertise required to consider equity in the FS depends, in part, on Ecology's views on issues highlighted above and the utility of any forthcoming guidance on the topic.

Generally speaking, environmental consultants are well versed in the FS process, including evaluation of cleanup alternatives, and have technical training and experience that would allow them to integrate existing information and data resources that are determined to be relevant to the equity analysis. Training likely would be required for consultants to conduct cumulative impacts analyses.

In addition, if Ecology envisions that additional information or outreach will be needed to generate inputs for the cleanup alternatives' equity analysis, it is possible that community engagement specialists, and for some communities, interpreters, would need to play more central roles in the cleanup process.

    - **What type of guidance should Ecology develop for considering equity? What expertise or other resources does Ecology need to develop such guidance?**

In developing guidance and resources for consideration of equity in the FS, Ecology should consider the following:

- Whether human health and environmental impacts should take priority over cultural, social, and/or economic impacts generally or in specific circumstances.
- How to weigh cultural, social, or economic impacts in any cumulative impacts analysis and in the evaluation of cleanup requirements generally.
- How to evaluate the relative significance of cleanup alternatives in the context of a cumulative impacts analysis, which reflects impacts from a range of potential stressors.
- How to define "benefits" of cleanup action alternatives.
- When and how best to consult with communities to identify mitigation measures, particularly for independent cleanups.
- How performing parties should reconcile differing views about appropriate mitigation measures in highly impacted communities.
- What existing information and data should be used to evaluate burdens for cleanup alternatives.

5. Disproportionate cost analysis – applicability

- **Is the draft rule clear as to when a feasibility study is not required?**

See response to Question 10 re draft WAC 173-340-350 above.

Draft WAC 173-340-360(5)(b) confirms that a DCA is not required if a permanent cleanup action alternative is selected as the cleanup action. It is implicit and currently specified in WAC 173-340-390(3) that a DCA also is not required if the selected cleanup action is a model remedy. For consistency, it may be helpful to confirm this exemption from the DCA requirements explicitly in draft WAC-340-360(5)(b) as well.

6. Disproportionate cost analysis – procedures / steps

- **Do you have any concerns with the steps for how to determine whether a cleanup action alternative uses permanent solutions to the maximum extent practicable or how to use a disproportionate cost analysis to make that determination?**

Ecology has indicated that it is planning to issue DCA guidance, which will still be necessary to ensure consistent implementation of the DCA requirements.

- **In particular:**
    - **Does the draft rule strike the right balance between what is specified in rule (certainty and direction) versus guidance (flexibility and adaptability)?**

Overall, the draft rule provisions provide greater clarity on the expected DCA process than the existing rule and would result in greater methodological consistency.

    - **Do the steps inappropriately constrain how the analysis may be conducted?**

It is not clear that the process proposed will always result in the selection of a remedy that is practicable. For example, draft WAC 173-340-360(5)(c)(iv)(B)(II) mandates that if "the benefits of the two alternatives are the same or similar, the lower cost alternative is permanent to the maximum extent practicable and the analysis is complete." Under this scenario, it is conceivable that both alternatives will be impracticable as measured against a more permanent alternative. Clarifying the appropriate "baseline" in this situation may address the issue. But sufficient flexibility should be allowed to ensure that the DCA process does not lead to unintended results. Ecology has accepted DCAs that have not proceeded as an "incremental" analysis in the past. Allowing justified deviations from the strict DCA procedures (not from the analysis of relevant DCA criteria) may be appropriate.

- **Did we omit or obscure any step in the analysis?**

In draft Step 3 in WAC 173-340-360(5)(c)(iii), subparagraph (B) requires that where there is "more than one permanent cleanup action alternative," the "most practicable" permanent alternative should be used as the "initial baseline." Based on Steps 1 and 2, it is unclear whether this requires a comparison of the permanent alternatives using the DCA criteria or if this comparison can be based primarily on cost. Note that the definition of "practicable" in WAC 173-340-200 appears to require a DCA-like assessment whenever the term "practicable" is used in the Cleanup Rule and cost is a consideration.

7. Disproportionate cost analysis – consideration of qualitative benefits / weighting

- **Does the draft rule provide sufficient assurance that:**
  - **Best professional judgement must be applied consistently when conducting a disproportionate cost analysis?**

The draft rule clearly specifies that best professional judgment shall be used when estimating and comparing costs and benefits of each cleanup action alternative, and the roadmap provided by the rule should improve consistency in terms of the structure of the DCA. Guidance or best practices for conducting a DCA also would contribute to more consistent application of best professional judgment. But even with guidance or best practices, experts are also likely to disagree – appropriately and unsurprisingly– about how to compare the costs and benefits of cleanup alternatives. Given the inherent complexity of the DCA process and the necessary role of best professional judgment in evaluating and reconciling the range of DCA inputs, Ecology is right to focus on clarifying the DCA process while allowing for site-specific flexibility in the application of best professional judgment.

