



RESPONSIVENESS SUMMARY

CONTROLS FOR NEW SOURCES OF TOXIC AIR  
POLLUTANTS

CHAPTER 173-460 WAC

Washington Department of Ecology

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## Introduction and Background Statement

The Department of Ecology is charged with responsibilities for the conduct of a state-wide air pollution prevention and control program through chapters 43.21A and 70.94 RCW. RCW 70.94.331(2)(c) gives Ecology authority to control emissions to the outdoor air. The policy of public health protection is declared in RCW 70.94.011.

Currently, there are no federal or state ambient air quality standards for toxic air pollutants. Hundreds of toxic air pollutants are routinely emitted from industrial plants. In some of Washington's urban areas, the cancer risks from breathing outdoor air are as high as one in one thousand. Ecology is adopting toxic air pollutant regulations for new and modified industrial sources as a first step in a comprehensive air toxic control program.

There is no legislated schedule that specifies Ecology's timetable for development of these controls.

## Summary of Rule Purpose

The purpose of the rule is to prevent the emission of toxic air pollutants by requiring preconstruction review of new and modified industrial facilities. The rule establishes technology, emission quantification, and health protection requirements.

## Summary of Public Involvement Actions

### 1. Advisory Committee

In October 1988, the Air Toxics Advisory Committee was formed to advise Ecology on the development of the rule. The committee had representatives from local air pollution control authorities, Association of Washington Business, Independent Business Association, Northwest Pulp and Paper Association, oil and gas, consulting engineers, Washington Environmental Council, and American Lung Association. Ecology met frequently with the committee in 1988 and 1989. The first drafts of the regulation were circulated for informal committee review in fall 1989. Based on comments received on the first drafts, the rule was revised and released for public circulation in February 1990. After public workshops in May 1990, revisions were made and circulated to the committee. The changes were discussed with the committee in September 1991, prior to Washington State Register publication.

### 2. Public Workshops

Public workshops were held in four locations throughout the state. Printed notice of the comment period and workshop dates were mailed to approximately 500 interested citizens, environmental organizations and special interest groups. Announcements were published in prominent newspaper display ads in Spokane,

Aberdeen, Tacoma, Richland, Wenatchee, Pt. Angeles, Bellingham, Vancouver, and Yakima.

The ads offered workshops at citizen request in areas other than those scheduled for Spokane, Seattle, and Olympia. Only one request was received. A workshop was held in Port Angeles at citizen request. Presentations were also made for Association of Washington Business, Oregon-Washington Reinforced Plastics Association, Northwest Pulp and Paper Association, and Clean Air Coalition.

Public meetings were held as follows:

May 7, 1990 Spokane	Spokane County Public Health Center West 1101 College Ave.
May 8, 1990 Pt. Angeles	Clallam County Courthouse 223 E. 4th
May 14, 1990 Seattle	NOAA 7600 Sand Point Way
May 15, 1990 Olympia	Transportation Building Capitol Way and Maple Park

### 3. Public Hearings

Public notice for the comment period and hearing schedule was provided in the January 2, 1991, State Register. Public notice was mailed directly to over 500 individuals. The comment period was open through February 15, 1991. Three public hearings were held on the proposed rule. Media were notified statewide. Notice was sent to wire services, daily newspapers, capitol press corp, radio and television.

Public hearings were held as follows:

Feb. 6, 1991 Seattle	Port of Seattle 2201 Alaskan Way
Feb. 7, 1991 Spokane	Spokane County Public Health Center West 1101 College Avenue
Feb. 12, 1991 Olympia	Transportation Building Capitol Way and Maple Park

### 4. Declaration of Nonsignificance and Economic Impact Analysis

An expanded Declaration of Nonsignificance (DNS) was issued April 17, 1990 with a comment period through May 31, 1990. Notice of the DNS and comment period was mailed to approximately 500 interested citizens, businesses and special interest groups. The DNS was discussed at the workshops and citizens were invited to submit written comments. No written comments were received.

The draft Small Business Economic Impact Statement and Regulatory Compliance Document was available in May. The final report was completed in September 1990. Business focus groups were consulted by the contractor for report preparation.

Scheduled Adoption Date

This rule is scheduled for adoption on June 18, 1991. The effective date of the rule is September 18, 1991.

## CONCISE EXPLANATORY STATEMENT

The following is the concise explanatory statement required by RCW 34.05.355 stating Ecology's reasons for adopting the rule and a description of any differences between the text of the proposed rule as published in the state register and the text of the rule as adopted, other than editing changes, and the reasons for the change.

### **Summary of Rule**

Ecology is adopting Controls for New Sources of Toxic Air Pollutants, Chapter 173-460 WAC. This rule defines permit review procedures for new and modified industrial facilities and establishes technology, emission quantification and health protection requirements. The rule applies to all businesses in listed Standard Industrial Classification codes and applies to more than 500 substances. For each of the substances, the rule defines an acceptable source impact level (ASIL). The ASIL for each carcinogenic pollutant limits the risk of an additional cancer case to one in a million. The ASIL for the other toxic pollutants is set by dividing worker exposure limits by 300. The ASILs are set conservatively to ensure protection of public health when there are multiple sources of a particular toxic pollutant in a community. The ASILs are used to approve permits and identify sources needing case by case review.

The rule discriminates between two different types of new sources in the technology stringency and public health protection demonstration requirements. New sources increasing toxic emissions are required to apply for a notice of construction permit, apply Best Available Control Technology for toxics (T-BACT) and complete an acceptable source impact level analysis using the ASILs. Reasonably Available Control Technology for toxics (T-RACT) is required when other regulated pollutants increase, but toxic pollutants remain the same or decrease. The acceptable source impact analysis is not required for these sources.

The permitting procedure is divided into two tiers. Key requirements of the first tier include: 1) Use of the best available control technology for toxics (T-BACT); 2) calculation of projected toxic air pollutant emission using that technology; and 3) estimation of ambient levels of toxic air pollutants, based on these projected emissions, using air quality dispersion analysis. If these calculations show that the ambient level of the toxic air pollutant is less than or equal to the ASIL, the permit can be granted. If the calculations show that the ASIL would be exceeded further steps are available. These include revising the proposed project or submitting a health assessment which shows that toxic emissions are sufficiently low to protect public health. In the case of carcinogenic emissions, the risk of an additional cancer case in the population must be no greater than one in 100,000.

A third permitting tier is available to sources that do not meet these requirements. Ecology will evaluate these applicants at this level case by case. The process must produce an outcome that benefits the environment as a whole. This permitting tier allows for innovation, with improvement to the overall environment as the overall guiding principle. The rule requires that the source discuss the project and risks with the affected community.



## Summary of Changes

The following is a summary of changes, other than editing, made in response to public comment made through written and oral testimony. The changes are categorized according to the appropriate section in the regulation.

### Section 010: Purpose

(1) was revised to clarify that Ecology will use the lists in sections 150 and 160 to define toxic air pollutant. This change was made to insure consistency with the definition of toxic air pollutant.

### Section 020: Definition

“Acceptable source impact level (ASIL)” was revised to clarify that the rule does not apply to restricted or controlled areas. This change was made in response to public comment requesting clarification.

“Reasonably available control technology for toxics (T-RACT)” was added. This technology category was added for two reasons. Changes to the Washington Clean Air Act restrict applicability of new source review and T-BACT to pollutant increases. Public comments recommended that T-BACT apply only to sources increasing toxic pollutants.

### Section 030: Requirements, Applicability, and Exemptions

(1) was deleted. This change was made in response to comment that it was duplicative and inconsistent with requirements in 040.

(3) (a) relabeled (2) (a) and was modified by deleting all text after the word “devices.” This change was made in response to public comment that the section was confusing and incorrect grammar.

(3) (e) was added to exempt “process vents subject to 40 CFR Parts 264 and 265, Subpart AA.” This was added in response to comment that regulation of these vents is duplicative with federal rule.

### Section 040: New Source Review

(1) The explanation of notice of construction in (1)(a) was moved to this section for clarity.

(1)(a) This section was rewritten to clarify. The phrase “unless conditions in (c) and (d) of this subsection apply to the new source” was deleted and a second sentence used to explain when notification and notice of construction are not required. The term “application” was added to clarify that all new toxic sources must provide information to the authority. This change is made because of change of applicability of new source review to toxic increases, only. An application will be used to evaluate pollutant changes as increases or decreases.

(c) was deleted because the notice of construction requirements were consolidated in (1)(a). A new requirement becomes section (c). This limits new source review of modifications and “the air contaminants whose emissions may increase as a result of the modification.” This change is made for consistency with change made to the Washington Clean Air Act and because of public comment requesting that new source review be limited to toxic pollutant increases.

(d) was deleted and rewritten as (2)(a)(b)(c). (2) is the same as (d). (2)(a) is the same as (d)(i). (d)(ii) was relabeled (2)(b) and changed by deleting the phrase “does not increase toxic air pollutant emissions significantly.” Change was made based on public comment that this phrase was ambiguous in how it related to the small quantity emission tables. (d)(iii) was relabeled (2)(c) and simplified to relate all minor material changes to the small quantity emission tables. The requirement for demonstrating no overall toxicity increase was dropped. This was changed because of public comment that this section was ambiguous. (d)(iv) was dropped because it was duplicative with the nonprocess fugitive emission exemption in WAC 173-460-030.

(2) is relabeled (3).

(3) (a) is relabeled (4)(a) and changed to add “and authority” after “state.” Change is made to clarify that sources must be in accord with applicable local authority rules. Change is made in response to public comment recommending this addition.

(3)(b) is relabeled (4)(b) and modified by adding “for the toxic air pollutants which are likely to increase.” Change is made for consistency with the Washington Clean Air Act and because of public comment that new source review be limited to toxic pollutant increases.

(3)(c) is relabeled (4)(d) and modified by deleting “the source demonstrates” and replacing it with “sources required to use T-BACT for emission control demonstrate.” Change is made for consistency with Washington Clean air Act and because of public comment that new source review should be limited to toxic pollutant increases.

A new (4)(c) is added. This adds a requirement for T-RACT for “emissions control for the toxic air pollutants which are likely to remain the same or decrease.”

(5) was modified by adding a “Where Ecology has jurisdiction, it will endeavor to make final determinations as promptly as possible.” This was added in response to public comment Ecology should set a time limit for final determinations.

#### Section 050: Requirement to Quantify Emissions

(1)(a) was rewritten for clarity and changed to delete “subsection (3) (b) (i) of this section” based on comment that this section did not exist. “WAC 173-460-080” was added to correct the reference. To clarify, the sentence was ended at “technology” and a second sentence added.

(4)(a)(ii) was modified by deleting “Using procedures approved by the authority to sum” and substituting “calculate the sum of.” This change was made in response to comment

questioning what these procedures consisted of. The reference to agency procedures was deleted since it implied procedures other than those listed in section 080.

(4)(b) was deleted in response to comment that the term “related substances” was ambiguous. This terminology is not needed since the metals on the chemicals list in sections 150 and 160 include the language “and compounds.”

(4)(e)(ii) was modified by deleting “the percent extractable organic matter is likely to exceed one percent” and replacing it with “there is compelling scientific data which demonstrates that the use of this value is inappropriate.” This was modified in response to comment that the percent extractable organic matter may vary and Ecology should consider other data.

#### Section 060: Control Technology Requirements

The introductory paragraph was modified by replacing WAC 173-460-030 with WAC 173-460-040. This corrects the reference to new source review provisions which are now all in 040. Second, the phrase “which is likely to increase TAP emissions” was added to new toxic air pollutant source for consistency with section 040 changes that require T-BACT for sources increasing toxic emissions and T-RACT for other new toxic sources. Third, a provision allowing equivalent local authority performance standards was added in response to comment that Ecology’s rule process is too slow to add performance standards as need is discovered.

(3) (b) (ii) was changed by deleting 0.18 and inserting 0.15. This change was in response to public comment that the difference between Ecology’s chromic acid plating requirement and PSAPCA’s could pose compliance problems.

