

Texas Register

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Specific explanation on the contents of each section can be found on the beginning page of the section. The division also publishes cumulative quarterly and annual indexes to aid in researching material published.

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Texas Administrative Code

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The *TAC* volumes are arranged into Titles (using Arabic numerals) and Parts (using Roman numerals).

The Titles are broad subject categories into which the agencies are grouped as a matter of convenience. Each Part represents an individual state agency. The *Official TAC* also is available on WESTLAW, West's computerized legal research service, in the TX-ADC database.

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The Titles of the *TAC*, and their respective Title numbers are:

1. Administration
4. Agriculture
7. Banking and Securities
10. Community Development
13. Cultural Resources
16. Economic Regulation
19. Education
22. Examining Boards
25. Health Services
28. Insurance
31. Natural Resources and Conservation
34. Public Finance
37. Public Safety and Corrections
40. Social Services and Assistance
43. Transportation

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1 indicates the title under which the agency appears in the *Texas Administrative Code*; *TAC* stands for the *Texas Administrative Code*; §27.15 is the section number of the rule (27 indicates that the section is under Chapter 27 of Title 1; 15 represents the individual section within the chapter).

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TITLE 40. SOCIAL SERVICES AND ASSISTANCE
Part I. Texas Department of Human Services
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mediations for unauthorized discharges of contaminants under the state superfund and spill response programs occurs through the application of the commission's rules and statutes pertaining to those programs." Fourth, as discussed previously, subsection (b) has been revised to remove the requirement that "Any person who has . . . allowed . . . the discharge of . . . other contaminant . . . has a continuing obligation to: " And fifth, as discussed later in the preamble for this section, we have made the interrelationship between these rules, on the one hand, and the spill response and state superfund programs, on the other hand, clearer by revising paragraphs (1) and (2), respectively, of subsection (a).

The effect of the second, third, and fourth change is to make clear that only the unauthorized discharge of contaminants regulated via the commission's state superfund and spill response programs may become subject to these risk reduction rules. Contrary to a number of the respondents' letters, the commission is not extending its jurisdiction under these rules to cover materials or events that are not presently subject to one of the commission's program areas. The effect of the third and fifth changes is to make clear that the obligation to perform remediation for unauthorized discharges of contaminants occurs (i.e., is triggered) through application of the commission's rules and statutes pertaining to the state superfund and spill response programs. The rest of the sixth sentence of subsection (a) makes clear that the risk reduction standards of subsection (b) will be used to specify the mechanism for remediating an unauthorized discharge of contaminants only after the obligation to perform such a remediation has first occurred through either the commission's state superfund or spill response program.

Several commenters expressed a substantial level of concern regarding the application of these risk reduction rules to spills. The respondents felt that the inclusion of spills in these risk reduction rules could: create an administrative burden on industry; create a substantial workload increase for the TWC; severely inhibit emergency response actions for new spills; and cause unnecessary expenditures for historic spills. The overwhelming sentiment expressed in these letters was that the risk reduction rules should defer to the spill regulations on the issue of spill reporting and response.

The commission's intention has always been that these risk reduction rules would defer to the commission's spill program with regard to the reporting of and responding to spills. The language of paragraph (1) of subsection (a) of this section in the proposed rule was intended to clearly state this situation. In light of the significant concern expressed by respondents on this issue, we have amended paragraph (1) to state "that persons shall complete notification and response actions for spills in accordance with the Texas Water Code, §26.039 and §26.261, and the administrative and procedural requirements of the commission to carry out the Texas Hazardous Substance Spill Prevention and Control Act." Paragraph (1) is further amended to state that §335.8 (relating to Closure and

Remediation) applies to spills at the point in time "when the response actions do not result in remediation within the timeframes specified by the commission's spill response program." A final sentence has been added to paragraph (1) which indicates that a person shall submit a plan in accordance with subsection (b) of this section in circumstances where remediation of a spill has not occurred within the timeframe specified by the commission's spill program.

The commission is not making a formal response in this preamble to a number of substantive issues raised in the respondents' letters because the commission is currently evaluating these same issues for incorporation into proposed spill response rules which are under development and since these issues will be more appropriately addressed in that process. A common theme running through the comments on this subject area was the concern that "minor spills and leaks which can be promptly cleaned up should be addressed under the spill reporting and cleanup rules rather than the risk reduction rules." Falling out from this single sentence are three matters which are deferred to the spill response program for consideration. First, what is a minor spill? Several commenters stated that a de minimus lower limit or threshold reportable quantity should be established for reporting requirements. The commenters further felt that the "prompt cleanup of these types of spills should not be burdened by onerous reporting, analytical, or deed recordation requirements." Second, what is a prompt action? Two commenters suggested that actions completed within 180 days of a spill should not be subject to these risk reduction rules. And third, what actions constitute satisfactory cleanup or remediation of a spill so that application of these risk reduction rules is not warranted? The letters from various commenters mentioned restoration to background, the complete removal or decontamination of the spill, and the return of the site to pre-spill conditions as criteria which could be used. We are also deferring the question concerning whether new spills and historic unauthorized discharges subject to the spill response program should be subject to these risk reduction rules in the same or a different fashion. In the intervening period between the effective date of these risk reduction rules and the effective date for the future spill response rules, the commission will use existing statutory requirements and current spill response program practices to make decisions regarding the aforementioned questions.

Only one respondent specifically commented on the language of subsection (a), paragraph (2), in the proposed rule which pertained to the manner in which these risk reduction rules will be applied at state superfund actions managed under Chapter 335, Subchapter K, (relating to Hazardous Facilities Assessment and Remediation). This respondent suggested that the relatively streamlined remedy evaluation process for Subchapter S (relating to Risk Reduction Standards) should be considered for Subchapter K cleanups. The commission has not adopted this suggestion due to the special nature of superfund actions and the specific

remedy evaluation process requirements contained in Subchapter K. We have amended the first sentence of paragraph (2) to address "remediations performed under the state superfund program" and have removed the reference to "closure", since this term is not used in Subchapter K. The commission has also amended the first sentence to include the words "including a baseline risk assessment" to emphasize that this study shall be performed for all sites in response to Subchapter K. And finally, the commission has amended paragraph (2) by adding a second sentence which clarifies the manner in which future land use assumptions will be made in order to determine media cleanup levels under the state superfund program. This section states that future residential land use will be assumed unless a person demonstrates to the executive director, using the provisions of §335.563(e) (relating to Media Cleanup Requirements for Risk Reduction Standard Number 3), that an alternative land use is more appropriate.

