Department of Energy
Richland Operations Office
P.O. Box 550
Richland, Washington 99352

9004201 0010854

90-PPB-187

SEP - 7 1990

Mr. David Bradley
State of Washington
Department of Ecology
Mail Stop PV-11
Olympia, Washington 98504-8711

Dear Mr. Bradley:

REVIEW OF PROPOSED MODEL TOXICS CONTROL ACT CLEANUP STANDARD REGULATIONS

Attached for your consideration are comments from the U.S. Department of Energy, Richland Operations Office on the proposed Model Toxics Control Act cleanup regulation published in the Washington State Register, Issue 90-15, dated August 1, 1990. Should you have any questions regarding these comments, please contact Sandy Trine, DOE-RL, at (509) 376-6943.

Sincerely,

R. D. Izatt, Director
Environmental Restoration Division

ERD:SLT

Enclosure:
Comments on Proposed Model Toxics
Control Act Cleanup Standards

cc w/encl:
P. T. Day, EPA
R. E. Lerch, WHC
T. Nord, Ecology

Comments on Proposed Model Toxics Control Act Cleanup Regulation

Reference: Washington State Register, Issue 90-15, pages 156-180, "Chapter 173-340 Washington Administrative Code (WAC), Model Toxics Control Act Cleanup Regulation," dated August 1, 1990.

1. **WAC 173-340-120(2)(a), Scope of release reporting:** The statement indicating that "most current releases of hazardous substances must be reported to the department" is questionable. Reporting requirements would not extend to most spills of gasoline (a hazardous substance) at service stations during vehicle refilling. These spills may be the most common type of hazardous substance releases in terms of number of occurrences. Consider rephrasing the beginning of the sentence in question to indicate that "most spills with potential adverse environmental impact" must be reported, rather than stating that "most spills" must be reported.

2. **WAC 173-340-200, Definition of "volatile organic compound:"** The definition of "volatile organic compound" needs clarification. What exactly is meant by "easily evaporates at room temperature?" Consider establishing some definitive characteristic (e.g., vapor pressure) for identifying a volatile organic compound. As an alternative, consider providing a list of specific compounds.

3. **WAC 173-340-360-(4)(b)(ii), Application of all known available and reasonable methods of treatment (AKART) to ground water remedial actions:** This section requires that AKART be used to protect and restore the quality of ground water affected by a release from a site. The Water Pollution Control Act (RCW 90.48) specifically applies to prevention activities, not remedial activities. If a discharge to ground results because of a cleanup action, then AKART is appropriate, but AKART should not be considered applicable during the initial evaluation of cleanup alternatives. Using AKART in this way could result in requiring "treatment for treatments sake." This is especially true since Section (360)(4)(b)(ii)(A) goes on to say that ground water treatment is required for remedial actions where such treatment is practicable or in the public interest.

We recommend that the wording be changed in this section to clarify that RCW 90.48 is applicable to discharges to the ground for the prevention of pollution and not for the restoration of contaminated waters.

4. **WAC 173-340-360(4)(b)(ii)(B)(I), Prevention of additional releases to ground water:** This section requires that source control measures be implemented to prevent additional releases to the ground water. Is this intended to apply to any releases, including discharges of clean water, or only to releases which would result in additional discharge of hazardous substances? In the former instance, it may be appropriate to allow discharge of uncontaminated solutions contingent upon a demonstration that such discharge will not result in significant

mobilization of the hazardous substances present in the soil column or in undue spread of contamination already in the ground water.

5.WAC 173-340-360(6), Hierarchy of Cleanup Alternatives: This section establishes a hierarchy of cleanup alternatives based on a bias towards permanent solutions. It allows a selection of a lower preference technology or combination of technologies only where it can be justified based on a "balancing" of several criteria.

a.Are the criteria weighted or are they all given equal consideration during the "balancing?" For example, is practicability given more or less credence than a criteria such as long term effectiveness?

b.Are any of the criteria "fatal flaws?" For example, if a cleanup method had low overall protectiveness of human health and the environment, would that be automatic justification for a lower preference technology or would you still have to go through the balancing process?

c.This section refers to balancing of all the criteria, yet isolation and containment and institutional controls and monitoring can not be used if a higher preference technology is technically practicable. This means that even if one of the above actions provided better overall protection to human health and the environment, it could not be selected. This appears to require "treatment for treatments sake" without consideration of the goal of these regulations which is to protect human health and the environment.