(4) (b) (ii) was changed by deleting 0.006 and replacing it with 0.03. This change was made in response to public comment that the difference between Ecology’s chromic acid plating requirement and PSAPCA’s could pose compliance problems. Ecology has reviewed the higher 0.03 limit and determined that this factor is more appropriate than the 0.006 at this time.

(6) was deleted. The section was deleted because of comments that it is vague and because Ecology has determined these sources are best regulated under existing rules.

(7) (a) relabeled (6)(a) and was modified to allow abrasive blasting inside a “booth or hangar”. This was changed in response to comment that booths were not appropriate for large items, such as aircraft.

#### Section 070: Ambient Impact Requirement

This section was modified by replacing WAC 173-460-030 with WAC 173-460-040. This corrects the reference to new source review provisions which have been consolidated in 040. Second, the phrase “which is likely to increase TAP emissions” was added after “new toxic air pollutant source” for consistency with section 040 changes that limit the health protection demonstration to new sources increasing toxic emissions. Third, the phrase “which does not have restricted or controlled” replaces “reasonably subject” for consistency with changes made to the acceptable source impact level definition.

## Section 080: Demonstrating Ambient Impact Compliance

(1) was modified by adding the phrase “which is likely to increase TAP emissions” after “new toxic air pollutant source” for consistency with section 040 changes that limit the health protection demonstration to new sources increasing toxic emissions. “The authority may complete this analysis” was added based on public comment that some authorities perform this service for the applicant.

(2)(a) The word “incremental” was added between estimated and ambient so that the phrase reads, “compare the estimated incremental ambient values.” This was added in response to comment that the modeling results are incremental not ambient values.

(2)(e) was modified by adding the language “10 meter stacks and downwash” to the title. This was done in response to comments that table assumptions were not clear. The category “0.01 to 0.12” was divided into two, 0.01 to 0.06 and 0.07 to 0.12. The pound per year limits were set at 10 and 20, respectively. Change was made in response to comment that the lower 5 pound limit would cause unnecessary modeling.

## Section 090: Second Tier Analysis

(1)(a) After the fourth sentence a new sentence was added that states “Risks may be more accurately characterized by utilizing updated EPA unit risk factors, inhalation reference doses or other EPA recognized or approved methods.” This was added in response to comment that updating unit risk factors should be added to the list of second tier analysis criteria.

(4)(b) second sentence has been modified by deleting “if approved by ecology” and adding “if Ecology determines there is compelling scientific data which demonstrates that the use of EPA recognized or approved methods is inappropriate.” This was changed to clarify the approach Ecology will take in accepting new scientific information. This assures that EPA methods will be considered that standard against which other information is judged.

## Section 100: Request for Risk Management Decision

(3)(a) was changed by deleting “without taking into consideration economics or other costs.” This section was deleted in response to comment pointing out inconsistency with Washington Clean Air Act.

(5) was changed by adding “Ecology will endeavor to initiate public notice and comment within 30 days of receipt of a completed risk management decision application.” This was added in response to comment that Ecology risk management decisions should be subject to a time limit.

## Section 110: Acceptable Source Impact Levels

(1) was modified by deleting “LIFE, ABS and DUR” factors from the ASIL calculation. The calculation results do not change. This was done in response to comment that the formula more accurately reflect the ASIL calculations.

## COMMENTS AND RESPONSES

### I. WAC 173-460-010 PURPOSE

Summary: Several commentors urged the department to regulate existing sources under this rule:

We have provided screening analyses and relative risk assessments to DOE which consistently identify existing sources as the highest risk to public health. ... It seems incongruous for the State of Washington to be adopting an air toxics regulatory program which fails to cover existing sources at a time when Congress has clearly taken a contrary position. We urge reconsideration of this rule and the inclusion of existing sources under a BACT regimen. (PSAPCA/Comment #1)

We urge Ecology to regulate all toxic air pollutants from all sources. (American Lung Association/Comment #2)

Response: Ecology is concerned about existing source impacts and appreciates the support on this issue. However, the department does not agree that this rule should be broadened. Changing this rule to regulate existing sources raises significant substantive issues that would delay rule development at least a year.

No change is made.

Summary: Others expressed the opinion that controlling industrial emissions first is inappropriate, requires industry to clean up all the state's air pollution problems and the proposed approach is not workable.

The Governor's 2010 Report indicates that industrial emissions represent less than 25% of toxic air emissions ... We strongly believe Ecology needs to prepare an analysis of program effectiveness and to establish priorities which result in meaningful reductions in air toxics. (Simpson/Comment #3)

We submit that the stated purpose ... will not be achieved with the proposed regulation. The screening approach is laudable as an effort to expedite the permitting process. But given the compounded conservatism of the ASIL's and the use of SCREEN to predict 24 hour and annual exposures, we do not agree with the public statements that the majority of applications will end at Tier I ... We question whether any state or scientific organization could assume the technical demands required by this regulation ... We also disagree that this regulation will prevent toxic air pollution ... We submit that the Tier III "greater benefits to Environment" suggestions merely require industry to prevent all the State's air pollution problems ... After the implementation of this regulation, will the air truly improve? Or will we all become embroiled in endless technical debate? (ITT Rayonier Inc./Comment #4)

Response: Ecology agrees that nonindustrial sources of toxic air pollutants can be significant. One of the most significant area sources, woodstoves, are subject to numerous restrictions while industrial sources are not subject to air toxics preconstruction review. Ecology believes that a preventative preconstruction review program is a priority and has

designed an air toxics construction review program that parallels existing preconstruction review programs. Ecology appreciates the concern that case by case review could precipitate technical debate. However, Ecology and the air toxic committee agreed that the opposite approach (i.e., no case by case review) was unacceptable. In clarification, Tier I does not end with the use of SCREEN. A requirement for Tier II is exceedance of an ASIL using refined models. In practice, PSAPCA's three year implementation of this preconstruction review process has shown that few sources exceed ASILs after applying TBACT.

No change is made.

Summary: A clarification to the purpose section was suggested.

TAPs include only the chemicals on the lists under 150 and 160, and not by reference to whether other ambient air standards exist. See 020(19). (NWPPA/Comment #5)

Response: We concur. Change made.

Summary: A comment supporting pollution prevention throughout the rule was made.

The Lung Association agrees with the policy section of this rule to reduce, avoid or eliminate toxic air pollutants prior to their generation. This policy must be well-integrated into the rule itself. (American Lung Association/Comment #6)

Response: Support noted. Ecology believes this issue is best addressed in the implementation plan and training.

No change is made.

## **II. WAC 173-460-020 DEFINITIONS**

### WAC 173-460-020(2) Acceptable Source Impact Level

Summary: There were two comments requesting clarification of the area to which the ASILs apply.

The inclusion in the definition of Acceptable Source Impact Level (ASIL), the phrase "area reasonably subject to public access" makes the definition somewhat ambiguous. (PSAPCA/Comment #7)

Since most facilities will have some members of the public on-site at one time or another for various services ... "reasonably subject to public access" needs clarification. The DOERL recommends Ecology clarify the proposed rule to say, "Compliance shall be demonstrated in any area which does not have restricted or controlled public access." (Dept. of Energy/Comment #10)

Response: We concur. Change is made.

Summary: There were several comments concerning the ASILs as policy, not health standards.

Please state in no uncertain terms that ASIL's are constructs of policy and that they represent a convenient concentration and do not reflect any observed problem. (ITT Rayonier Inc./Comment #8)

If the DOE decides that it is important to regulate noncarcinogens in the proposed rule, I would only recommend that ASIL's be defined as a basis for the regulatory process and not construed to have a relationship to health effects. (P. Hildebrandt/Comment #9)

Response: We concur that ASILs are not fine dividing lines between healthful and unhealthful air levels. We believe that the definition is clear and reasonable for the intended purpose.

No change is made.

#### WAC 173-460-020(4) Best Available Control Technology for Toxics

Summary: Several commentors noted that T-BACT was confusing and needed further definition.

There is confusion in the business community regarding the process and criteria for evaluating T-BACT. Departmental guidance for agency personnel and the public is needed in order to develop uniformity and fairness in applying this control technology. (AWB/Comment #11)

Add: T-BACT will be determined by a joint committee of regulators and interested parties for each source subject to 173-460 as stated in 173-460-030. The determination of T-BACT will include the consideration of economic and technical feasibility for each regulated facility. (James River Corporation/Comment #12)

T-BACT remains undefined. The reason for the reference to the definition of BACT is unclear. Does T-BACT equal BACT? RACI? MACT? There is also no description of the process by which T-BACT proposals will be judged. Ecology must establish the process and the criteria or standards by which proposals will be judged. (NWPPA/Comment #13)

Ecology should reference guidelines for determining T-BACT for sources of toxic air pollutants not yet identified by the agency. Such guidelines should describe general criteria for a BACT analysis and should incorporate EPA reference documents listing T-BACT ... (Boeing/Comment 62)

Receiving input from the regulated community is a helpful step in the development of a process to define T-BACT ... Suggested Revision ... Ecology shall organize a committee composed of representative agency staff and regulated industries to develop the process for defining T-BACT. (AWB/Comment #63)

The DOE-RL recommends that Ecology develop a standard procedure for evaluating and establishing T-BACT ... clearly define how economics and technical feasibility will be evaluated in determining T-BACT. In addition, a de minimus concept should be considered so expensive control technology is not required for those situations where only very insignificant benefits are realized. (Dept. of Energy/Comment #65)

Add: T-BACT for sources listed in 173-460-030(2)(i-iii) shall be determined by joint regulatory-industry committees and economic considerations of such control technology shall be considered. (James River/Comment #66)

Thus companies will be forced to install very expensive equipment ~]I~ and determine if there is any kind of a realistic health risk second. Such an approach is clearly arbitrary and capricious. (U.S. Marine/Comment #67)

T-Bact is not well defined. Subjecting minor inconsequential increases in toxics to regulatory requirements will potentially encompass many sources that do not pose any problem ... we feel a de minimus level is essential to a workable regulation and are confident that other industries would join us in working with you to find a workable and effective solution. (P. Hildebrandt for ALCOA, INTALCO, Northwest Alloys, Kaiser, Columbia Aluminum, Reynolds, VANALCO/Comment #68)

Ecology should establish what T-BACT really is. The definition and process for establishing T-BACT must be entirely consistent with that found for MACT under the 1990 Clean Act Amendments. NWPPA suggests that Ecology abandon the T-BACT concept and simply implement the federal program, using the federal regulations by reference when issued. It is entirely unacceptable for the industry to be required to install T-BACT now, and be faced with installation of a different MACI' within the same permit period. (NWPPA/Comment #69)

I don't think its been defined adequately. Who is the expert that is going to say this is the best? (James Mars)

Response: T-BACT is defined as BACT for toxics. The definition supplements the BACT definition in WAC 173-400 for considerations of toxicity and quantity, but leaves the process of determining the "maximum degree of reduction" the same. The permitting authorities will determine the applicant's proposal for T-BACT on a case by case basis, taking into account the cost and feasibility of controls as well as toxicity of the substances discharged. Ecology does not agree that a committee approach is appropriate given the goal of a case by case determination for maximum emission reduction. BACT for toxics is not a new concept. T-BACT has been required by Puget Sound Air Authority for over three years and is used by many other states. Ecology believes that there will be adequate data available for T-BACT analyses.

Since EPA has not issued any MACI' standards, the relationship between BACT and MACF cannot be assessed. It is quite possible that T-BACT will be more restrictive than MACF since the Washington Clean Air Act requires "... all known available and reasonable means of emissions control..." for sources requiring a notice of construction. No change is made.

#### WAC 173-460-020(5) Carcinogenic Potency Factor

Summary: One commentor stated that the use of the upper bound limit is unreasonable.