Several respondents expressed concern regarding the proposed language of subsection (a), which states that "In instances where other requirements for closure or remediation apply, persons shall comply with those requirements in addition to the regulations of this section." These respondents were concerned that this statement may be read to require "the reevaluation and/or reclosure of previously certified units." In partial response to these comments, the commission has deleted this sentence and has replaced it with a sentence stating: "The regulations in this section supplement but do not replace any requirements for closure or remediation specified in the regulations for programs subject to these rules and shall apply as specified in paragraphs (1)-(6) of this subsection." This sentence makes clear that the manner in which these risk reduction standards will be applied to various program areas is further defined by the supplemental provisions of paragraphs (1)-(6).

As introduced previously, a large number of respondents provided comments which in some manner stated that these risk reduction standards should apply prospectively rather than retroactively. While arguing that these risk reduction rules should not apply to previously approved or submitted closure or remediation plans, most respondents did acknowledge, even though their terminology varied widely, that the commission should be able to reopen the evaluation of a facility or area if there is evidence of a significant risk to human health or the environment.

In additional response to these comments, the commission is adopting a new paragraph (5) of subsection (a) which defines the applicability of these risk reduction rules to persons who have submitted closure or remediation plans prior to the effective date of these rules. This new paragraph is discussed next. The commission is also revising paragraph (5) of subsection (b) to define those conditions under which a person would be required to take additional actions because a facility or area presents an unacceptable risk to human health or the environment. This discussion is presented later in the preamble for this section.

The commission has always viewed the promulgation of these risk reduction rules as an opportunity to develop a more flexible and scientifically supportable basis for making decisions regarding our current and future workload of closure and remediation plans. The commission has never intended that these rules would be used to cause a systematic reevaluation of all previously approved closure and remediation plans. We have intended, however, that these rules could be used in those instances where a previously approved or completed action does pose an unacceptable threat to human health or the environment.

In accordance with these objectives the first sentence of new paragraph (5) of subsection (a) states "Persons who have received approval of closure or remediation plans by the executive director prior to the effective date of this section and have either completed or not completed the action prior to the effective date of this section may either maintain or complete the action, as applicable, according to the approved plan and are not subject to the requirements of this section, unless a substantial change in circumstances develops at the facility or area which results in an unacceptable risk to human health or the environment as described in paragraph (5) of subsection (b)."

In addition, respondents stated that closure or remediation plans that were on file with the commission prior to the effective date, but which had not been approved by the executive director, should also not be subject to these risk reduction rules. The second and third sentences of new paragraph (5) of subsection (a) address this topic by stating: "Plans or reports submitted but not approved prior to the effective date of this section will be reviewed according to the regulations in effect at the time of document submittal. If the executive director denies approval of the plan or report under those regulations for reason of technical inadequacy, the person must then comply with the requirements of this section upon written notice from the executive director that the plan or report is not approved." Thus, the plans must be technically adequate to fulfill the regulations in effect at the time they were submitted in order not to be subject to review under the procedures of this section.

Several respondents were also concerned about the application of these risk reduction rules to facilities with previously issued permits. One respondent commented that an "old issue or permit should not be reopened" unless there is "evidence of a threat to human health or the environment." The commission has addressed this issue by adding a fourth sentence to new paragraph (5) of subsection (a) which states "Closure plans approved as part of an industrial solid or municipal hazardous waste permit which was issued prior to the effective date of this section but not implemented at the time of permit renewal are subject to review for compliance with the terms of this section as part of the permit renewal process." A fifth and concluding sentence of paragraph (5) states "Persons may resubmit such plans or reports that they have revised voluntarily to conform with the requirements of this section, unless such

resubmittal would result in noncompliance with a previously approved or imposed schedule of compliance." Thus, persons may choose, on their own, to develop a revised plan under these rules for a previously approved closure or remediation but may not use this process to postpone any previously approved or imposed schedule.

Subsection (a) retains the language which states that this section does not apply to substances discharged from underground storage tanks. We have, however, moved this statement to a new paragraph (6) to aid in the organization of this subsection. Three respondents questioned why the commission was planning to maintain separate approaches to evaluate the remediation of media contaminated by releases of petroleum substances from underground storage tanks and from other sources such as pipelines and refineries. We note that the commission's Petroleum Storage Tank program is considering the use of a risk-based approach for corrective action at leaking storage tank sites. The commission remains open to exploring new approaches and may, with the experience gained over time in this area, be in a better position to move toward a more unified approach.

This completes the discussion of subsection (a) of this section. A number of the changes to subsection (b) have already been presented during the explanation of the changes for subsection (a). The remainder of the modifications to subsection (b) are presented in the following paragraphs.

As presented previously, the first sentence of subsection (b) has been amended to require the persons identified in subsection (a) to conduct the activities described in paragraphs (1)-(4) of this subsection when performing a closure or remediation. The second sentence of the revised subsection (b) states that "Upon receipt of approval by the executive director of reports demonstrating compliance with all applicable requirements, the person has completed these obligations unless a substantial change in circumstances results in an unacceptable risk to human health or the environment as described in paragraph (5) of this subsection." Thus, as long as a person has conducted the activities required by paragraphs (1)-(4) that are in effect at the time the report is submitted, including any necessary on-going post-closure care, and the facility or area does not pose an unacceptable risk to human health or the environment, the person has fulfilled his responsibilities under this section. The commission has developed this amended language with the goal of providing persons subject to this section a greater degree of certainty that they have fulfilled their obligations while at the same time providing the commission with a way to require additional actions in those instances where, due to changed circumstances, it is clearly necessary to protect human health or the environment.

The proposed language for paragraph (1) of subsection (b) regarding "investigate any such discharge" has been deleted in order to be consistent with the language of paragraph (1) of subsection (a) which states that notification and response actions for spills will

occur in accordance with the commission's spill response program.

Paragraph (3) of subsection (b) of the proposed rule has been renumbered as paragraph (2) and two sentences have been added stating that "Unless the requirement to close a waste management facility is specified by other rule, permit or order, the person will determine the time for initiation of closure. The timely remediation of unauthorized discharges resulting from operation of a waste management unit does not compel the closure of the unit unless closure is a necessary part of the remedy to achieve protection of human health and the environment." This language was added to the final rule to clarify the effect that these risk reduction rules will have on the time of closure of waste management units.