Consider the following recommendations:

1.Make the criteria "overall protection of human health and the environment," the driving force in selecting a cleanup method. This is consistent with the regulations goal.

2.Delete Sections (6)(d)(v) and (vi) so that a treatment method is not required simply because it is technically practical.

6.WAC 173-340-360(8)(c), Deferral of cleanup pending control of offsite sources: This section indicates that cleanup may be deferred in cases where offsite sources would cause recontamination to levels which exceed cleanup standards. In such cases, the remedial action is considered an interim action. Some clarification is needed regarding the Washington State Department of Ecology (Ecology) intent and authority to require control of offsite sources which are contributing to the area background. Does Ecology intend to require such facilities to halt discharges, even if such discharges are in compliance with all regulatory requirements? If not, does this mean that site cleanup may remain in "interim action" status for an extremely long period of time?

7.WAC 173-340-450, Releases from underground storage tanks: This section of the regulation apparently attempts to impose requirements established in Subpart F of 40 Code of Federal Regulations (CFR) 280. If this is the intent, the proposed WAC 173-340-450 section appears to be deficient with regards to incorporation of the "Corrective Action Plan" requirements in 40 CFR 280.66. The 40 CFR 280.66 requirements include provisions for submittal of such plans, details of plan approval considerations, and submission of plans pursuant to voluntary corrective actions (similar to the "independent cleanup actions" discussed in WAC 173-340-450(8)). If the intent is to implement the requirements of 40 CFR 280 Subpart F via WAC 173-340-450, some revision is appropriate to incorporate corrective action plan submittal.

8.WAC 173-340-700(2), Background cleanup goal: The philosophy stated in the last sentence of this section, i.e., that the goal is to establish cleanup levels as close as possible to natural background levels, is not evidenced in the development of the actual standards. To be consistent with the actual standards, consider revising the last sentence to indicate that the goal is to establish cleanup levels which are protective of human health and the environment.

9.WAC 173-340-700, Modification of cleanup levels based upon technical impracticability: The discussion in WAC 173-340-360(2)(b)(ii) indicates that technical practicability must be considered in selecting a cleanup level. The establishment of cleanup levels in WAC 173-340-700 fails to address technical impracticability, even though it is very possible that some standards based upon Method A, Method B, or conditional cleanup level requirements may be below limits of feasibility by available technologies. Consider revising WAC 173-340-700 to provide regulatory requirements for modifying cleanup levels based upon technical impracticability.

10.WAC 173-340-700, Modification of cleanup levels based upon overall threat to human health and the environment: The discussion in WAC 173-340-360(2)(i) indicates all cleanup actions must be protective of human health and the environment, including complying with cleanup standards. Although it is possible that complying with a conditional cleanup level may require selection of a cleanup method that causes a greater threat to human health (this may be the only method that can achieve the required cleanup level), this is not a consideration in establishing the conditional levels. A good example might be worker exposure or offsite treatment of wastes which are a result of the cleanup remedy. Consider revising WAC 173-340-700(8) to state that "conditional cleanup levels shall be established in accordance with the following procedures except where it will cause the establishment of a cleanup level that would require a treatment method which would cause greater overall threat to human health and the environment."

11.WAC 173-340-700-(5)(d)(v), Financial benefits resulting from approval of conditional cleanup levels: The regulations allow a conditional cleanup level if attainment of compliance cleanup levels will limit a person's ability to respond to other environmental threats. This is only allowed if

financial benefits resulting from the approval of a conditional cleanup level are used to fund actions that are not otherwise required by law. If Ecology's goal is to encourage the wise use of limited resources, it does not make sense to limit the use of those resources only to actions that are not otherwise required by law. Financial benefits resulting from the use of a conditional cleanup level should be able to be used for actions which result in the greatest net environmental benefit, regardless if the activity is or is not required by law. Consider deleting the wording in (5)(d)(v)(C) which states "that are not otherwise required under applicable state and federal laws."