Use of upper bound limits as a matter of policy makes some risk judgements unreasonably conservative and it should be used with caution. Upper bound estimates are designed to



overstate the risk and do not necessarily represent the best estimate of risk based on the strongest supporting evidence. (NWPPAJComment #14)

Response: Ecology believes that it is reasonable to use the approach used by EPA since, as is stated in the 1986 EPA Guidelines for Carcinogen Risk Assessment, an established procedure does not yet exist for making “most likely” or “best” estimates within the range of uncertainty defined by the upper and lower confidence limit estimates. Further, acceptable source impact levels derived using upper bound limits are not proposed as health standards, but rather a means to approve permits or target permits for further review.

No change made.

#### WAC 173-460-020(10) Increased Cancer Risk of One in 100,000

Summary: The use of actual risk is advocated.

The assumptions used in defining the “increased cancer risk of one in one hundred thousand”, “increased cancer risk of one in one million”, and “upper bound unit risk factor” are unrealistic. The definitions should be based on actual risk. (AWB)

Response: See response for WAC 173-460-020(5).

No change made.

#### WAC 173-460-020(11) Increased Cancer Risk of One in 1,000,000

Summary: Similar to the comments above, the commentor noted that the use of the upper bound limit is too conservative.

Using the 95th percent upper bound is unrealistic. The upper bound is nothing more than a plausible risk, not an actual one. (James River/Comment 16)

Response: See response for WAC 173-460-020(5).

No change made.

#### WAC 173-460-020(14) New Toxic Air Pollutant Source

Summary: Ecology received many comments on this issue. Commentors were generally dissatisfied with the broadness of this definition. They felt that the rule should only apply to sources increasing toxics and a de minimus should be stated. It was also suggested that the term source be limited to emission unit.

For existing sources which emit ~y criteria pollutants which undergo changes in only criteria pollutant emissions; the extensive review ... is not practical. The regulation should be limited to address only sources of toxic air pollutants ... Moreover, sources of criteria pollutants that also emit toxic air pollutants should be considered new sources only when emissions of toxic air pollutants are increased beyond the de minimus quantities listed in WAC 173-460-080 (2)(e). This provision would allow minor material changes/substitutions

within a given process without triggering an extensive new source review.  
(Boeing/Comment #17)

The rule should be limited to its intended purpose of controlling toxic air pollutants. As presently written, the definition of a new toxic air pollutant source covers emissions of any pollutant. (AWB/Comment #18)

IBA is very concerned about the proposed definition of “new source” ... concerns that this definition is overly broad and will unexpectedly impose the requirements of these rules on existing small sources. This concern stems from inclusion of the terms “replacement” and “may increase emissions”. (IBA/Comment 19)

I strongly urge that the words “... any regulated air pollutant, including ...” be deleted from -020(14) ... Sources of air toxics which are not new and whose emissions of air toxics will not be increased should be regulated by a regulation designed for existing sources. That was the original committee agreement. (Shell/Knudson/Comment #20)

The new source definition goes beyond new toxics sources. It overlaps the existing source regulation that is being developed, and may expand the universe of covered facilities beyond practical limits. (P. Hildebrandt/Comment #21)

For increases in the emissions of any regulated pollutant to trigger the applicability of this rule goes beyond the stated intent of the rule, is inconsistent with the Clean Air Act and every federal rule with which we are familiar. Further, such an application may likely lead to a very large number of permit applications to be administered; and because of the inherent illogic of the definition, will undoubtedly lead to much misunderstanding in the regulated community. (ARCO/Comment #22)

To skew the definition so as to capture sources not increasing air toxic emissions is inappropriate and illogical. (Shell/Moody/Comment #23)

That [proposed definition] is contrary to the new source concept, unnecessary in view of the relative contribution of industry to the total problem, and contradictory to the DOE effort of trying to determine an appropriate approach to managing existing air toxic sources before regulating them. (WSPA/Comment #24)

As a practical matter almost all industrial sources would become subject to these regulations in a very short time ... review is beyond the intent of the regulation and duplicates existing air quality regulations which address conventional pollutants. (Simpson/Comment #25)

Revise the definition ... so that it applies only to increases in emissions of regulated toxics. (P. Hildebrandt for ALCOA, INTALCO, Northwest Alloys, Kaiser, Columbia Aluminum, Reynolds Metals, VANALCO/Comment #26)

We do support the fact that simple equipment-modernization projects (which essentially always reduce air emissions) will be spared the additional burden of this regulation. (ITT Rayonier/Comment #27)

The target of the rules must be those processes that are responsible for emissions of pertinent toxic air pollutants, and “source” must be used, defined or amended to refer only to those processes or points of emission, and not to entire plants or facilities. ... NWPPA suggests adopting a different definition for the word “source” and limiting it to the concept of “emission units” only. (NWPPA/Comment #28)

What quantity increase of a TAP emission qualifies a source as a new source? One pound? If so this definition is not workable nor practical. (James River/Comment #29)

The regulation should be revised so that it applies only to increases of regulated air toxics. Other air regulations already address increases of conventional pollutants. (Reynolds/Comment #30)

Response: The definition of new toxic source is broad since it is modeled after WAC 173-400(43). Past experience in applying this definition to criteria air pollutant sources has shown that Ecology and authorities are interested in targeting their efforts on significant sources. Ecology believes it is reasonable to maintain the broad definition consistent with the Washington Clean Air Act and WAC 173-400. In response to concerns for more specificity, Ecology has modified section WAC 173-460-040. See comments and response under this section.

The changes made to WAC 173-460-040 in applicability of the rule to new sources address many of the concerns about the rule’s application to existing sources. Sources which are not new and whose toxic emissions may stay the same or decrease are subject to reasonably available control technology for toxics (T-RACT), only. New sources increasing toxic air pollutant emissions are required to apply T-BACT and complete an ambient impact demonstration. Change is made for consistency with changes made to the Washington Clean Air Act this legislative session. Ecology believes that the proposed operating permit program will provide ample opportunity for periodic reviews of existing sources. For specific changes, see response under section WAC 173-460-040.

Ecology believes that WAC 173-460-040 clearly limits review to the emission unit and does not agree that revisions of the term source is needed.

No change made to WAC 173-460-020(14). Changes made to WAC 173-460-040. WAC 173-460-020(18) TLV Booklet

Summary: One commentor noted that a more recent TLV booklet is available and that the use of TLVs is inappropriate.

A more recent TLV booklet is available than the 1987-88 booklet is referenced. The ACGIH expressly disclaims the appropriateness of the TLVs for use as regulatory standards. Their use is an arbitrary and capricious act by Ecology. (NWPPA/Comment #31)

Response: The rule was drafted with the most recent TLV booklet available at the time. Ecology believes that it is reasonable to use the ASILs calculated with these values since ASILs are not standards. ASILs are intended to grant permits or target sources for additional review.

Ecology is aware of the ACGIH disclaimer. That issue and the advantages and disadvantages of using TLVs were discussed by Ecology and the Air Toxics Advisory Committee. Ecology and the Committee agreed to their use as a means to approve permits. Ecology's proposal is consistent with that context. The TLVs are not being used as fine lines between safe and dangerous air pollution exposures.

No change made.

#### WAC 173-460-020(20) Upper Bound Unit Risk Factor

Summary: A question concerning the use of maximum likelihood estimate of risk was posed.

Please state why DOE believes that the maximum likelihood estimate of either the increased cancer risk or a unit risk factor is not protective of human health and the environment. (ITT Rayonier/Comment #32)

Response: See answer under WAC 173-460-020(5)

No change made to WAC 173-460-020(20).

### **III. WAC 173-460-030 REQUIREMENTS, APPLICABILITY, EXEMPTIONS**

Summary: Ecology received many comments suggesting that the rule should not require BACF on all sources, regardless of size. Many felt that small sources of negligible risk should be exempted using a de minimus. There was concern that minor increases in emissions would trigger permit review and tie up valuable agency and industry resources.

...it does not make sense to apply T-BAC1' automatically to any increase in emissions We believe these rules should include an exemption for de minimus emissions of toxic air pollutants (TAPs). ... Some sections in this rule only require action when a notice of construction is filed. For example, this is the case for the provisions requiring quantification of emissions and demonstration of ambient impact compliance. This limitation needs to be clarified in the section covering applicability and exemptions for the whole chapter. ... To achieve consistency with other regulations, such as the Cleanup Standards Amendments to the Model Toxics Control Act Regulation, consideration should be given to the net environmental benefits achieved by a particular action, prior to implementation of other requirements imposed by this chapter.

...In addition, to avoid duplication with recently promulgated EPA rules, organic emissions associated with certain process vents should be added to the list of exemptions in WAC 173-460-030. (AWB/Comment #33)

We suggest language similar to the following be added to WAC 173-460-030(3)(e) Small new sources determined by the department to pose negligible risk to public health, may be exempted from the requirements of WAC 173-460-050, WAC 173-460-070, 173-460-080, and 173-460-090 on a case by case basis by the director provided the new source meets reasonable toxic emissions control equipment and processes to minimize the release of toxic air pollutants as required by the director. (IBA/Comment #34)

A de minimus level of toxic emissions that would exclude sources from the regulation is also worth considering. Even the requirement for T-Bact may be unreasonable for small emitters, depending on how T-BACT may be defined. (P. Hildebrandt/Comment #37)

T-BACT should only be required when emissions are significant enough to justify the expenditure. We suggest that additional wording be supplied to allow agency discretion. (ARCO, Shell/Moody/Comment #39)

Subjecting minor inconsequential increases to the requirements of this regulation will tie up valuable resources which could better be used elsewhere. (Reynolds Aluminum/Comment #40)

Provide for a de minimus level of toxic emissions that would be exempt from this regulation including the T-BACT requirements. (P. Hildebrandt for ALCOA, INTALCO, Northwest Alloys, Kaiser, Columbia Aluminum, Reynolds Metals, VANALCO/Comment #41)

In assessing the availability of control technology, it is imperative that WSDE establish reasonable de minimus emission levels to assure that facilities emitting small quantities of listed chemicals will not be unnecessarily impacted. (HSIA/Comment #43)

The requirement in the proposed rule that all regulated sources install best available control technology for toxics (T-BACT) before estimating whether ambient levels of a TAP exceed the ASIL for that substance is unreasonable because the stated purpose of the ASIL is to ensure that technology based emission reductions are sufficient to protect public health. (Styrene Information and Research Center/Comment #44)

Response: These comments raise issues with respect to the purpose of the regulation and philosophy of requiring T-BACT prior to ambient impact evaluation. This requirement is contained in the Washington Clean Air Act which specifies all known, available and reasonable technology for new sources subject to notice of construction. Ecology's goal is to prevent problems by reducing emissions to the extent possible. The ASILs are the means by which the source shows that technology based emission reductions are sufficient to protect public health. Ecology does not agree that a de minimus exemption is appropriate since this would allow unlimited toxic increases as long as increases were incrementally less than the de minimus. Ecology believes that T-BACT is a reasonable requirement for all sources increasing toxic emissions Ecology has modified requirements for other new toxic sources whose toxic air pollutant emissions would decrease or remain the same. These sources are now subject to reasonably available control technology. See discussion in sections WAC 173-460-020(14) and 040.

With respect to case by case exemptions, Ecology believes that the T-BACT definition inclusion of toxicity, amount and economics is sufficient to exclude small negligible sources from unreasonable requirements.

Ecology concurs with AWB that the applicability and relationship to new source review require clarification. The requirement section is also duplicative.

Change made to requirement section, WAC 173-460-030(1) only.

Summary: One commentor suggested clarifying that sources must comply with local air pollution control rules.

We suggest Section 173-460-030(1)(a) to be amended to state “the source shall conform with all applicable federal, state, and local air pollution control rules and regulations”. This would clarify this issue for many sources located in Washington but accustomed to working with local air authorities. (PSAPCA/Comment #35)

Response: We concur that this section should specifically state that sources subject to local jurisdiction must conform with local authority rules. The term authority was added.

Change made to WAC 173-460-040.