Risk Reduction Standards Numbers 1-3 have not been modified from the proposed rule and are presented in subparagraphs (A)-(C) of paragraph (2) of subsection (b) of this section in the final rule. The respondents submitted a number of comments regarding the wording of these standards. Some letters suggested that the conditions "that pose a substantial present or future threat to human health or the environment" were subjective and had not been adequately defined. This issue has been thoroughly discussed earlier in this preamble under the presentation for §335.1 (relating to Definitions). A large number of commenters also pointed out that the "remove and/or decontaminate" language for Risk Reduction Standard Numbers 1 and 2 was not consistent with the requirements for §335.554(b) and §335.555(b) that all waste and waste residues must be removed from waste management units in order to achieve these standards. In response to these comments, the commission has amended §335.554 and §335.555 in a fashion which removes the inconsistency between these two portions of these rules. These amendments will be more fully explained later in this preamble during the discussion for those sections. The commission believes that the environmental performance language of these standards as is further specified by the technical requirements for each standard in Subchapter S (relating to Risk Reduction Standards) does constitute an understandable and supportable approach for making regulatory judgments regarding the adequacy of closures and remediations. Thus, the commission has adopted these standards for use in this final rule.

As noted in the previous discussion, paragraph (5) of subsection (a) and the second sentence of subsection (b) relieve persons of the obligation to perform any actions, or additional actions, respectively, in accordance with the terms of this section unless a substantial change in circumstances results in an unacceptable risk to human health or the environment as described in paragraph (5) of subsection (b). The first sentence of paragraph (5) of subsection (b) requires a person to "respond on a continuing basis pursuant to paragraphs (1)-(4) of this subsection in the event that a substantial change in circumstances at a facility or area results in an unacceptable threat to human health or the environment." The second sentence requires

the person to respond to these substantial changes in circumstances by using the then-prevailing criteria and to perform such actions as necessary to protect human health and the environment. The third sentence along with subparagraphs (A)-(D) indicates that substantial changes in circumstances may include, but are not limited to: a failure of institutional or engineering controls to prevent or mitigate exposure at the approved performance level; a change in land use from non-residential to residential; an actual exposure condition is determined to be occurring at levels not protective of human health or the environment; and new information indicates that contamination at the facility or area was not sufficiently characterized such that an unacceptable threat to human health or the environment continues to exist. Subparagraph (C) of paragraph (5) also states that "... changes made to Subchapter S of this chapter (relating to Risk Reduction Standards) in response to periodic reviews of the general procedures specified to generate numeric cleanup levels, or in response to annual revisions of Appendix II of Subchapter S to reflect new toxicity data, do not constitute a substantial change in circumstances, unless these changes are of such magnitude to present an unacceptable threat to human health or the environment when evaluated for future exposure conditions based on site-specific considerations."

The notification and initiation requirements applicable to persons who intend to conduct closure or remediation in conformance with subsection (b) of this section are contained in subsection (c) and have been modified slightly from the proposed rule. The second sentence of paragraph (1) of subsection (c) has been modified to specify that the person will provide the required written notification not only to the executive director but also to the commission's office in the district where the facility is located and that the person shall make such notifications at least ten days prior to conducting the activity. This modification has been made to the final rule in order to allow time for communication between the commission's central office in Austin and its district offices throughout the State regarding impending closure and remediation activities.

One respondent commented on the issue of whether the notification required by paragraph (1) to occur prior to conducting any activity of closure or remediation would extend to the initial site characterization activities. The answer is no. The notification specified under this paragraph is required ten days before the person begins actual closure or remediation activities. Site characterization activities to determine the risk reduction standard to be achieved and the estimated time necessary to complete the action could occur prior to this notification. This does not, however, relieve the person of the obligation to perform any earlier notification required under other regulations, such as the spill response program.

And finally, a number of respondents commented that the commission should provide more specific guidance regarding the information which must be included in the report required by subsection (d) of this section to demonstrate to the executive director that the

closure or remediation has achieved the intended risk reduction standard. A number of respondents also suggested that the proposed rules should be amended to include a specific period of time following the receipt of a report within which the commission would be required to respond regarding the adequacy of the report. These same comments were submitted regarding several other sections of the proposed rules and the commission's response to these issues is provided in the following section of this preamble for §335.553 (relating to Required Information).

The commission has placed revised authorization language at the beginning of Subchapter S to reflect that we are adopting rather than proposing these new sections.

Section 335.551 describes the purpose, scope, and applicability of Subchapter S (relating to Risk Reduction Standards), which is contained in new §§335.551-335.569 of this final rule.

Respondents on §335.551 included: Texas Mid-Continent Oil and Gas Association; Cooper Industries; Gray/My & Miller, Inc.; Porter & Clements; and Exxon Company USA.

Respondents submitted a few comments specifically with regard to this section which suggested that the risk reduction standards of Subchapter S should only apply to the closure and remediation of industrial solid and municipal hazardous waste facilities and to any associated contaminated media. The commission has not adopted this approach in these final rules and an extensive discussion of the applicability of these rules is provided in the previous section of this preamble pertaining to §335.8 (relating to Closure and Remediation). Several respondents also commented upon the last sentence in proposed subsection (b) of this section which addressed the conditions under which persons would be required to take additional actions in response to changes over time to the general provisions of these rules. The commission has deleted this sentence from subsection (b) and has incorporated consideration of these issues into the formulation of the new language previously discussed for §335.8(b) and §335.8(b)(5).

In addition, a respondent commented that the proposed rules should be amended to provide persons subject to these rules with certain due process rights to appeal decisions of the commission's staff to higher authorities. The commission has not revised this final rule to reflect this comment since these risk reduction standards are technical requirements which will be implemented through a number of the commission's various program areas (e.g., solid waste permitting, enforcement, and corrective action; state superfund, and spill response). The administrative procedures within these various program areas will determine the exact manner in which these rules will be used at a particular facility or area. The commission remains open to new approaches and if our implementation of these rules indicates that the dispute resolution, mediation, contested hearing, or petition processes advocated by the commenter may be warranted, we will consider such approaches during future revisions to these rules.

Section 335.552 establishes the meaning of the terms necessary to define the requirements of Subchapter S. Upon review of the comments from the respondents we are amending several of the definitions previously proposed.

Respondents regarding the definitions contained in §335.552 included: American Industrial Health Council; Exxon Company, USA; Texas Mid-Continent Oil and Gas Association; Exxon Chemical Americas; Colonial Pipeline Company; Amoco Oil Company; Fina Oil & Chemical Company; Texas Chemical Council; ENSR Consulting and Engineering; Texas Eastman; and Kelly Air Force Base.