  - **The basis for judgments, including weightings, must be documented and supported by reasoned arguments?**

Draft WAC 173-340-350(7)(d)(viii) requires the FS report to include "[d]ocumentation of the detailed evaluation process in Step 4 of the feasibility study, including … the basis for eliminating any alternative from further evaluation." Draft WAC 173-340-360(5)(c)(i) mandates the use of "best professional judgment." This combination should result in sufficient explanation and documentation of the DCA in the FS report.

- **If additional requirements or conditions for professional judgment during the remedy selection process are needed, what might these be, and should these be provided in rule or in guidance?**

As noted, the DCA revisions should focus on clearly delineating the DCA process while not unduly limiting the exercise of best professional judgment. Adding further substantive requirements for the exercise of best professional judgment in the rule will not necessarily ensure better site cleanups.

- Ecology's forthcoming DCA guidance should minimize potential concerns about how best professional judgment is applied at specific sites.

- For complex sites in a formal cleanup pathway, the DCA is likely to be performed by Ecology or under Ecology supervision.
- Given the value of an NFA and the desire to minimize future potential liabilities, parties performing independent cleanups are motivated to ensure that the cleanups they select will be considered "permanent solutions to the maximum extent practicable."
- Overly prescriptive DCA requirements may also result in unintended consequences, such as exorbitant or inefficient cleanups.

8. Disproportionate cost analysis – test – "substantially exceed"

- **Should the word "substantially" be re-introduced before the word "exceed" in the disproportionate cost analysis test to reflect the high degree of uncertainty and use of professional judgment in the analysis?**

It is not critical to insert the word "substantially" before the word "exceed" in draft WAC 173-340-360(5)(c)(iv)(B)(III).[31] The term "substantially" itself is subject to competing interpretations. Referring to the DCA example shared by Ecology at the July 22, 2020 STAG meeting, the less permanent alternative was selected when the incremental cost change from Alternative 2 to the Baseline was 22.41% of the Alternative 2 costs and the incremental benefit change from Alternative 2 to the Baseline 20.51%. As stated Ecology's interpretive notes, "[c]ompared to Alternative 2, the Baseline's proportional cost increase [relative to Alternative 2] exceeds proportional increase in degree of benefits [relative to Alternative 2] by 9.3%." Would a 5% difference be "substantial"? Would 10% difference be "substantial"? If the quantitative scores for the benefits values were modified slightly (in either direction), this could move the proportional difference between the relative incremental costs / benefits by a few percentage points in either direction.

- **Does Ecology need to provide additional guidance regarding uncertainty and the role of professional judgment when conducting a disproportionate cost analysis?**

Additional requirements in the rule itself are unnecessary. When developing the DCA guidance, Ecology might wish to encourage performing parties to document assumptions or judgments that may be considered highly uncertain, and the rationale for the same. This may lead to more informed decision-making by performing parties and Ecology and also alleviate concerns that the DCA process is being used improperly.

One thing that Ecology should keep in mind is how to avoid second guessing a DCA where the analysis is reasonable even if Ecology (or the site manager) would perform the analysis slightly differently. This is similar to the principle that appeals courts do not disturb the factual findings of trial courts or administrative agencies unless there has been a "clear error" of lack of "substantial evidence" or other

[31] Though, it does not appear that Ecology's draft rule perfectly tracks the language in a previous rule iteration ("substantially exceed" [draft rule] versus "substantial and disproportionate" [language before 2001 amendments]).

similar standard.[32] Unless the party performing the DCA has made a critical analytical or judgment error that would result in a cleanup with unacceptable threats to human health or the environment, some discretion should be permitted.

9. Disproportionate cost analysis – criteria – cost – descriptions

- **Does the draft rule adequately describe the types of construction and post-construction costs that need to be identified and considered in the disproportionate cost analysis?**

Additional cost categories to consider:

- Waste management / disposal. These costs may be implicit in the "physical construction" component, but if not, recommend making this a listed cost category. For some sites, the waste management / disposal costs can be significant, and the current WAC 173-340-360(3)(f)(iii) calls out "waste management costs" for "treatment technologies."
- Contingency cost (to reflect the uncertainty of the cost estimate).

10. Disproportionate cost analysis – criteria – cost – design life and replacement costs

- **Should the draft rule specify a standard design life for cleanup action components necessary for removing or treating contaminants or for controlling contaminants remaining on site to protect human health and the environment?**

No.