Summary: The applicability of the rule to hazardous waste incinerators was questioned.

Are hazardous waste incinerators covered by the regulation? We believe they should be. Please, identify where they are listed in the regulation. (WTC/Comment #36)

Response: Yes. Applicability of the rule is by Standard Industrial Code (SIC). Major group 49 is listed in WAC 173-460-030(2)(b). This group, specifically 4953, contains hazardous waste disposal and incinerator operation.

No change made.

Summary: One commentor noted that vent regulation was duplicative with recent RCRA regulation.

To minimize duplicate regulatory requirements, U.S. Department of Energy, Richland Operations Office (DOE-RL) recommends ... (Ecology) consider adding language to the proposed rules which exempts those process vents which are currently regulated under RCRA. (Dept. of Energy/Comment #38)

Response: We concur this is duplicative.

Change made.

Summary: A comment was received on the readability of the container exemption. The exemption for certain containers is not grammatical and should be rephrased. (NWPPA/Comment #42)

Response: We concur.

Change made.

#### **IV. WAC 173-460-040 NEW SOURCE REVIEW**

Summary: Several commentors noted that the permitting authority should be required to issue a final permit determination within 30 days and that requests for information be specific.

Requests for additional information can be an onerous burden for businesses as well as agency personnel if the universe of information is not defined from the start. Suggested Revision ... This request for additional information must state each deficiency and the specific data needed to correct the deficiencies that resulted in the request for additional information. Submittal of the information requested shall constitute a completed application. ... Suggested Revision ... Final determination of either approval or denial of a notice of construction will be made within 30 days of receipt of all information including public comment. (AWB, James River/Comment #45)

This section ... sets a 30-day time frame for the authority to make a preliminary determination. The DOE-RL recommends that Ecology add a similar time frame for the authority to make a final determination after public comment is received. (Dept. of Energy/Comment #49)

Response: Ecology does not believe it is reasonable to set a time limit for final determinations or to limit the agency's requests for added information. The public notice, comment and hearing procedures do not lend themselves to a time limit for a final determination. Ecology does agree that such final determinations should be made as promptly as possible and concurs to add language to the rule. Ecology does not agree that requests for information should be limited. Responses to such requests often raise new questions, the answers to which are needed for an appropriate permit determination.

Change made.

Summary: Many commentors noted that section 040(1)(d) was extremely confusing and too discretionary. Others felt that notification should not be required for increases in capacity that do not increase emissions and that terms should be more specifically defined. The wisdom of exempting nonprocess fugitive emissions was questioned.

Section 173-460-040(1)(a-d) is extremely difficult to understand ... If PSAPCA is unclear on these sections, the facilities required to file a notice of construction will probably be at least as confused if not more so! Please clarify this section. (PSAPCA/Comment #46)

In -040(d)(ii) delete "... does not increase capacity ..." The only issue for determining new source review should be whether the emissions of air toxics will increase enough to warrant a review. (Shell/Knudson/Comment #47)

We urge that plant changes that increase capacity require notification only if the change will result in a significant increase in air toxic emissions. ... Requiring notification for these plant changes will deter projects which would have reduced air toxic emissions. (ARCO/Comment #50)

The exemptions from the notification and notice of construction requirements in section 040(1)(d)(ii) apparently do not allow any change that increases capacity ... The regulatory program should address changes that may affect the environment and not become mired in paperwork resulting from numerous sin plant revisions that are benign ... delete the words "does not increase capacity". (WSPA/Comment #51)

NWPPA supports the limitation of notice and review to individual emission units. This must be consistently stated throughout the rule ... (d)(ii) What is a minor process change?

What are significant increases in toxic emissions? (iii)(A) This is not a sentence. (B) What is toxicity? Of what? (iv) What is the rational relationship between a nonprocess fugitive emission and the existence of other emission points? Some nonprocess fugitive emissions at other wise unregulated sources could be massive, and unregulated here, while trivial emissions at plants already subject to the regulations would be covered. These exemptions to new source review are worded in a way that Ecology's determinations are essentially discretionary. No facility will know beforehand whether any particular emission is subject to new source review or is excluded. Ecology must clarify these exemptions. (4) NWPPA supports the 30 day timeline for preliminary determinations. (5) There should be mandatory timelines for final determinations by the agency. (NWPPA)

Response: Ecology concurs that 040(1)(a-d) is confusing and has made changes. The section has been rewritten to increase clarity. Exemptions for minor process and material changes are related specifically to the small quantity emission rate tables. Ecology does not agree that all capacity changes should be exempted. These exemptions remain in the rule since the Air Toxics Advisory Committee advised that normal operational changes could trigger new source review. For example, a change in feedstock suppliers could technically trigger new source review. Highly specific requirements under this section would require complicated source record keeping to insure compliance. Sources with questions concerning applicability of this section can consult with the permitting authority.

Ecology believes that an exemption for nonprocess emissions is appropriate. However, the fugitive emission exemption is deleted since this exemption is duplicative of the exemption in WAC 173-460-030. Examples of exempt nonprocess fugitive emissions are listed in this section.

Changes to the Washington Clean Air Act have necessitated changes to this section. These changes also address comments made about the new toxic air pollutant source definition and requirement for T-BACT. The rule now discriminates between two different types of new sources in the technology stringency and the public health protection demonstration requirements. Toxic air pollutant sources whose toxic air pollutant emissions would remain the same or decrease are subject to notification and reasonably available control technology for toxics (T-RACT) rather than T-BACT plus ambient impact analysis. Ecology agrees that the ambient impact analysis for an existing source modification could serve as a disincentive to modernization. Ecology will address this issue with an existing source toxics control rule. The proposed operating permit program will allow periodic review of technology for existing sources, thereby decreasing the need for a comprehensive review when the source is modified. New sources increasing toxic emissions are still required to apply T-BACT and complete an ambient impact analysis using the ASILs.

Change made.

Summary: One commentor requested that operation and maintenance plans also go to Ecology.

Operation and maintenance plans should go to Ecology automatically. ... We need access to complete data in one location. (WTC/Comment #48)



Response: Ecology believes that it is reasonable to limit operation and maintenance plan submittal to the permitting authority. Submittal of plans to Ecology places additional administrative burdens on the applicant and Ecology with few offsetting benefits.

No change made.

## V. WAC 173-460-050 REQUIREMENT TO QUANTIFY EMISSIONS

Summary: Several commentors stated that the term “related substances” in 050(1)(b) is ambiguous.

If there is little or no chance that a new source will emit a particular toxic air pollutant, it would be a futile and costly requirement to insist on quantifying emissions of that pollutant. ... The ambiguity of the phrase “related substances” in WAC 173-460-050(1)(b) has led to some confusion in the business community. (AWB/Comment #53)

WAC 173-460-050(4)(b) ... The DOE-RL recommends that “related substance” groups be defined either within the regulation or in a separate guidance document to be available when the rule is promulgated. (Dept. of Energy/Comment #54)

The phrase “related substances” is too ambiguous ... List all “related substances” groups. (James River/Comment #55)

Response: We concur that “related substances” is ambiguous. The term was intended to refer to metal compounds as given in the example. The term is deleted since “and compounds” is already added to metals on the chemical lists in sections 150 and 160.

Change made.

Summary: The method for estimating aluminum plant PAH emissions was the subject of two comments. The concerns were inability to meet the ASIL and the proposal to consider extractable organic matter (EOM) at 1%

The approach taken in 173-460-050 (4)(d) and (e) is of particular concern to Reynolds. One of these two approaches would presumably have to be taken by a new aluminum plant (or an existing aluminum plant which became a “new source” ... Because of our concern over the regulations, Reynolds recently asked a consultant firm to model our facility using both approaches to see whether our present operation could meet the proposed ASIL’s. The consultants preliminary response indicates that Reynolds could not meet the proposed ASIL’s. Based on our analysis of the preliminary modeling data, Reynolds knows of no feasible process or control technology change which could be made within our facility by which we could achieve the proposed ASIL limits. (Reynolds Aluminum/Comment #56)

Revise Section 050 (4)(e)(ii), sentence 2, as follows: The percent extractable organic matter shall be considered one percent of total particulate matter unless ecology or the owner or operator of the source provides data to show ... that the percent extractable organic matter is different than ... one percent. Emissions from a single soderberg aluminum plant do not necessarily represent emissions from any other plant and the emissions from a prebake process will be significantly different. The percent EOM should be based on data from each plant when available. (P. Hildebrandt for ALCOA,

INTALCO, Northwest Alloys, Kaiser, Columbia Aluminum, Reynolds Metals, VANALCO/Comment #58)

Response: This rule applies only to modifications of existing sources and would not require Reynolds existing facility to meet the ASILs. Ecology believes there is ample opportunity for consideration of new high risk sources under second tier review. Sources increasing toxic emissions could petition for a risk management decision under the second tier review. Further, with changes Ecology has made to WAC 173-460-040, an existing source modification decreasing toxic emissions would be subject to T-RACT only.

Ecology concurs with the proposal to allow consideration of other data for percent extractable organic matter (EOM) provided that there is compelling data demonstrating the use of 1% EOM as inappropriate.

Change made to WAC 173-460-050(4)(e)(ii).

Summary: One commentor suggested that the term “quantification” is too specific for such an inexact science.

We feel that more accurate sentences would substitute estimate (-ed) for quantify (-ied). (ITT Rayonier/Comment #59)

Response: Comment noted. Ecology does not agree that quantify is too specific.

No change made.

Summary: The origin of the small quantity emission rate table was questioned. The commentor also felt that numerous terms lacked specificity and that more objective criteria should be substituted.

There is no 050(3)(b)(i) as referenced ... The small quantity emission rates appear to be totally arbitrary. On what basis were these set? ... Is the “satisfaction of the authority” an independent requirement? if so, how does one know it advance what will satisfy them? There must be some objective test of whether the quantification is “in sufficient detail.” There is no common meaning to being “conservative”. ... of “good engineering judgement”

If one cannot demonstrate compliance with 070 and 080, the proposal requires “more precise emission estimates” prior to seeking second tier approval. More precise than what? ... What procedures could be approved by the department to model total TAP emissions? (NWPPA/Comment #60)

Response: We concur that 050(3)(b)(i) is in error. Change made. The comments concerning the small quantity emission rate table are addressed under WAC 173-460-080, the section containing the tables.

The purpose of 050(3) is to clarify that precise emission estimates are not required for modeling unless the source is seeking a second tier analysis. Ecology believes the terms used are appropriate for this purpose.

Change made.

Summary: Two commentors stated that the dioxin Toxic Equivalency Factors are not appropriate for regulatory use.

The regulation has defined the emission of Dioxin as 2,3,7,8 TCDD and all its congeners. It has also decided that Toxic Equivalent Factors are to be used for these isomers. The attached issue paper describes our concerns with this process. ... Attachment #1. ... The use of the TEF approach is inappropriate for the following reasons: 1) With the exception of the 2,3,7,8-substituted hexaCDDs, the toxic equivalencies of the other dioxin and furan congeners are based on endpoints other than carcinogenic potential; 2) The TEF approach was not intended to be used as a regulatory tool or in setting permit limitations. Each of these points is discussed below. (Simpson/Comment #57)

The toxic equivalency procedures noted are not appropriate for risk assessments that have regulatory impact. These procedures are not sufficiently developed for application to any air toxics program. EPA clearly emphasizes that the TEF document is only an “interim science policy” that has significant limitations, both quantitative and qualitative. (NWPPA/Comment #61)

Response: Ecology believes that EPA’s toxic equivalency factor (TEF) procedure is appropriate and reasonable for dioxin emission estimation. Levels of dioxins estimated using this procedure are not subject to an upper regulatory limit. Rather, the source is identified as requiring further review. The additional review process requires the source to complete a health assessment. Since a discussion of uncertainties is required in the health assessment, Ecology will be able to consider the uncertainties, such as those associated with TEFs, in the context of the overall health assessment.

No change made.