12.**WAC 173-340-700(8), Clarification of site use restrictions in establishing conditional cleanup levels:** The intended use of conditional cleanup levels is unclear. The definition in WAC 173-340-200 indicates that site use restrictions are a part of conditional cleanup levels. The discussion in WAC 173-340-700(8) seems to rely solely upon specified criteria resulting in concentration-based limits, with no exposure pathway which would allow for site use restrictions. Additionally, no statement is made regarding where the cleanup standard applies. The minimum criteria seem to imply that the conditional cleanup levels would have to be met at the most contaminated area. This approach does not provide any real latitude for site use restrictions if the conditional cleanup levels must meet the criteria throughout a site. This is because the cleanup criteria established in WAC 173-340-700(8)(a)(i), (ii), (iii), and (iv) are the same as those established in WAC 173-340-700(7), with the fairly minor exception that the total excess cancer risk may be 1 in 100,000 rather than 1 in 1,000,000. Thus, as currently written, WAC 173-340-700(8) implies that site use restrictions would only be potentially allowed for contaminated areas where carcinogens are left in concentrations which exceed the 1 in 1,000,000 risk level. There appears to be no allowance for site use restrictions for non-carcinogen constituents.

Consider revising WAC 173-340-700(8) to clearly indicate where the conditional cleanup levels apply and how site use restrictions factor into the development of the levels.

13.**WAC 173-340-705(12)(b)(i), Use of practical quantitation limits (PQL) for determining cleanup effectiveness:** This section states that the PQL may be used for determining that the cleanup level is met only when the PQL is no more than 10 times the method detection limit. In many cases, the PQL for a standard method will be much greater than 10 times the PQL, depending upon the waste matrix. For example, Method 8120 of the U.S. Environmental Protection Agency (EPA) Test Methods for Evaluating Solid Waste (one of the analytical procedures specified in WAC 173-340-830) indicates that the PQL for ground water contamination is a factor of 10 times the method detection limit (MDL), but the PQL for low-level soil contamination is a factor of 670 times the MDL. In many cases, the calculation of health-based limits for carcinogens could result in a cleanup standard which is well below the MDL,

let alone the PQL. The EPA has recognized this problem in the hazardous waste delisting program, and taken that stance that it is inappropriate to penalize a waste generator because the technology is not available to prove that a constituent is not present at a given level. The WAC 173-340 regulations should consider the practicality of this approach. The proposed rules, which could require cleanup levels which cannot be verified by any available analytical technology, may preclude completion of cleanup in many instances.

14.**WAC 173-340-720, WAC 173-340-730, WAC 173-340-740, WAC 173-340-745, Basis for Table 1 limits:** Consider adding a column to Table 1 in these sections to identify the basis for the cleanup level (e.g., natural background concentration, 1 in 1,000,000 excess cancer risk level, acute or chronic toxicity concentration, etc.).

15.**WAC 173-340-720, Ground Water Cleanup Levels:** The definition of drinking water should not be dependent on the criteria of 10,000 milligrams per liter (mg/l) of total dissolved solids. Ground waters are often considered naturally, or with treatment, unfit for drinking water with much less than this amount of total dissolved solids. Since the reasonable maximum exposure for ground water is based on drinking water being the highest beneficial use, a cleanup level should not be required to ever be set below a maximum contaminant level (MCLs), as would be the case with several of the MCLs. Cleaning up ground water to more stringent levels than a health-based drinking water standard will only result in less cleanups due to the unwise use of limited resources. In addition, always requiring cleanup to a secondary maximum contaminant level may also result in the unwise use of resources, particularly for those ground waters that are not current sources of drinking water.

Consider the following recommendations:

1.Clearly state that cleanup levels which meet or exceed health- based maximum contaminant levels will be considered protective of the highest beneficial use of ground water.

2.Add wording that allows cleanup levels for secondary maximum contaminant levels to be established on a case-by-case basis giving consideration to the current use of ground water, the availability of point of use or point of source treatment, and the effects of the elevated secondary contaminants on the useability of the drinking water supply.

3.Incorporate some standard of economic reasonableness into definition of "technically practicable".

16.**WAC 173-340-720 (8), Compliance Monitoring:** This section requires that compliance with ground water cleanup levels will be determined by analyses of unfiltered ground water samples unless it can be demonstrated that a filtered sample provides a more representative measure of ground water quality. The unfiltered ground water sample may not provide a proper

characterization of the ground water quality and does not indicate what is bio-available. The U.S. Department of Energy-Richland Operations Office (DOE-RL) recommends the filtered analyses should be considered equally, not subordinately.