- **If so, what would be a realistic timeframe?**

See comment above.

11. Disproportionate cost analysis – criteria – cost – discounting future costs

- **Should the draft rule require the use of present worth analysis to estimate the present value of future costs in the disproportionate cost analysis? If so, under what circumstances?**

The draft rule should not require the use of present worth analysis. Under the draft rule, the use of present worth analysis appears to be optional and should be retained. As a related comment, it is unclear why costs should required to be evaluated with a present worth analysis if benefits are not – and may not be able to be – evaluated with a present worth analysis.[33]

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[32] *See, e.g.*, *Port of Seattle v. Pollution Control Hearings Bd.*, 151 Wash.2d 568, 588 (2004) ("We should overturn an agency's factual findings only if they are clearly erroneous and we are definitely and firmly convinced that a mistake has been made.") (quotations and citations omitted).

[33] "In order to compute net present value, it is necessary to discount future benefits and costs. This discounting reflects the time value of money. All future benefits and costs, including nonmonetized benefits and costs, should

- **Should the rule specify what discount rates must be used in the present worth analysis?**

No. The time-value of money / cost of capital is different for different entities. Allowing parties to set their own discount rates, including no discount rate at all, will result in more realistic determinations of what is "practicable." As alternative to specifying a discount rate, Ecology could establish that any discount rates must be substantiated in the FS and reflect best practices for economic analysis. The OMB discount rates could be identified as an example.

- **Do you have any concerns with the using the discount rates recommended by the U.S. Office of Management and Budget (OMB)?**

See comments above.

12. Regulatory impacts –

- **What, if any, economic effects might the following changes to the requirements for cleanup actions have on you or your constituents:**

    - **Consideration of the extent to which alternatives are resilient to the impacts of climate change?**

While consideration of climate change resilience may lead to more reliable and protective remedies in the long run, the new requirement could lead to costlier remedies, at least upfront.[34] For some sites, the costs may be significant.

    - **Consideration of how alternatives may benefit or burden highly impacted communities compared and whether the distribution of benefits and burdens is equitable?**

As proposed, the draft requirements to consider benefits / burdens of alternatives on highly impacted communities are likely to increase cleanup costs. At minimum, the draft rule would result in additional transaction costs, such as the consultation requirements in draft WAC 173-340-370(9), and analytical costs. The proposed "mitigation" expectations could also lead to substantial costs, depending on what is envisioned and how this expectation is enforced. As mentioned, it is unclear based on the draft rule when it is acceptable for a remedy not to conform to the expectations in Section 370. Finally, it is also unclear to whether the proposed benefits / burdens analysis would substantively change remedy

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be discounted." OMB Circular A-94 – Guidelines and Discount Rates for Benefit-Cost Analysis of Federal Program, at p. 8 (1992), https://www.whitehouse.gov/sites/whitehouse.gov/files/omb/circulars/A94/a094.pdf.

[34] *See, e.g.*, Portland Harbor Superfund Site, Record of Decision, at p. 113 (Jan. 2017) ("Cap construction will consider the ability of the sediment bed to support the cap during placement. Caps will also be designed to withstand more frequent floods with higher peak flows more common with climate change."), available at https://yosemite.epa.gov/oa/EAB_Web_Docket.nsf/Filings%20By%20Appeal%20Number/E86C35A417C9AA538525815C00479148/$File/Portland%20Harbor%20ROD...12.pdf.

selection in Section 360. If Ecology anticipates that the changes would favor "permanent" cleanups more than the current rule, cost are likely to increase correspondingly.

- **Other changes to WAC 173-340-360?**

The proposed changes to the DCA provisions in Section 360 may add to remedy costs. As noted, the proposed "substantially exceed" requirement could be applied in a manner that leads to costlier remedies. In addition, the proposed "clarifications" to the DCA process may eliminate flexibility in analyzing costs and benefits of remedy alternatives, which could result in a bias toward costlier remedies.

- **Can you identify a less burdensome regulatory approach to implement the draft rule changes that complies with statutory requirements?**

Please see comments above for suggested clarifications and streamlining, which may minimize added costs from the draft rules.

- **Would the draft rule changes have a disproportionate impact on small businesses or local governments?**

Yes. Cleanup requirements do not change based on a PLP's financial status. Thus, any additional costs would impact smaller businesses and local governments disproportionately.

- **Would the draft rule changes provide an advantage or disadvantage to Washington businesses compared to businesses in other states?**

I do not have a view on this issue at this time.

Thank you again for the opportunity to provide these comments.

Sincerely,

Augustus E. Winkes

cc: Elizabeth McManus, Ross Strategic, emcmanus@rossstrategic.com