In response to comments from a respondent, the commission is modifying the definitions for the terms "carcinogen classification" and "carcinogen". The first few words of the definition for "carcinogen classification" are amended to read "The basis by which substances are classified" rather than "Carcinogens which have been classified". This change was necessary to make clear that not all chemicals classified under this system are carcinogens. The commenter also pointed out a number of problems with the proposed definition for "carcinogen" which included its failure to distinguish between those chemicals which are associated with benign tumors and those that are associated with malignant tumors. The previous definition for carcinogen has been deleted and is replaced with "Substances which have been classified for human carcinogenic risk based on the United States Environmental Protection Agency's Weight of Evidence System of Carcinogenicity as Group A-Human Carcinogen; Group B-Probable Human Carcinogen; or Group C-Possible Human Carcinogen." And finally, the commenter recommended that we reconsider the definition for the term "systemic toxicant" since the term is most appropriately used to refer to chemicals which are absorbed, transported to a site distant from the portal of entry, and then cause injury. Other than to change the word "chemicals" to "substances" we have not modified this definition since for the purposes of this rule we are using the term "systemic toxicant" in a broader sense to also include chemicals, such as irritants, which cause injury at the site of contact or portal of entry such as the skin, respiratory tract, or gastrointestinal tract.

The commission is also amending the definitions for "non-residential property" and "residential property" that were presented in the proposed rules. Respondents expressed concern that inclusion of the phrase "activities are being conducted" in the definition for non-residential property would exclude industrial facilities which are inactive due to closure or which operate passively. Commenters also expressed concern that the proposed definition for "residential property" could make an entire industrial facility be considered "residential property" if any portion of it were used for such purposes as: on-site living quarters for a resident guard or groundskeeper; employee health center; or greenbelt. In response to these concerns, the commission is amending the definition of "non-residential property" to read "Any real property or portion of a property, not currently being used for

human habitation or for other purposes with a similar potential for human exposure, at which activities have been or are being conducted, having the primary Standard Industrial Classification (SIC) major group numbers This language satisfies the concern raised by the respondents but would not allow land presently being used for human habitation or other similar purposes to be classified as non-residential merely because it had been used for non-residential purposes in the past. In addition, we are amending the definition of "residential property" to state "Any property that does not exclusively meet the definition of non-residential property. Also, a portion of non-residential property that is used in part for residential activities, such as a day care center, is defined as residential." This revised definition addresses the respondents' concerns regarding the potential for residential use of a portion of an industrial facility causing the whole facility to be considered residential property.

Respondents also submitted a number of comments which stated that the prioritization of data sources expressed in the definition for "practical quantitation limit/PQL" would cause out-dated information from the preferred sources to be used instead of more recent data from other sources. In response to these comments the commission has revised the last sentence of this definition to read "The PQL may be directly obtained or derived from the following sources with preference given to the most recent, scientifically valid method:"

The commission agrees with the statements from several respondents that specific guidance regarding how the PQL should be determined would be helpful. This is one of a number of areas where the commission will be working toward the development of more specific instructions as we become more experienced during the implementation of these rules.

Section 335.553 specifies the type of information which must be developed and when that information must be submitted to demonstrate conformance with each of the three risk reduction standards. A substantial number of comments were submitted regarding this section and we are amending certain aspects of these requirements.

Respondents on §335.553 included: Texas Chemical Council; Texas Mid-Continent Oil and Gas Association; Exxon Company, USA; Groundwater Services, Inc.; Department of Air Force (Kelly Air Force Base); Amoco Oil Company; Baker & Botts/Beazer; IT Corporation; Shell Oil Company; Exxon Chemical Americas; American Industrial Health Council; Harcros Chemical Group/American Chrome & Chemicals, Inc.; Cooper Industries; EXIDE Corporation; Geraghty & Miller, Inc.; Porter & Clements; and Union Carbide Chemical and Plastics Company.

A number of respondents commented that the commission should provide more specific guidance regarding the information which must be included in the report required by subsection (a) of this section to demonstrate attainment of Risk Reduction Standards Numbers 1 or 2 as well as the report required by paragraph (4) of subsection (b) of this section to demonstrate attainment of Risk Red-

uction Standard Number 3. These commenters also stated that the proposed rules should be amended to include a specific period of time following receipt of a report within which the commission would be required to respond regarding the adequacy of the report. These same comments were also submitted regarding §335.8(d) (relating to Demonstration of Conformance with Risk Reduction Standards), §335.554(e) (changed to subsection (f) in the final rule) (relating to Attainment of Risk Reduction Standard Number 1); and §335.555(f) (relating to Attainment of Risk Reduction Standard Number 2).

In response to these comments, the commission notes that subsection (a) of this section presents a list of the types of data regarding both the initial site investigation and the closure or remediation activity which must be included in a report to demonstrate attainment of either Risk Reduction Standards Numbers 1 or 2. Likewise, paragraphs (1) and (2) of subsection (b) of this section identify the types of data to be included in a remedial investigation and baseline risk assessment report, respectively, which the person must submit to the executive director for approval prior to conducting a closure or remediation under Risk Reduction Standard Number 3. The "sufficient documentation" referred to in paragraph (4) of subsection (b) of this section which must be submitted to demonstrate that the approved remedy has been completed in accordance with Risk Reduction Standard Number 3 would include the same type of remedy completion information identified in subsection (a) for Risk Reduction Standard Numbers 1 and 2. Namely, the report must include "descriptions of removal or decontamination action procedures performed in closure or remediation" and "summaries of sampling methodology and analytical results which demonstrate that contaminants have been removed or decontaminated to applicable levels." We also note that subsection (d) of this section in this final rule does contain specific language to guide the person in collecting and analyzing samples from the media of concern in order to demonstrate that cleanup levels have been attained.

As a result, the commission believes that these rules provide a framework which adequately describes the information which a person must submit to demonstrate attainment of these standards. The commission agrees, however, that additional guidance in such areas as the minimum number and distribution of samples to be collected and analyzed during both the investigation phase and the verification phase after an action has been completed would serve to expedite the preparation of reports by persons subject to these rules and the subsequent review of those reports by the commission. The commission plans to develop and refine such supplemental guidance in the coming months as we gain experience through the implementation of these rules.

Also, the commission has not amended this rule to include a specific period of time following receipt of a report within which the commission would be required to respond regarding the adequacy of the report. The commission has not included such a provision in this rule since we have no way to

know at this time either the quantity or quality of reports which will be submitted in response to this rulemaking. Based upon the experience that we gain with the implementation of these rules over time, the commission may be in a better position to judge whether limits on the length of the review period would be appropriate for inclusion into future revisions of this rule.

The only change that the commission made to subsection (a) of this section was to delete and insert language so that the report described in this subsection must now include "a document that the person proposes to use to fulfill" his deed certification requirements for Risk Reduction Standard Number 2. This change is necessary to conform to a modification of §335.560 (relating to Post Closure Care and Deed Certification for Risk Reduction Standard Number 2) which states that proof of actual deed certification is not due until 90 days after the executive director accepts the report required by this subsection.

A number of commenters stated in response to subsections (a) and (b) of this section that in order to simplify testing requirements persons should be allowed to use indicator parameters such as TPH and BTEX during the investigation of the extent of contamination when they know via process knowledge that they are dealing with a "nonhazardous petroleum product". The commission agrees with the comment provided by one of the respondents that while indicator parameters have their place in investigating a site "a broader range of analytical tests would be appropriate to evaluate the risk."