## **VI. WAC 173-460-060 CONTROL TECHNOLOGY REQUIREMENTS**

Summary: Many comments were received concerning the BACT requirement. They are listed and discussed in section WAC 173-460-020(4). A comment discussing pollution prevention as BACT is listed below.

Thus it appears that a company can use more traditional control technologies rather than source reduction to satisfy air rules, despite the hazardous waste or other toxic releases associated with them. Does this accurately describe Ecology’s position? If so, does the agency feel that limitations on its legal authorities prevent a more cross-media oriented approach? ... Our second concern has to do with the lack of a publicly articulated process to ensure that air staff are familiar with all source reduction options in defining BACT. In our comments on the draft regulations we called for: i) regular consultations with Ecology and EPA pollution prevention staff ... Ecology’s water and hazardous waste programs ... ii) a strategy of using industry pollution prevention plans under ESHB 2390 ... iii) setting industrial categories broadly enough so that source reduction options are not overlooked ... iv) review of these and other proposed regulations by Ecology’s pollution prevention staff. We renew these comments here recognizing that the regulations themselves may not be the best place for them to be addressed. We urge the department to develop a detailed implementation plan incorporating the concepts laid out here. (WTC/Comment #64)

Response: Ecology supports pollution prevention through a cross-media approach. The question about limitations on our legal authority requires a legal opinion the author is not qualified to give. We will, to the extent possible, include pollution prevention information in implementation training. Integrating pollution prevention into the permit process is a worthy objective, but the long history of separating pollution into media groups with add on technology will take time to overcome.

Summary Chromic Plating and Anodizing: Differences between PSAPCA's regulation and Ecology's proposal for chrome plating were noted.

The difference is allowable emission rates between the two agencies' regulations could pose potential compliance problems with sources in the Puget Sound area. Therefore, it is recommended that Ecology propose that allowable emission rate for sources emitting more than 1 kilogram hexavalent chrome control emissions to 99% with emissions not to exceed 0.03 milligrams per ampere-hour. (Boeing/Comment #70)

The generic BACT for chromic acid plating and anodizing shops in Ecology proposed regulation is slightly different from PSAPCA's Regulation III. (PSAPCA/Comment #71)

Response: Ecology agrees that the difference in these factors could pose a compliance problem. Ecology reviewed the 0.03 milligrams per ampere-hour limit and agrees that it is the most reasonable at this time.

Change made.

Summary Spray Coating Operations: Commentors noted that the spray coating requirement should be consistent with PSAPCA's regulation and that the section was generally unclear.

The requirements of Paragraph (6), Spray Coating Operations, should be consistent with PSAPCA regulations as well ... PSAPCA has indicated that technical exemptions for high transfer efficiency spray application equipment and spray booth enclosure requirements will be incorporated into their proposed amendments. (Boeing/Comment 72)

However, the Department's criteria for when HVLP or 65% transfer efficiency will not be required is, we believe, unclear ... We believe this criteria is unclear and needs revisions. (IBA/Comment 73)

Response: We concur that this section is unclear. We believe that this section should be deleted for several reasons. Spray coating involves an extremely large category of sources and on reexamination we believe that this category is too large. There are numerous EPA New Source Performance Standards for significant sources in this category. We also are concerned that a protocol for testing transfer efficiency does not exist. We believe these sources are best handled through the case by case process of BACT or RACT, as appropriate.

Change made.

Summary Abrasive Blasting: It was noted that the abrasive blasting requirement should allow blasting within a hangar.

The requirements in paragraph (7)(a) for abrasive blasting to be performed inside a booth should be broadened to allow blasting inside a hangar for large items. (Boeing/Comment 74)

Response: We concur provided hangar designed to capture grit or overspray. Change made.

Summary: One commentor requested that Ecology incorporate PSAPCA's requirements for polyester/vinylester/gelcoat/resin operations as a performance requirement in lieu of case by case T-BACT.

I have attached a letter from PSAPCA and a copy of proposed Regulation II Section 3.08 Polyester/Vinylester/Gelcoat/Resin Operations ... We request that the Department of Ecology incorporate these same requirements in proposed WAC 173-460-060, Control Technology Requirements. (ORPA/Comment 75)

Response: PSAPCA's Section 3.08 proposal requires airless spray guns, a water wash or dry filter for controlling particulates, and a vertical stack properly dimensioned to avoid downwash and provide the maximum degree of dilution possible. Ecology engineering staff have reviewed the proposal and determined that the regulation is adequate for existing sources, but not for new sources. We do not believe that enough precedence has been established to set a "generic BACT." This industry generates substantial amounts of several air toxics, including styrene, acetone, methylene chloride, methyl ethyl ketone peroxides, and dimethylphthalate. We believe our original proposal for case-by-case T-BACT review is most appropriate for insuring that these sources begin to apply all known, available and reasonable technology.

No change made.

Summary: One commentor was concerned that the rule does not allow sufficient flexibility for exempting small sources or for accepting PSAPCA's ongoing development of small source performance requirements.

IBA is concerned that the proposed rule does not allow the Department sufficient flexibility to, on a case by case basis, develop facility design criteria for a small TAP source which is not covered by the provisions of WAC 173-460-060 ... In addition, IBA is very concerned that the proposed rules will invalidate an important understanding which now exists between the Puget Sound Air Pollution Control Authority and IBA. The Agency and IBA agreed that in the possible case that the regulations inadvertently require a small source to go through the screening analysis and possibly the second tier analysis, that the agency would promptly act to revise its regulations to establish appropriate design criteria. The Department's draft rule eliminates this flexibility for the PSAPCA regulations. (IBA/Comment #76)

Response: We concur. A provision for local authority performance requirements, provided that Ecology approves the requirements equivalent to T-BACT, was added.

Change made.

## **VII. WAC 173-460-070 AMBIENT IMPACT REQUIREMENT**

Summary: Two commentors noted that the protection of health and safety requirement in this section was ambiguous. The requirement for T-BACT prior to ambient impact analysis was again questioned as backwards.

The phrases “sufficiently low to protect human health and safety,” and “in any area reasonably subject to public access” are extremely ambiguous ... Also, I fail to see the purpose of this section. The ambient impact requirement seems to be stated already What is the purpose of this section? (James River/Comment #77)

Response: By what standards will Ecology judge whether emissions are “sufficiently low to protect human health and safety?” The ASILs? Is compliance to be demonstrated in any area reasonably subject to public access”, or do you mean nearest area? The proposal seems to require installation of control technology for all sources regardless of emission levels or risk, and only after the installation does the facility demonstrate “compliance.” This is backwards . ... If our interpretation is correct, has Ecology fully evaluated the cost of controls required to be installed regardless of risk? If T-BACT is already installed (and it is indeed the “best available” technology), how could one then reduce risk further except by limiting production or through a tier three analysis? (NWPPA/Comment #78)

Response: The purpose of this section is to clearly state the ambient impact and health protection requirement. We previously concurred to increase specificity to the “area” of ASIL compliance. Change is made to this section for consistency.

The determination of whether emissions are “sufficiently low to protect human health and safety” is through ASILs or, failing that, case by case review. T-BACF is required prior to ambient impact compliance. The commentor is correct that exceedances of the ASIL after T-BACT could require a third tier analysis or limiting production. Ecology believes that additional consideration and public process is necessary and appropriate for such sources.

Change made for consistency and clarity.

## **VIII. WAC 173-460-080 DEMONSTRATING AMBIENT IMPACT COMPLIANCE**

Summary: Two commentors proposed that the Class B pollutant averaging times should be changed from 24 hours to annual average.

While conservative estimates are a necessary means of measuring health effects of TAPs, the 24 hour averaging time for demonstrating ambient impact compliance of Class B TAPs is unrealistic. An annual average would more adequately reflect the health effects of a Class B TAP. (AWB/Comment #79)

Definite averaging times should be stated in the regulations and adhered to. The times listed in 173-460-080 (2)(d)(i-iii) should be an annual average. (James River/Comment #82)

Response: The 24 hour averaging time was chosen to insure adequate protection. Ecology does not agree that an annual average would be sufficiently protective. Considering pollutant concentrations on an annual basis would allow a facility to emit large amounts of hazardous substances on a short term basis.

No change made.

Summary: One commentor noted that, as currently worded, the authority could not perform the modeling for the source. Confusion was noted on the approval for more complex air models.

Section 173-460-080(1) states that the owner or operator of a new toxic air pollutant source shall complete an acceptable source impact analysis for Class A and Class B TAPs. In our enforcement of Regulation III, PSAPCA performs the initial screening analysis ... It is unclear to our Agency when Ecology should be involved in the review process for more complex models. (PSAPCA/Comment #80)

Response: We concur that the authority may perform initial modeling. Ecology's approval is required for all refined modeling. The form and process for such approval will be developed by the air toxic rule implementation task force.

Change made.

Summary: Several persons commented on the small quantity emission tables, questioning their origin and requesting restoration of the table to ranges published in the first comment draft.

Based on the dispersion modeling described below, it is our opinion that the Small Quantity Emission Rate table for toxic air pollutants (WAC 173-460-080) should be revised as follows ... ASIL 0.01 to 0.099 TAP Emission (lbs/yr) 5.0 ... ASIL 0.1 to 0.99 TAP Emission (lbs/yr) 50. ... As presently proposed it appears that the regulation will result in a significant amount of unnecessary dispersion analysis. The above revision, which returns the table to its form in an earlier draft, is a more reasonable approach in our opinion, based on the following data. (Texaco/ Comment #83)

Please consider carefully the comments by Texaco on benzene ... We hope that new source review under the proposed rule will not be triggered for projects whose benzene emissions are well below any levels that could adversely impact public health. (Shell/Knudson, ARCO/Comment #81)

RECOMMENDATION: Restore the table to its original equal range concept. The basis for the tables should be defined, the tables should be reviewed for all pollutants to determine if there are exceptions to the criteria, and changes made only if justified to meet the stated purpose. (WSPA/Comment #84)

The small quantity emission rates appear to be totally arbitrary. On what basis were these set? ... (NWPPA/Comment #60)

Response: The small quantity emission rate tables were developed by Ecology air dispersion modeling staff using the EPA SCREEN model. The table was developed at the

suggestion of the Air Toxics Advisory Committee over concern that modeling could be a costly and onerous burden for small sources. The assumptions and details of the table were discussed with the Committee. Assumptions were: 15x25x6 meter building, 10 meter release height, 0.3 meter stack diameter, 5 meter/sec air speed, temperature 303 degrees K, and downwash. To clarify the rule, the 10 meter stack height and downwash conditions have been added to the table label.

Ecology does not agree with Texaco that refined modeling results should be used to evaluate the placement of benzene on the table. Texaco's results are source specific and not appropriate for a screening table. However, Ecology agrees to add two extra categories to the list. These categories are consistent with the purpose of the table and may prevent some unnecessary modeling as mentioned by Texaco.

Change made.

Summary: One commentor noted that modeling is an estimation technique that precludes actual measurement.

Mathematical modeling is, at best, a method of estimating emissions, with no requirement to verify actual emissions via empirical, scientific measurements. (US Marine/ Comment #85)

Response: US Marine is correct that the rule does not require measurement of toxic emissions. The state of the art models that are now used are accepted by EPA and are considered sufficiently accurate that regulatory decisions about attainment/nonattainment of criteria pollutant standards can be made solely on the modeling results. Ecology believes that such techniques are appropriate for preconstruction review of toxic emission sources.

No change made.

Summary: One commentor stated that the SCREEN model output does not relate to a 24 hour or yearly average.

173-460-080(2a) It is not possible to estimate ambient values of a TAP since modeling can only yield incremental changes ... (2d) Please state how air model results are to be extrapolated to annual averages. The dispersion equations fundamental to SCREEN are based on 10 minute centerline concentrations. In all reality, what relationship does it have to either a 24 hour or 365 day concentration at a given receptor? (ITT Rayonier/Comment #86)

Response: Ecology concurs that TAP modeling will yield incremental changes. Change is made to clarify. SCREEN is an approved EPA model and air modeling results should be extrapolated to annual averages using EPA modeling techniques. Ecology concurs that the SCREEN is designed to estimate maximum short term concentrations. However, applicants are not required to use SCREEN. More refined models may be used if approved by the authority and Ecology.