17.**WAC 173-340-720, Ground water cleanup levels for environmental protection:** Compliance cleanup levels for Method A and Method B contain the statement that the department may establish cleanup levels that protect human health and the environment. If it is the department's intent that drinking water is, in most cases, the highest beneficial ground water use, concentrations protective of the environment should be established on a case-by-case basis and so stated.

18.**WAC 173-340-720, Ground water discharges to surface water:** For ground waters which directly influence a surface water body, and have no specific beneficial use other than as base flow to the surface water, the cleanup standards should allow establishment of a cleanup level-based on impacts to surface water. If the cleanup level is based on aquatic criteria, then compliance should be measured in the surface water, not ground water. This would more accurately reflect protection of the beneficial use, which in this case is not ground water as a drinking water source, but rather aquatic resources. Consider revising WAC 173-340-720 (3)(a)(iii)(E) to clarify that concentrations will be measured in the surface water.

19.**WAC 173-340-730, Surface Water Cleanup Standards:** Please define the "C, D, C," term in the equation.

20.**WAC 173-340-745, Soil Cleanup Standards for Industrial Sites:** This section requires that industrial site use be demonstrated before industrial soil cleanup levels can be applied. The definition of a site in WAC 173-340-200 includes both onsite and offsite contamination. If an entire site must demonstrate industrial site use, then this could eliminate the use of industrial soil cleanup levels for an industrial site which has contaminated an offsite area which does not meet the industrial site definition. Industrial soil cleanup levels should be able to be used for that portion of a site which meets the definition, as long as cleaning up to those levels will not impact the cleanup on those portions of the site which are not industrial. The DOE-RL recommends adding language to WAC 173-340-745 (1)(b) which says "To demonstrate industrial site use the site, or portions thereof, shall: ...".

21.**WAC 173-340-745, Soil Cleanup Standards for Industrial Sites:** WAC 173-340-745 (1)(c) states that soil cleanup levels established under this section shall be as close as practicable to compliance cleanup levels established in accordance with WAC 173-340-740. This requires cleanup levels for industrial sites be established as close as practical to those levels required for residential sites, regardless of the demonstrated reasonable maximum exposure. The DOE-RL feels that cleanup levels for industrial sites should be based on the reasonable maximum exposure and not set for residential exposure simply because it is technically practical. Consider deleting this

portion of WAC 173-340-745 (1)(c).

22.**WAC 173-340-750, Applicability of air quality cleanup levels:** There appears to be some confusion with regards to when the air quality cleanup standards apply. At one time, discussions with Ecology seemed to imply that the standards would be applicable during the period of cleanup activities (i.e., the airborne constituent concentrations resulting from cleanup activities could not exceed the limits calculated by the formulas in WAC 173-340-750). Is this still the intent, or do the air quality cleanup levels represent maximum ambient air concentrations allowed in the vicinity of a contaminated area? Consider revising this section to clearly identify when air quality cleanup standards apply.

DISTRIBUTION COVERSHEET

Author	Addressee	Correspondence No.
R. D. Izatt	D. Bradley, Ecology	Incoming: 9004201

Subject REVIEW OF PROPOSED MODEL TOXICS CONTROL ACT CLEANUP STANDARD REGULATIONS

Internal Distribution

Approval	Date	Name	Location	w/att
		Correspondence Control	A3-01	X
		M. R. Adams	H4-55	X
		J. W. Badden	B2-19	X
		J. A. Bates	B2-19	X
		J. D. Bauer	B3-15	X
		R. J. Bliss	B3-04	
		L. C. Brown	H4-51	X
		G. D. Carpenter	H4-15	X
		N. E. Darling	B2-19	X
		P. J. Davis	B2-19	X
		C. DeFigh-Price	B2-20	X
		L. A. Garner	B2-19	X
		C. J. Geier	H4-57	X
		J. D. Hoover	H4-57	X
		K. L. Hoewing	B3-06	X
		R. J. Landon	B2-19	X
		R. E. Lerch (Assignee)	B2-35	X
		H. E. McGuire	B2-35	X
		D. E. Simpson	B3-51	
		L. C. Tunnell	B2-19	X
		B. L. Vedder	B2-19	X
		S. A. Wiegman	B2-19	X
		B. D. Williamson	B3-15	X
		D. E. Wood	B2-19	X
		EDMC	H4-22	X
		BLV File/LB