As presented later in this discussion for this section, §335.554(d) (relating to Attainment of Risk Reduction Standard Number 1) and §335.555(d) (2) (relating to Attainment of Risk Reduction Standard Number 2) have been moved and consolidated into a new subsection (d) of this section which defines the collection and analysis of samples necessary to demonstrate attainment of Risk Reduction Standard Numbers 1, 2, and 3. In response to comments, the commission has amended subsection (d) of this section to include new language and has revised existing language in order to describe the manner in which indicator parameters may be used. This portion of the new subsection (d) of this section states: "A sufficient number of samples shall be collected and analyzed for individual compounds to both accurately assess the risk to human health and the environment posed by the facility or area and to demonstrate the attainment of cleanup levels. Non compound-specific analytical techniques (e.g., Total Petroleum Hydrocarbons, Total Organic Carbon, etc.) may, where appropriate for the nature of the wastes or contaminants, be used to aid in the determination of the lateral and vertical extent and volume of contaminated media; however, such non compound-specific analyses will serve only as indicator measures and must be appropriately supported by compound-specific analyses."

Thus, the commission is recognizing the valid role that indicator test methods may serve to define the conditions at a facility or area. However, since these rules are based upon an analysis of the threat posed to human

health or the environment by individual compounds, the data collected for a site must include determination for the presence and concentration of individual chemicals. The sampling plan prepared for a facility or area should be appropriate for the contaminants present at the site and may be based upon the history of the site and process knowledge. There is no requirement under these rules, as was suggested by one commenter, that analyses for all of the compounds listed in §335.568 (relating to Appendix II) would be required at every site. However, the person is responsible for the development of a sampling and analysis plan which "accurately assesses the risk to human health or the environment posed by the facility or area."

In this same general subject area, a commenter also suggested that the commission should establish TPH and BTEX performance standards under these risk reduction rules for spills or releases of petroleum substances in soil and groundwater in a manner consistent with that of the commission's Petroleum Storage Tank program. The commission has not taken this approach in these final rules for the reasons stated previously and also in view of the fact that the commission's Petroleum Storage Tank program is evaluating a risk-based approach to determine the extent of remediations. The commission realizes that the individual compounds in petroleum substances may be difficult to quantify and that there may not be available valid toxicological values for many of the substances in these materials.

As a result, the commission has further responded to comments on this section by developing a new subsection (f) of this section which defines the criteria that persons must evaluate under the circumstances that no contaminants as defined in §335.1 (relating to Definitions) are present in the materials at the facility or area and non compound-specific techniques are used to characterize the site. New subsection (f) states "For Risk Reduction Standards Number 2 and 3, persons determining cleanup levels for contaminated media characterized by non compound-specific analytical techniques (e.g., Total Petroleum Hydrocarbons, Total Organic Carbon, etc.) and for which individual compounds such as hazardous constituents are not present as contaminants, must at a minimum consider other scientifically valid published numeric criteria to address: adverse impacts on environmental quality; adverse impacts on the public welfare and safety; conditions that present objectionable characteristics (e.g., taste, odor, etc.); or other conditions that make a natural resource unfit for use.

Thus, in those situations where compounds can be quantified and valid toxicological values are available, these rules would require a risk-based approach to be used. Where the risk-based approach either leads to high concentrations or cannot be performed, an analysis of other potential adverse impacts on environmental quality or the public welfare will be used to determine cleanup levels. These same criteria are repeated in §335.559(h) (relating to Medium Specific Requirements and Adjustments for Risk Reduction Standard Number 2) and §335.563(j)(2) (relating to Media Cleanup Requirements for Risk Reduction Standard Number 3).

One respondent stated that the rules should allow a portion of a property that has attained the appropriate cleanup levels to be released prior to the entire property having attained the established cleanup criteria. The commission notes that subsection (b) of this section provides the person this flexibility for the initial report under Risk Reduction Standard Number 3 when it states "The results of activities required by paragraphs (1)-(3) of this subsection may be combined to address a portion of a facility or one or more facilities of a similar nature or close proximity." The commission intends to extend this flexibility to closures and remediation under subsection (a) of this section for Risk Reduction Standard Numbers 1 and 2 as well as for the final report required under paragraph (4) of subsection (b) for closures and remediations under Risk Reduction Standard Number 3.

The respondents submitted a number of comments regarding the requirement of paragraph (2) of subsection (b) that the initial report prepared by a person under Risk Reduction Standard Number 3 must include a baseline risk assessment. First, several commenters stated that "no specific methods (i.e., equations) for determining exposure from contaminated surface/groundwater and soil are recommended in §335.563(g), (h), and (i)" (relating to Media Cleanup Requirements for Risk Reduction Standard Number 3). The commission notes that the procedures and approaches described in §335.563 describe risk-based approaches to determine cleanup levels based upon a target risk level (e.g., one in one million) rather than the manner in which the baseline risk assessment will be performed. The determination of cleanup levels and the preparation of the baseline risk assessment report are performed for different purposes and use similar but not identical methodologies.

With the exception of specifying the standard exposure factors in Table 1 located following paragraph (4) of subsection (b) of this section, the commission has purposefully not taken a prescriptive approach regarding the exact manner in which the baseline risk assessment will be performed. The commission intends to use Part A, Volume 1 of EPA's **Risk Assessment Guidance for Superfund** (EPA/540/1-89/002), referred to as RAGS, until such time as we develop and make available supplemental guidance in this area. This document is detailed and should give the person a clear idea of the type of evaluation that the commission expects him to present in the baseline risk assessment report. Respondents submitted a large number of comments regarding the standard exposure factors presented in Table 1 at the end of this section. We discuss these comments and other related comments at the end of the presentation for this section in this preamble.

Second, this same respondent commented that the proposed regulations did not require the degree of uncertainty associated with an exposure assessment to be discussed. The commission agrees with the commenter that this is an important part of a baseline risk assessment, so in order to be thorough, we have added a new sentence to paragraph (2) of subsection (b) of this section which specifically requires the person to discuss the de-

gree of uncertainty in the baseline risk assessment.