No change made.



Summary: One commentor noted that monitoring data could not be used and questioned the methods for approving refined modeling techniques. The commentor felt that the criteria for compliance section was vague.

(2) Acceptable Source Impact Analysis. (a)-(c) Requires use of dispersion modeling. This would not allow monitoring data to be used. If concentrations exceed ASILs, more “refined” techniques are required and must be approved by Ecology ... There must be criteria or standards on what may or may not be approved, or how Ecology would make such a determination. (d) ... The rule should allow both shorter or longer averaging times where justified. (e) ... Apparently, Ecology has “modeled” emissions to equate a range of ASILs with certain emission triggers, and Ecology must explain or provide the method used for the calculations. (3) Criteria for Compliance ... These phrases are not defined, nor is there a process outlined by which determinations would be made. What is “sufficiently low”? “maximum incremental”? There is no valid rationale for requiring a worst case analysis if that would be required. Instead, compliance should be demonstrated by using the most realistic estimate of risk. Attached are documents describing the scientific limitations of EPA’s current risk assessment policies which NWPPA incorporates by reference into these comments. (Attachment 3). We ask Ecology to pay close attention to the discussion beginning on page 13 on risk assessment and risk management, (NWPPA/Comment #87)

Response: The rule requires modeling techniques in accordance with EPA guidelines. This is the criteria Ecology will use in approving the use of refined modeling. The commentor is correct the monitoring data could not be used since this is a preconstruction review process. Questions concerning the development of the emission tables are answered earlier in this section as are questions concerning averaging times. Ecology believes that section (3) Criteria for Compliance is sufficiently specific. The term “maximum incremental” is used to clarify that the source is not responsible for the ambient level. Ecology has proposed two methods for determining compliance, ASIL and case by case. Compliance with the ASIL method purposefully requires conservative assumptions because it is a means to approve permits or identify sources for additional consideration. The proposed rule includes provisions for risk management decisions.

No change made.

## **IX. WAC 173-460-090 SECOND TIER ANALYSIS**

Summary: One commentor noted that case by case review should be as specific as possible and can be frustrating.

I caution you to avoid getting into too much case-by-case, risk based analyses. My perception of our program’s experience is that this type of analysis can be extremely time consuming and frustrating for the facility proponent, the public and agency staff. The criteria for approving, or more importantly denying, a facility proposal should be as clear as possible so that all interested or affected parties understand the rules of the game. (H. O’Neill/Ecology/Comment #88)

Response: Ecology shares the concerns surrounding case by case review. We believe that the requirement for technology control prior to review will limit the number of sources

needing this review and that the process is as clear as possible at this time. Working experience with this rule is needed to identify changes that are needed.

No change made.

Summary: A question about the local air authorities role in the process was posed.

The rule states that “any new emission limits approved by ecology as a result of the second tier analysis evaluation shall be enforced by the authority provided the authority approves the new emission limits.” What happens if the authority does not approve the new emission limits?(ALA/Comment #89)

Response: The permit cannot be approved without local authority approval. Local authorities may be more restrictive than the state for sources over which they have jurisdiction.

No change made.

Summary: An addition to the applicability section was suggested.

Revise Section 090(1), end of fourth sentence, as follows: “to more accurately represent risks “such as updated unit risk factors.” This would clarify that updated risk factors will be justification to revise initial assumptions. (P. Hildebrandt for ALCOA, INTALCO, Northwest Alloys, Kaiser, Columbia Aluminum, Reynolds Metals, VANALCO/Comment #90)

Response: We concur that the use of unit risk factors updated by EPA could be justification for second tier.

Change made.

Summary: One commentor had several comments advocating the use of best risk estimates, questioning applicability of second tier, asking the basis for local authority decisions, and opposing Ecology’s discretion to consider comments.

090 Second Tier Analysis (1) Applicability (a). ... Ecology must adjust the ASILs to more accurately represent risks in the first place, so that these analyses are limited to instances that are important and so that they are meaningful. (b) Ecology may evaluate a petition only if controls represent T-BACT and ASILs are met using more refined quantification and modeling techniques. This is directly contradictory to Ecology’s promise to NWPPA that ASILs would not be used as standards. ... (2) Jurisdiction. Ecology (not a local authority) must first approve or reject emissions resulting in exceedance of the ASILs. If approved, the authority must also approve before it is granted. On what basis will Ecology of the authority make their decision? Why does Ecology need veto authority here? (3) Approval Criteria. (a) ... The showing of “not likely” must be allowed to be made using best estimates of risk, and must not be forced into use of multiple conservative factors NWPPA opposes Ecology’s discretion to consider comments from other agencies and universities; consideration of all comments should be mandatory, although adoption of recommendations may remain discretionary. (NWPPA/Comment #91)

Response: The use of upper bound risks was previously discussed in section (WAC 173-460-020(5)). The rule states that Ecology may evaluate a petition only if controls represent T-BACT and ASILs are exceeded, not “met” as suggested by commentor.

With respect to local authority approval, local authorities may be more restrictive than Ecology and are not compelled to accept Ecology’s decision. Authorities will use their own criteria for accepting or rejecting a permit.

Ecology’s does not agree that the risk showing must be made using best estimate of risk. See section WAC 173-460-020(5).

Ecology does not agree that consideration of all comments be mandatory at this step. The source will have ample opportunity to provide data in the assessment document and Ecology may solicit outside review of the document. Public comment is required for sources projected to exceed the one in one hundred thousand risk level.

No change made.

## **X. WAC 173-460-100 REQUEST FOR RISK MANAGEMENT DECISION**

Summary: PSAPCA noted that the agency does not allow offsets as discussed in this section.

WAC 173-460-100 discusses offsets and examples of innovative measures that can be used as offsets. PSAPCA does not agree with the use of offsets for sources of air toxics. Since PSAPCA will not accept offsets, the proposed regulation should include a statement which clarifies that offsets will be used only “if the authority determines that offsets are acceptable”. (PSAPCA/Comment #92)

Response: We do not agree that specific language is needed here. If Ecology approves the permit, the local authority has the final permit approval decision.

No change made.

Summary: One commentor advocated deleting the requirement for T-BACT before consideration of net environmental benefits and suggested a change in the permit time limit.

To address complex cleanup situations such as those existing at Hanford, the DOE-RL recommends that Ecology give itself maximum flexibility in addressing net environmental benefits and delete Section (3)(a) requiring T-BACT before net benefits can be considered ... A conflict could arise between the regulatory time limit after issuance of Permit to Construct and the absence of other permits. It may be beneficial to rephrase the statement to read “The owner or operator shall commence construction within eighteen months of the director’s approval, assuming all other required environmental documentation has also been completed and approved.” (Dept. of Energy/Comment #93)

Response: The Washington Clean Air Act requires sources use all known, available and reasonable means of emission control. This requirement has been interpreted by the courts as BACT and cannot be deleted. Ecology does not agree that the time limitation

should begin after other environmental documentation. This would negate Ecology's intent place a time limit on this determination. A source could defer completing other environmental requirements for an unlimited time, deferring the beginning of the 18 month limit indefinitely.

No change made.

Summary: One commentor felt that the one in one hundred risk level was unreasonable and costly.

The proposed conditions for acceptance of a risk of one in hundred thousand are unreasonable and will cause economic hardships upon Washington businesses. The cost of implementing WAC 173-460-100 (3)(a)-(c) could be staggering. (James River/Comment #94)

Response: WAC 173-460-100 does not limit acceptable risk to one in one hundred thousand. Ecology acknowledges that the varied aspects of these projects (e.g., risk, social, economic, environmental impacts) must be considered together and in communication with the affected community. Ecology acknowledges that this process could be costly. However, Ecology believes that the process is reasonable and preferable to setting a risk standard. Risk standards, by their nature, focus the permit decision on this one element.

No change made.

Summary: One commentor felt that the risk management requirements should be extended to all other sources.

The criteria of approval for those sources exceeding a risk of 10-5 are valid criteria for all sources. We question limiting their use to only those sources that do not comply with the second tier analyses. (ALA/Comment #95)

Response: Ecology will encourage the use pollution prevention in other permits, but believes that these extra requirements are best reserved for higher risk sources.

No change made.

Summary: Comments concerning the risk management application and approval criteria were made.

(2) Contents of the Application. Ecology should also be required to follow the requirements of 090(1), (4) and (5), such as the time limitations in (1) ... (3) Criteria for Approval ... (a) ... Ecology has no authority to impose a condition that precludes consideration of economics, which is part of the "reasonableness test." ... (b) As above, Ecology cannot selectively apply statutory standards. The criteria for approval must include the concept of reasonableness. NWPPA agrees that prevention measures such as process controls and chemical substitution are suitable considerations in reducing air toxics. Indeed, such considerations should be the primary consideration ... (c) Net environmental benefit should be an element of all T-BACT determinations. (NWPPA/Comment #96)

Response: We concur that Ecology should initiate risk management decisions as promptly as possible, but do not agree to add a specific time limit. Implementation experience is needed before the reasonableness of a particular time limit can be evaluated. We concur that emission controls must include a test of “reasonableness.” We do not agree that net environmental benefit can be considered T-BACT. The statutory requirement is for all known, available and reasonable emission control.

## **XI. WAC 173-460-110 ACCEPTABLE SOURCE IMPACT LEVELS**

Summary: Several commentors questioned the use of the formulas used to calculate ASILs. They noted that the use of formulas implies a scientific basis that does not exist.

The formulas used to determine risk-based and threshold based acceptable source impact levels are unrealistic and arbitrary. Either these regulations need to contain an acknowledgement that the products of these calculations are not related to actual health effects or a more accurate formula with a scientific basis needs to be developed. (AWB/Comment #97)

Although DOE-RL does not necessarily agree with this methodology, we understand the dilemma Ecology is facing in establishing an acceptable level for air toxic when no level exists. Unfortunately, as presented, this calculated value appears to represent a proven health risk which, when exceeded, will be perceived by the public as a health threat ... We recommend Ecology clarify that these levels are for the sole purpose of implementing this rule and that there is no direct link between these levels and impacts to human health. (Dept of Energy/Comment #98)

The formulas used to determine ASILs are arbitrary ... At the very least we think regulations should acknowledge the deficiency of the ASIL formulas and provide for their replacement with appropriate formulas when they are developed. (ARCO, Shell/Moody/Comment #99)

The equation to calculate risk based ASIL has no scientific basis and provides an unrealistic assessment of possible health risk to the population ... The use of IRD and TLV as written construes misuse of these values. (James River/Comment #100)

For noncarcinogens it should be clearly explained that the ASIL based on TLV’s is not a health related limit. (WSPA/Comment #101)

Response: Ecology has previously agreed that ASILs are not fine lines between healthy and unhealthy air levels. We concur to simplify the formulas to more accurately reflect their computation and purpose.

Change made.

Summary: Two persons commented that the ASILs were too conservative and unreasonable and suggested that the cumulative safety factor be added and that each chemical must be independently reviewed.

We request that each ASIL value listed in 173-460-150 and 173-460-160 be accompanied by the cumulative safety factor (policy judgement). These values will address OMB’s

recommendation that risk assessment be separated from policy. (ITT Rayonier/Comment #103)

(1) Risk-based ASILs ... These numbers are so overburdened with conservative assumptions, unreasonable safety margins and huge margins of uncertainty that they do not represent any one particular level of risk. Ecology must revise the ASILs one-by-one to consider more accurate estimates of risk through the scientific review process suggested in our comments on 120 ... (2) Threshold based ASILS. (a) It is not acceptable to routinely use EPA reference doses and averaging time just because they exist. Ecology must make an independent review of for each chemical... (3) Ecology already has information that the chloroform ASIL is overly stringent and should exercise the authority here to establish a different ASIL. The science review process should be utilized. (NWPPA/Comment #104)

Response: Ecology believes that it is reasonable and appropriate to use EPA unit risk and inhalation dose factors. Ecology believes that these factors are the best available, but acknowledges uncertainty is associated with the factors. Ecology and the Air Toxics Advisory Committee designed the provision for case by case review because of the uncertainty associated with risk factors. Ecology believes that the EPA chloroform factor is the best available at this time and is appropriate for the purpose intended (i.e., permit approval or further review.) Additional review through the second tier process will allow for a discussion of uncertainties. Ecology believes this is the appropriate place for a description of cumulative safety factors.