Third, several commenters expressed concern with the requirement in paragraph (2) of subsection (b) of this section in the proposed rule that residential land use with on-site exposure would be used to evaluate the future use condition in the baseline risk assessment unless the person demonstrates to the executive director that a different land use assumption such as industrial use is more appropriate. The commenters argued that a default assumption of residential future land use is inappropriate and that persons ought to be able to use the definition of "non-residential property" presented in §335.552 (relating to Definitions) to justify assuming that future use of the property would be non-residential. The commission did not change the rule in response to these comments since we purposefully established different approaches under Risk Reduction Standard Numbers 2 and 3 to determine the future land use of a property. Under Risk Reduction Standard Number 2, the judgment will be made through the use of the standardized definitions for "non-residential property" and "residential property". For Risk Reduction Standard Number 3, for both the baseline risk assessment and for the calculation of cleanup levels as explained at §335.563(e) (relating to Media Cleanup Requirements for Risk Reduction Standard Number 3) the person shall assume future residential land use unless he satisfactorily makes a site-specific demonstration to the executive director that a different land use is more appropriate. The commission considers this approach to be fully appropriate since Risk Reduction Standard Number 2 operates using default, simplifying assumptions, and requires a high degree of permanent risk reduction whereas Risk Reduction Standard Number 3 allows more site-specific analysis and a greater degree of residual risk.

Fourth, one respondent commented that EPA's **Risk Assessment Guidance for Superfund** (EPA/540/1-89/002) (RAGS) is "unduly costly, slow, and overly restrictive." One issue the commenter raised is that the RAGS guidance requires the evaluation of a hypothetical future residential scenario. This is not a pertinent comment since as explained previously, with adequate justification, these rules allow a future land use other than residential to be used. This respondent also expressed consternation that RAGS calculates risks using the 95% upper confidence limit on the arithmetic mean of contaminant concentration values rather than mean constituent concentrations. The commission considers the 95% upper confidence limit on the arithmetic mean for contaminant concentrations to be appropriate to assess future potential risks. When making risk management decisions, the commission must assure that its actions are protective for individuals at the high end of the risk distribution. In short, the commission disagrees with the commenter and considers the RAGS document to be an appropriate and supportable guidance to use for the implementation of these rules.

As an important point, several respondents commented that the proposed regulations for Risk Reduction Standard Number 3 did not

include an analysis of a "no action" alternative which is typically one of a range of alternatives considered for a superfund site. Another respondent submitted language regarding the interrelationship between Risk Reduction Standard Numbers 2 and 3. From these comments, we concluded that we had not adequately explained and highlighted the importance of §335.564 (relating to Post-Closure Care not required for Risk Reduction Standard Number 3). This section states that "in cases where the executive director determines that neither engineering nor institutional control measures are required to protect human health and the environment, the person is released from post-closure care responsibilities" but must deed record the facility or area.

The effect of this language is that a person can arrive at the same end point requirements and conditions under §335.564 for Risk Reduction Standard Number 3 as is provided by Risk Reduction Standard Number 2. For both Risk Reduction Standard Number 3, under §335.564, and Risk Reduction Standard Number 2, after the person places a notice in the deed records for the property stating the residual contamination and the appropriate future use of the property, he is relieved of post-closure care responsibilities. Risk Reduction Standard Number 2 would allow a person to reach this end point through the use of standardized, conservative assumptions and Risk Reduction Standard Number 3 would allow a person to reach this end point through a detailed analysis which allows more site-specific considerations. Thus, the commission believes that a good part of the concerns that were expressed by the respondents regarding the inflexible, conservative, and prescriptive methods used to determine cleanup levels under Risk Reduction Standard Number 2 are defused by the fact that a person can arrive at the same end point through use of the site-specific evaluation procedures of Risk Reduction Standard Number 3. Of course, there is a tradeoff, since the commission must be provided additional information to assure that site-specific decisions under Risk Reduction Standard Number 3 will be protective of human health and the environment.

As a result, the commission has amended paragraph (3) of subsection (b) of this section by deleting a sentence and adding two sentences which more clearly describe the circumstances under which a person will be relieved of post closure care responsibilities under Risk Reduction Standard Number 3. The first sentence states that "Persons may seek to satisfy the requirements of §335.564 of this title (relating to Post Closure Care not required for Risk Reduction Standard Number 3) by demonstrating in the corrective measure study using the procedures of §335.563 of this title (relating to Media Cleanup Requirements for Risk Reduction Standard Number 3) that no remedy needs to be performed since the existing conditions of the facility or area conform to the media cleanup requirements without the use of removal, decontamination or control measures."

The second new sentence states "Persons may also seek to satisfy the requirements of §335.564 by demonstrating in the corrective

measure study that following completion of their recommended removal and/or decontamination activities the condition of the facility or area will conform to the media cleanup requirements of §335.563 without the use of control measures." Thus, under either of two circumstances, a person may pursue the "no action" alternative under Risk Reduction Standard Number 3. Be aware that neither of these approaches would reduce a responsible person's duty to propose a high-quality remedy which best meets the requirements for remedies described in §335.561 (relating to Attainment of Risk Reduction Standard Number 3). The concluding sentence of this paragraph in the rules makes it clear that the executive director may upon review of the corrective measure study require the person to further evaluate the proposed remedy or to evaluate one or more additional remedies.

One respondent understood the sentence that we have deleted from paragraph (3) of subsection (b) of this section to mean that passive methods including natural attenuation of soil and groundwater contamination were being recommended by the commission. The replacement language discussed previously explains the commission's original intent more clearly. Paragraph (3) pertains to situations where: the facility or area presently meets cleanup levels; or the facility or area will conform to cleanup levels immediately after the removal/decontamination action is completed and no control measures are needed. Paragraph (3) does not pertain to the achievement of cleanup levels over time through the use of natural processes. Such an approach would have to be justified under Risk Reduction Standard Number 3 by using the procedures of §§335.562-335.566.

Regarding §335.553(b), the commission has added a requirement that conforms to changes in the sequence of events for performing the deed recordation for Risk Reduction Standard Number 3. Those changes are described fully in the discussion on §335.560 of this title (relating to Post-closure care and deed certification for Risk Reduction Standard Number 2). In response to those changes, the person must submit as part of the final report a document that he proposes to use to fulfill the deed recordation requirements. This change will enable the executive director to review and approve the document prior to its filing in the county deed records.

The commission has moved the language pertaining to the distinction between decontamination and other treatment processes from §335.555(c) (relating to Attainment of Risk Reduction Standard Number 2) in the proposed rules to become a new subsection (c) of this section. The commission has always intended that this language, which explains what a person must demonstrate in order for a treatment process to be considered decontamination, would apply to all three risk reduction standards. The text of the section has been modified to state that it applies to Risk Reduction Standard Numbers 1, 2, and 3 and that the determination of whether treatment consists of decontamination for any particular standard will be based upon a comparison between test values and cleanup levels for that particular risk reduction standard. We have also added clarifying

language to emphasize that a treatment process under these rules will be considered either a control measure or decontamination.

A commenter, who stated that this section requires the permanent alteration of contaminants, wanted to know whether the dilution of characteristically hazardous waste as described at 40 CFR §268.3(b) would be prohibited. First, subsection (c) of this section does not require all treatment processes to "permanently alter all contaminants". This subsection requires a treatment process to "permanently alter all contaminants to levels that will not pose a substantial present or future threat to human health or the environment" in order to be considered decontamination, otherwise it is a control measure. The distinction is that a remedy using treatment constituting a control measure must be justified and then conducted under Risk Reduction Standard Number 3 and would not qualify for consideration under Risk Reduction Standard Number 2. Second, nothing in this subsection should be read to disallow any treatment options conducted in full accordance with current hazardous waste program regulations.

The commission has also moved language pertaining to the collection and analysis of samples necessary to demonstrate attainment of the risk reduction standards from §335.554(d) (relating to Attainment of Risk Reduction Standard Number 1) and §335.555(d)(2) (relating to Attainment of Risk Reduction Standard Number 2) in the proposed rules to a new subsection (d) of this section. The proposed rules stated this language twice, once for Risk Reduction Standard Number 1 and once for Risk Reduction Standard Number 2, and no similar language was stated for Risk Reduction Standard Number 3. The commission intended that this language would apply equally to all three standards and has therefore changed this final rule accordingly. We have added the phrase "for Risk Reduction Standards Number 1, 2, and 3" to clearly state that these informational requirements apply to all three standards.

The commission received a substantial number of comments regarding the statistical procedures specified in the proposed rule to determine whether the analytical sampling results for a facility or area verify that the cleanup level has been attained. Commenters stated that the proposal to use a 95% tolerance limit was overly restrictive and conservative and would require the average of the data concentration to be a half to a third of the cleanup value. This statistical test would require 95% probability that 95% of the analytical data values are less than the cleanup value. Numerous commenters suggested that the commission use a test requiring the upper 95% confidence limit for the mean to be less than the cleanup value. This procedure would assure that the average concentration at the site is less than the cleanup level with a 95% confidence.

The commission has accepted these comments as valid and has amended the language in paragraph (2) of new subsection (d) of this section to include the equation for the upper 95% confidence limit for the mean be-

ing less than the cleanup level. The commission feels that this is a sufficiently protective statistical test given the conservatism built into the cleanup level determinations. Commenters also noted that neither the proposed rule nor its preamble mentioned how "nondetects" would be handled in the statistical procedure. The commission agrees with the respondents that for most sites it is appropriate to use one-half of the detection limit for those samples with concentration values less than the detection limit in the calculation for the mean and standard deviation.

Several other respondents requested that the commission allow the use of more than one statistical method since the uniform treatment of all data sets would be erroneous and problematic. The commission has addressed this concern by adding a new paragraph (3) to subsection (d) of this section which states that the person may use "other statistical methods appropriate for the distribution of the data" with the approval of the executive director. A revised Table 2 presenting "t" values for the new statistical procedure has been placed at the end of this subsection in the final rule.

There are two remaining substantive issues that are discussed in the remainder of the preamble for this section. They are the acceptable sources of toxicological data and the standard exposure factors presented in Table 1 of this section. These are both areas where the commission received a substantial number of comments requesting more flexibility to deviate on a site-specific basis from the risk assessment methods allowed by the proposed rules.

We are issuing these final rules with the same requirements in these areas as presented in the proposed rules. As stated in the introduction to this preamble, the commission realizes that these risk reduction rules are more conservative and prescriptive and allow less site-specific analyses than was suggested by a number of respondents. However, these rules represent a big step for the commission away from the past practice of either requiring sites to be cleaned to background levels or to be deed recorded and monitored during a post closure care period. The commission considers these rules to be a prudent and appropriately conservative first step toward the incorporation of quantitative risk assessment into our waste management programs.

While the commission is not adopting many of the risk assessment methods suggested by the respondents at this time, we remain open to exploring new approaches in the future. Based upon the familiarity and the experience that we gain over time, the commission expects to be in a better position to judge whether the flexibility or modified procedures recommended by the respondents are warranted and should be incorporated into future rulemaking.

The commission has amended this section to include a new subsection (e) which contains the language from proposed §335.558(d) (relating to Medium Specific Concentrations for Risk Reduction Standard Number 2) regarding the sources for toxicological data such as carcinogenic slope factors and reference

doses. The commission has intended that these procedures would also apply to Risk Reduction Standard Number 3 so we have moved this subsection in this final rule and have added language to indicate that the subsection now applies to both Risk Reduction Standard Numbers 2 and 3.

After serious consideration of all comments regarding this issue, the commission has decided to maintain the hierarchy of data sources presented in the proposed rules. Four respondents commented directly on this issue and stated that the prioritization of toxicity data sources would prevent the use of the most recent, scientifically valid data. These commenters recommended that the commission allow a weight of evidence approach where all available data is considered. One commenter recommended that this section contain a variance procedure which would allow the hierarchy to be overruled based upon either the quality or currency of additional data.

While these comments appear to have technical merit, the adoption of the suggested approach would present significant implementation problems for the commission at this time. The United States EPA is responsible for the three highest priority toxicological data sources that we have listed (i.e., Integrated Risk Information System (IRIS); Health Effects Assessment Summary Table (HEAST); and United States EPA Criteria Documents). United States EPA has significantly greater internal scientific resources than the commission to determine the relevance and weight to be placed upon the results from new studies. For example, EPA updates IRIS on a monthly basis to reflect new data and the reanalysis of existing data. The commission expects to build its staff capability over time to make difficult judgments regarding such complex toxicity related questions as the mechanism for cancer induction and appropriate projection methods to determine carcinogenic slope factors.

In concert with the theme of proceeding forward with these rules in a cautious fashion, the commission has decided to make use of these databases to determine toxicological values. As with other areas of these rules the commission may gain experience and internal staff resources through the implementation of these rules over the coming months which would allow it to consider a revision to this procedure.

The commission has also added some additional text to the end of the second sentence of subsection (e) of this section which would allow a person under Risk Reduction Standard Number 2 to use more current data from the listed sources than was used to derive the unadjusted MSCs listed in §335.568 (relating to Appendix II) provided he furnishes substantiating evidence in the final report to the executive director.

The last substantive issue which remains to be discussed regarding this section is the standard exposure factors which are presented on Table 1, which is located following paragraph (4) of subsection (b) of this section in the final rules. Paragraph (2) of subsection (b) of this section states that the residential standard exposure factors from this table

shall be used in the baseline risk assessment required for Risk Reduction Standard Number 3 unless the person demonstrates that site-specific exposure data should be used instead. The standard exposure factors are also pertinent to the determination of cleanup levels under both Risk Reduction Standard Numbers 2 and 3. The standardized equations presented in the rules for Risk Reduction Standard Number 2 were derived using these exposure parameters. Also, §335.563(e) (relating to Media Cleanup Requirements for Risk Reduction Standard Number 3) states that a person shall use the standard exposure parameters from this table unless the person documents to the satisfaction of the executive director that site-specific data warrant a deviation from these standard exposure factors.