No change made.

Summary: Several commentors objected to the use of TLVs and safety factors as a means to calculate ASILs.

...ACGIH states that the TLVs are not developed for use as legal standards, and ACGIH does not recommend their use as such ... The use of TLV's rather than PEL's is arbitrary and discriminatory in that TLV's can and are, changed without the input of the public or industry. Thus when a TLV is changed, the offsite concentration would also change automatically ... US Marine points out that the used generic safety factors are not supported by any evidence in the proposed rule, and as such are arbitrary and not based on any scientific foundation whatsoever. (US Marine/Comment #102)

In addition to our concern on the use of ACGIH TLVs, SIRC also questions the utility of using a generic safety factor to generate ASILs. The generic safety factor is not supported by any evidence in the proposed rule ... Since, as previously discussed, conservatism is already incorporated into ACGIH's TLV-TWA for styrene, the addition of another factor of 300 without any explanation is arbitrary. (Styrene Information and Research Center/Comment #105)

(b) The use of a 300-fold safety factor for ACGIH TLVs is arbitrary and capricious (NWPPA)

Response: Ecology is aware of the ACGIH disclaimer. The TLVs are not being used as standards to set fine lines between safe and dangerous air pollution exposures. Ecology and the Air Toxics Advisory Committee considered this issue thoroughly. The absence of

federal toxic air pollutant standards necessitated a means to quickly and efficiently approve permits or target them for added review. In considering alternatives, Ecology and the Committee found that most states with air toxics programs are using safety factored occupational health levels. Undoubtedly, this is because the TLVs are the only comprehensive source of guidelines for chemical exposure through the air. The 300 fold safety factor was proposed by Ecology after the Committee failed to reach consensus on a factor. The factor is intended to be conservative (i.e., health protective). Ecology believes that there is adequate flexibility for consideration of alternative levels in the second tier review.

US Marine is incorrect in the assumption that TLV changes will change the ASIL automatically and without hearing. The calculated ASILs are listed in the rule and therefore cannot be changed without a regulation change.

No change made.

## **XII. WAC 173-460-120 SCIENTIFIC REVIEW AND AMENDMENT OF ACCEPTABLE SOURCE IMPACT LEVELS AND LISTS**

Summary: Several commentors requested that the periodic ASIL review include public comment or boards.

The process and results of the periodic scientific review of ASIL.s should be subject to public scrutiny in order to assure the accuracy and scientific validity of the review. (AWB/Comment #106)

(1)(a) Delete: Entire paragraph. Add: A board consisting of members of Ecology, health professionals, the regulated community, and interested parties shall decide: whether to add or delete TAP's ... acceptable source impact levels should be, and source applicability

(1)(b) Add: The review conducted should specifically require that input from regulated sources be sought ... Review conducted should include the validation of exposure assessments or model estimates by field measurements. ... The findings and conclusions from scientific review shall be available for public scrutiny prior to the addition of or any changes to the list of TAPs and ASIL. (2)(a) ... Also, this information must be made available for chemicals already listed in 173-460-150 and 173-460-160. (James River/Comment #107)

Please convince us that the scientific review will actually occur and will be a meaningful process ... we request that the exact scientific review process be proposed along with this regulation. Implementing the scientific review process must include listing a prospective reviewer's prerequisite qualifications and proposing a means by which reviewers will arrive at consensus decisions. (FF1' Rayonier/Comment #108)

Response: Changes to the ASILs will require regulatory revisions. Since it is Ecology's policy to include the public and affected industries early in the regulatory process, it is likely that the periodic review will utilize advisory committees followed by public involvement.

No change made.

### **XIII. WAC 173-460-130 FEES**

Summary: Two comments were received on fees, one requesting a specific number and another questioning funding.

Fees should be specifically listed. This prevents overcharging by Ecology so as to provide money for other agency activities that are unrelated to air toxics. (James River/Comment #109)

And, finally, we question whether the fee section will provide adequate funding. The fees should cover all direct and indirect costs of this air toxics program. (ALA/Comment #110)

Response: Ecology has not proposed a fee for this permit review. Ecology cannot overcharge since there is no fee. Ecology appreciates the support from the ALA. Local authorities will be encouraged to set fees that support the cost of their programs.

No change made.

### **XIV. WAC 173-460-140 REMEDIES**

No comments received. Implementation comments addressed under that heading.

### **XV. WAC 173-460-150 CLASS A TOXIC AIR POLLUTANTS: KNOWN, PROBABLE, AND POTENTIAL HUMAN CARCINOGENS AND ACCEPTABLE SOURCE IMPACT LEVELS**

Summary: Commentors requested the removal of National Emission Standards for Hazardous Air Pollutants (NESHAP) program pollutants and Type C carcinogens from the rule.

Since NESHAP and Chapter 173-400 WAC contain different standards and exemptions than this regulation, these toxics need to be removed from this regulation to avoid conflict

Type C carcinogens should be removed from coverage in this rule in order to maintain consistency with other rules adopted by Ecology. (AWB/Comment #111)

Delete: All Class C carcinogens ... The ASIL should be determined by considering such factors mentioned earlier: chemical half-life, actual absorption, and exposure pathways. (James River/Comment #114)

Response: Ecology included NESHAP pollutants on the advice of the Air Toxics Advisory Committee. Ecology believes that these pollutants should remain in the rule since the failure of NESHAPs in public health protection has been well documented. Ecology removed Type C carcinogens from the Class A list and placed them in the Class B list prior to publication in the Washington State Register. As discussed above, the second tier review requires consideration of half-life, absorption, etc.

No change made.

Summary: One commentor supported the B(a)P and PAH ASILs.



The additions to the ASIL list strengthen the regulation considerably, especially the inclusion of B(a)P and PAHs. PSAPCA agrees that the chloroform ASIL should not be changed since this is an ASIL the Agency uses frequently in the toxic screening analyses. (PSAPCA/Comment #112)

Response: Support noted.

No change made.

Summary: One commentor suggested reevaluation of the TAP list in light of the new Federal Act and asked about a TAP list background document.

Is there a support document that outlines the rationale for Ecology's list? ... the DOE-RL recommends Ecology re-evaluate the list of TAPs from the standpoint of closer consistency with the new Federal Clean Air Act. (Comment #113)

Response: The rationale for the list is outlined in a May 1 1990 document. Since that time, Class C carcinogens have been removed from the Class A list and moved to the Class B (noncarcinogen) list. Ecology will review the rule for consistency with the Federal Act in the future.

No change made.

Summary: Comments were received on Hexane ASIL.

The ASIL for Hexane (CAS #100-54-3) in section 160 appears to be a typographical error. The ASIL for Hexane (n-hexane) is 1/10 the ASIL for Hexane, other isomers, and inconsistent with other chemicals in the series, eg Butane, Octane, Pentane, etc. (Comment #115)

Response: The ASIL for hexane was computed correctly. The TLV for n—hexane is approximately ten fold less than that for butane.

No change made.

Summary: Comments were received on perchloroethylene's listing as a carcinogen.

Perchloroethylene has been placed, in error, in the Class A Toxic Air Pollutants category of Known and Probable Carcinogens. Attached is a copy of the Federal Register of Tuesday January 8, 1991, which reports that this classification is in error ... We request in your final air toxic rules, that this above change be reflected, and that Perchloroethylene be listed as a Class B Toxic Air Pollutant. (WSDA/Comment #116)

Response: After reviewing the information provided, Ecology has concluded that the a weight of evidence classification change has not been made for perchloroethylene. While it is correct that this substance has been deleted from a Hazardous Waste and Superfund Program as a B2 carcinogen, EPA has not made a final decision on classification. They intend to finalize the 1985 draft Health Assessment document that would place the chemical in the B2 classification using the procedures spelled out in the Federal Register.

No change made.

Summary: Comments were received on the B(a)P and primary aluminum smelter ASIL.

It is Reynold's belief that the ASILs for B(a)P (Table II, p. 17) and primary aluminum smelter (PAR) emissions (Table III, p.18) are far too stringent. In fact, the former ASIL for B(a)P has been removed from the IRIS database because it was invalid. Likewise, the ASIL for aluminum plant PAR's is unsupportable. (Reynolds/Comment #117)

The ASIL for coke oven emissions is set at 0.0016 and the ASIL for aluminum smelter PARs at 0.0013. The backup documentation showed coke ovens to have a higher unit risk factor than the smelters (9.3 vs. 9.1) and therefore the smelter ASIL should be slightly higher than the coke oven ASIL ... The EPA Office of Health Effects Assessment (OHEA) commissioned two studies; one to update B(a)P Potency and the other to assess the handling of PAR mixtures. It is believed that these studies are complete. This latest information should be used to develop potency numbers for aluminum plant emissions and to establish a B(a)P ASIL. (P. Hildebrandt for ALCOA, INTALCO, Northwest Alloys, Kaiser, Columbia Aluminum, Reynolds Metals, VANALCO/Comment #120)

Response: Based on EPA's January 1991 letter to Ecology, Ecology believes that the aluminum plant ASIL is the best available at this time. According to EPA, the B(a)P ASIL was never placed in the IRIS database. The coke oven ASIL is slightly different from the ASIL calculated using the background document factor because it was calculated using the IRIS database ASIL. Ecology is aware that EPA has been reviewing PAR mixture potency methods for several years. When and if the methods are accepted by EPA, sources may use them in a second tier analysis.

Summary: Comments were received on the styrene ASIL.

It is not appropriate to regulate styrene at an annual ASIL of 0.17 ppm because ambient air concentrations of styrene at levels greater than 0.17 ppm will not cause or contribute to the endangerment of human health. (US Marine/Comment #118)

As discussed more fully below, the ASIL for styrene is not supported by substantial evidence because: 1) ACGIH states that its TLVs are not developed for use as legal standards; 2) For well studied materials like styrene, the DOE safety factor of 300 is excessive and unsupported by the proposed rule; 3) chronic effects resulting from styrene exposure have not been observed in humans; in laboratory animals, chronic effects were seen only at doses of 250 to 1000 mg/kg/day; 4) the current OSHA PEL of 50 ppm for styrene was based on evidence of narcotic effects, not chronic effects; and 5) the well developed data base concerning the health effects of styrene can be used to develop a scientifically supportable fence-line standard for styrene of 1.6 ppm. (Styrene Information and Research Center/Comment #123)

Response: As discussed in section WAC 173-020(2) and 100, ASILs are not intended to be standards or fine lines between healthful and unhealthful levels. The purpose is to approve permits and target sources for further review. Ecology believes that the method used to compute them is reasonable given their purpose. The styrene ASIL was calculated in the same method as the other Class B pollutants.

No change made.

Summary: Comments were received on the dioxin and furan ASILs and chloroform ASILs.

(c) The toxic equivalency procedures noted are not sufficiently developed for application to any air toxics program. EPA clearly emphasizes that the TEF document is only an “interim science policy” that has significant limitations, both quantitative and qualitative. Attached is recent scientific information on dioxins and furans that NWPPA incorporates by reference into these comments (Attachment 2). These comments and attachments are submitted for consideration on the ASIL for dioxins and furans (150(1)Table 1) and for 2378-TCDD (150(2) Table 2)... (NWPPA/Comment #121)

Comments on ASIL for Chloroform ... The conclusion that Ecology must reach based on review of all these documents is that the proposed ASIL for chloroform is not scientifically justifiable and its adoption by Ecology would be arbitrary, capricious, and unreasonable. NWPPA urges Ecology to engage in a scientific review by qualified individuals to establish a reasonable ambient air standard for chloroform. (NWPPA)

Response: After considering the comments received, including those from NWPPA, Ecology has concluded that the EPA unit risk factors were developed by qualified individuals and are the best available at this time. Ecology acknowledges that there is, and will always be, scientific uncertainty associated with a potency factor. The rule was purposefully structured without an upper risk limit so that this uncertainty could be evaluated with the project as a whole. Ecology believes that this approach is preferable to focusing the entire permit review on the potency factor.

Since these factors are not used as either incremental or ambient air quality standards, Ecology does not agree that review to establish a chloroform ambient standard is needed. The chloroform, dioxin and furan ASILs were calculated in the same manner as the other Class A ASILs and their use is consistent with the Air Toxics Advisory Committee advice.

Summary: Comments received on methylene chloride, tetrachloroethylene, and trichloroethylene listing as carcinogens.

Methylene chloride, tetrachloroethylene (perchloroethylene), and trichloroethylene should not be regulated as probable human carcinogens under the state air toxics program. Indeed, methylene chloride and tetrachloroethylene are considered “possibly carcinogenic to humans”..by the (IARC). In its overall evaluation of trichloroethylene, IARC concluded that the chemical was “not classifiable as to its carcinogenicity in humans.” ... If WSDE chooses to base its designation on listings by other bodies, it should at least require that a substance be listed by a minimum of two of the three organizations in the requisite categories. (HSIA/Comment #122)

Response: Ecology does not agree that the listing for carcinogenicity should be based on two of the three organizations. Ecology listed the chemical as a Class A carcinogen if one of three organizations listed the chemical as a probable carcinogen. Possible (i.e., EPA Class C) carcinogens were not considered carcinogens unless one of the three groups listed the chemical as a probable carcinogen. Ecology believes this is sufficient scientific evidence that the chemical should be regulated as a carcinogen.

## **XVI. COMMENTS OF SUPPORT**

Summary: Several commentors noted support for reasonable limitations of air toxics. For example:

We support reasonable reductions of air toxics emissions in the interest of protecting the health and safety of our employees while protecting the environment of the communities in which we live. (Boeing/Comment #124)

The Puget Sound Air Pollution Control Agency (PSAPCA) supports the adoption of Chapter 173-460 WAC which controls new sources of toxic air pollutants. The two years of research, planning and consultation by Ecology has greatly assisted our Agency in developing a regulation to control air toxics. (PSAPCA/Comment #125)

The Lung Association commends the Department of Ecology for embarking on the regulation of toxic air pollutants. (ALA/Comment #126)

Response: Support noted and appreciated.

## **XVII. IMPLEMENTATION ISSUES**

Summary: Several commentors urged Ecology to postpone the adoption date and provide implementation guidance.

Many industries are likely to have a number of projects well along in the planning and contractor selection stage when regulations are finally adopted. In order to assure that such projects are not suddenly captured by a new program and require replanning for T-BACT, air dispersion, modeling, permitting, etc. I strongly urge that the proposed regulation not be implemented until some time after the final adoption date ... Based on our experience with RCRA, etc. I would suggest a minimum period of 6 months. (Shell Oil/Knudson, ARCO/Comment #127)

The DOE-RL recommends a guidance document to assist preparation of Permits to Construct be arranged. Terms such as “good industrial practice”..”greater benefit to the environment as a whole” ... and “innovative or established measures that are likely to reduce community exposure”.. could be clarified. (Dept. of Energy/Comment #128)

With the advent of criminal penalties and extremely harsh enforcement provisions of the new Clean Air Act Amendment. We respectfully request ~ one year after final adoption before implementing this regulation. We believe this time is necessary because literally every anticipated project at our facilities may be impacted by this regulation. This time will provide our personnel the opportunity to incorporate the complexities of this regulation without fearing felony sanctions resulting from mistaken interpretations. (ITT Rayonier/Comment #129)

Response: Ecology agrees that implementation time is needed, but believes that six months or a year is too long. The rule will become effective three months after the adoption date.

## XVIII. FEDERAL COORDINATION

Summary: Several commentors suggested that Ecology insure the rule is consistent with federal law.

Lastly, I would encourage you to use new information as it is developed by EPA and avoid conflicts that would occur by having a program or data that differs from the federal system. (P. Hildebrandt/Comment #130)

The Clean Air Act passed by the federal government will be applied to existing sources. Reynolds urges Ecology to wait for establishment of regulations by EPA before applying air toxics standards to existing sources. By doing so, application of standards will be more uniform and conflicts of regulations can be avoided. (Reynolds Aluminum/Comment #131)

In view of the little impact that this regulation would likely have on the reduction of air toxics in the near future, promulgation should be postponed to allow the department the opportunity to evaluate the impacts of the 1990 Federal Clean Air Act Amendments, and to perform the necessary development work to make such a regulation scientifically defensible and responsive to the intent of reducing air toxics in a manner which makes a difference. (Simpson/Comment #132)

These comments support a decision that Ecology's air toxics program is premature, unreasonable, not based on sound policy, and therefore should be deferred pending implementation of the federal Clean Air Act Amendments of 1990. (NWPPA/Comment #133)

Once the list is completed, IEPA will need to evaluate the level of control that will be specified for the various categories of listed chemicals. In performing this evaluation, it is important that IEPA's program be consistent with the revisions to Section 112 of the federal Clean Air Act recently enacted by the U.S. Congress that will shift the focus of the regulatory program to technology-based, rather than health-based, controls. (HSTA/Comment #134)

Response: Ecology agrees that state rules will need to be at least as stringent as federal law. Ecology will review the rule against EPA regulations when they are promulgated. However, Ecology will go forward with this preventative program because it is needed. The addition of toxics control to the federal program is a welcome step, but Ecology will continue to propose controls appropriate for Washington.

No change made.

## XIX. NEED AND PHILOSOPHY OF CONTROL PROGRAM

Summary: Several commentors questioned Ecology's emphasis on industrial controls and selected risk levels.

A 1989 EPA study on Cancer Risk from Outdoor Exposure to Air Toxics found that "Area sources were responsible for approximately 80% and point sources 20% of the total annual (cancer) incidence associated with outdoor exposure to air toxics." ... However, it

should establish priorities for action and lend credence to establishment of an industrial program that is not laden with multiple layers of scientifically unfounded factors of safety solely to “err on the side of safety.” ...The risk levels established (10-6) should be reviewed as a matter of public policy at the highest levels of state government. (WSPA/Comment #135)

The agency philosophy is to “err on the side of safety” and, within limits that is justified. But air toxics may be an example of a program that would best be served by erring on the side of practicality. (P. Hildebrandt/Comment #136)

We question if the public health will be adequately protected if we allow a risk of 10-5. We feel 10-6 is more appropriate. (ALA/Comment #137)

Risk assessment for air toxics, and specifically the industrial toxics program, should be kept in perspective with the total picture ... A new report, Human Exposure Assessment For Airborne Pollutants: Advances and Opportunities” ... suggests a need for a “total human exposure” approach. (P. Hildebrandt for (ALCOA, INTALCO, Northwest Alloys, Kaiser, Columbia Aluminum, Reynolds Metals Co., VANALCO/Comment #138)

Response: Ecology agrees that the decision to set an ASIL cancer risk level of 10-6 is a policy matter rather than a scientific one. The risk levels were proposed by Ecology after the Air Toxics Advisory Committee could not agree on risk levels. Ecology believes that the one in one million level at which projects are targeted for further review is consistent with our public health protection goal. The use of this level is consistent with regulations developed in other Ecology programs and other states’ toxic control programs. Ecology believes that situations exist when higher risks may be acceptable (e.g., permitting of a sewage treatment plant, upgrades reducing risk) and that the rule provides adequate flexibility these situations.

Ecology agrees that toxic exposure from nonindustrial air toxic sources is large on an overall percentage basis. The impact of industrial sources is generally very localized but can be significant. Ecology believes that a preconstruction review program for industrial sources is an essential part of the toxics control program.

No change made.

## XX. RULE MAKING PROCEDURE

Summary: Two commentors felt that Ecology did not comply with notice and comment rulemaking procedures.

DOE’s use of ACGIR TLV’s to develop ASIL’s without subjecting each ACGIH TLV to notice and comment rulemaking procedures in an impermissible delegation of authority to a private party. (US Marine/Comment #139)

The Department of Ecology (DOE must conduct notice and comment rulemaking on the issue of how DOE determines the toxicological basis for a substance’s regulation. DOE cannot rely on TLVs established by ACGIH as the basis for establishing ASILS for a substance before submitting the TLVs and the scientific basis for these values to the notice and comment rulemaking process. In addition the uniform safety factor applied to

the TLVs to obtain the ASILs and the scientific basis for this safety factor must be submitted to the notice and comment rulemaking procedures established by Washington law ... (Styrene Information Research Center/Comment #141)

Response: Ecology has complied with notice and comment rulemaking procedures. The TLVs were incorporated into the rule by reference and the safety factor is listed in section 173-460-110 (2)(b). Notice was published in the Washington State Register January 2, 1991 and comments were received until February 15, 1991.

No change made.

Summary: One commentor questioned Ecology's legal authority.

Ecology must consider whether legislative approval is necessary for such a major new program. Ecology sought such approval repeatedly and the legislature declined to specifically authorize or fund such a program. Ecology's present proposal for amendments to 70.94 in the Washington legislature should include consideration of air toxics and full implementation of the act. (NWPPA/Comment #140)

Response: Ecology has determined that legislative authority exists for this rulemaking project. Ecology's legislative proposal does contain permitting provisions for toxic air pollutant sources.

No change made.

Summary: The adequacy of the economic impact statement was questioned.

Comments on the proposed regulation were required to be submitted by May 31, 1990 yet only a "Preliminary Economic Information for the Proposed Regulation to Control New Sources of Toxic Air Pollutants" brochure was provided to industry. Information at best, is totally inadequate. (US Marine/Comment #142)

Ecology has complied with the Economic Policy Act and the Regulatory Fairness Act. A contractor completed a draft small business economic impact statement and regulatory compliance document in May and the final in September 1990. Though not required, the draft was available in May, prior to rulemaking. A summary of this document was filed and published with the rule in the January 2, 1991 Washington State Register. Availability of the complete document was noted in the publication. (Answer 142)

No change made.

## **XXI. DATA AND SCIENTIFIC DOCUMENTATION**

Summary: Two persons commented on scientific documentation of the rule.

The draft regulation contains many scientific factors and policy decisions with little or no documentation or description of how they came about. significant factors such as the "Small Quantity Emission Rates" tables are presented without development data. The specific references and calculation methods for developing the ASIL data is not given and is impossible to verify by equation presented. The data is presented at significance levels

which are arbitrary and contrary to commonly accepted practices in dealing with numbers. (Simpson/Comment #143)

The use of up-to-date scientific information and rationale must be mandatory and Ecology must have a process in place for both the drafting of the rule and its implementation. To date this has not taken place, particularly for the establishment of the ASILs. (NWPPA/Comment #144)

The only supporting documentation that has been provided is a paper entitled “Acceptable Source Impact Levels” and a paper entitled “Toxic Air Pollutants Covered by Washington

Proposed Air Toxics Regulation”, May 1990 ... These papers, however, lack scientific documentation and give little or no detailed explanation. (Simpson/Comment #119)

Response: Public involvement on such issues such as the science and small quantity emission rates has been extensive. These issues were discussed with the Air Toxics Advisory Committee for about two years, then discussed at public workshops. Two background documents summarizing these issues were prepared and circulated without comment. As noted in section 110, the ASIL equations have been changed to better reflect the method used. Ecology believes that the second tier analysis allows adequate consideration of-to-date scientific information.

No change made.