Table 1 is the first time in these rules that standardized exposure factors are presented. We are therefore presenting this discussion of standard exposure factors in this section and much of this discussion is also pertinent to the determination of cleanup levels under Risk Reduction Standard Numbers 2 and 3.

First, a number of commenters stated that the default exposure factors used by the commission do not incorporate the more recent data on exposure/activity patterns. Rather than proceed through each of these factors individually, the commission notes that the standard exposure factors presented in Table 1 were developed for the most part to be consistent with EPA's OSWER Directive 9285.6-03 entitled Human Health Evaluation Manual, Supplemental Guidance: "Standard Default Exposure Factors". EPA developed this guidance in 1991 in order to achieve national consistency in evaluating site risks and in setting cleanup goals under the Federal Superfund program. The commission has adopted these standard exposure factors from that guidance also to reduce unwarranted variability in the exposure assumptions and to provide a consistent approach to the determination of media cleanup levels.

Second, respondents generally applauded the degree of site-specific analysis offered by the proposed rules, but also stated that the final rules should allow consideration of even more site-specific data. A commenter stated that the rules proposed by the commission "err too far on the side of simplicity in striving to achieve consistency" and then went on to recommend broader use of site-specific exposure assumptions. The commission also appreciates the importance and value of site-specific evaluations. The commission has incorporated site-specific analyses into this final rule to the extent that they are consistent with the effective implementation of this new and complicated set of rules. The commission is concerned about the potential for unwarranted differences among sites which present similar degrees of risk but which are managed in markedly different fashions due solely to widely varying site-specific exposure assumptions.

Commenters pointed out that the standard equations presented in §335.558 and §335.559 for Risk Reduction Standard Number 2 do not allow any site-specific evaluation of exposure factors since the default exposure factors from Table 1 of the rule are built

into the equations. This is true; however, the commenters should be mollified by the fact, as explained previously, that persons may reach the same end-point in terms of post-closure care and deed recordation via the more detailed, site-specific analyses allowed under Risk Reduction Standard Number 3 as they can under Risk Reduction Standard Number 2. For Risk Reduction Standard Number 3, §335.563(e) allows a person to use different exposure factors, for either residential or non-residential use of the facility or area, provided he demonstrates to the satisfaction of the executive director that site-specific data warrant deviation from the standard exposure factors.

Third, following on in this vein, one commenter suggested that the commission "should allow the substitution of different non-site-specific default values or consideration of additional exposure factors when appropriate". Such an approach would not be acceptable for Risk Reduction Standard Number 2. For Risk Reduction Standard Number 3, non-site-specific default values for the parameters specifically listed on Table 1 of §335.563 would also not be acceptable. The commission has not promulgated specific exposure algorithms in these rules for Risk Reduction Standard Number 3, but persons should use the procedures described in EPA OSWER Directive 9285.7-01B which is entitled *Human Health Evaluation Manual, Part B: "Development of Risk-Based Preliminary Remediation Goals"* to develop cleanup levels until such time as the commission develops alternative guidance. Such supplemental guidance may, if deemed appropriate at that time, describe a uniform approach for the use of additional exposure factors such as soil adsorption coefficients and gastrointestinal absorption coefficients. The commission does not anticipate authorizing use of such additional exposure factors on a case-by-case basis prior to that time.

Fourth, a number of commenters provided similar statements that, "the default point estimate exposure factors used for Standards 2 and 3 create a worst-case scenario which is more extreme than the "reasonable maximum exposure" intended by TWC". As mentioned previously, the standard exposure factors were taken from EPA's OSWER Directive 9285.6-03 entitled *Human Health Evaluation Manual, Supplemental Guidance: Standard Default Exposure Factors*. According to that guidance, "These standard factors are intended to be used for calculating reasonable maximum exposure (RME) estimates for each applicable scenario at a site. Readers are reminded that the goal of RME is to combine upper-bound and mid-range exposure factors . . . so that the result represents an exposure scenario that is both protective and reasonable; not the worst possible case." Cleanup levels under these rules are to be based upon an estimate of the reasonable maximum exposure, which is the highest exposure that is reasonably expected to occur at a site under future land use conditions. The commission has not defined quantitatively where on the distribution of potential risk "reasonable maximum exposure" is for the purposes of these rules. The commission believes that the standard exposure factors

are appropriate, at this time, to define a conservative, but plausible, estimate of the individual exposure for those persons at the upper end of an exposure distribution.

Fifth, several respondents recommended that the commission use the available scientific data on distributions of exposure factors rather than rely on single point estimates as representative of the distributions. The commenters continued that the use of single worst-case exposure parameters to derive single point cleanup standards is inconsistent with current trends in exposure assessment methodologies. The commenters recommended that the commission allow the use of quantitative probabilistic risk assessment procedures, such as Monte Carlo analysis, to simulate the probable distribution of exposures by substituting randomly selected point values from known distributions and repeating this process many times. According to the respondents, the resulting distribution provides the decision-maker with a more realistic view of probable exposures from which to choose the "reasonable maximum".

The commission is not prepared, at this time, to embrace the use of Monte Carlo analysis for the purpose of quantifying risk and establishing cleanup levels under these rules. All risk assessment aspects of these rules are based upon detailed and explicit guidance documents published by EPA's Office of Solid Waste and Emergency Response. The commission appreciates that Monte Carlo analysis is an accepted mathematical technique that has been used by engineers and scientists for a long time. However, the application of this mathematical technique for the quantitative estimation of risk at hazardous substance sites is more recent. EPA has not prepared detailed guidance regarding the use of Monte Carlo analysis. The commission does not consider it wise to base these rules on quantitative probabilistic risk assessment procedures in the absence of guidance which defines the accepted distribution of values and probability of occurrence for each individual exposure parameter.

And finally, we note that one respondent expressed the view that the TWC should employ the most current accepted risk assessment practices and exposure assumptions in these rules and add provisions to ensure that the risk assessment practices driven by the rules remain "evergreen" with the changing techniques and assumptions incorporated in an ongoing fashion". The commission takes the different view that, in the absence of a standardized process to evaluate the validity of site-specific exposure assumptions, the somewhat prescriptive process embodied in these rules, which has opportunities for deviation, where justified, will lead to a more consistent, credible, and defensible approach for the initial application of these rules. The commission considers it wise to take a cautious approach when embarking upon a fundamentally different way to evaluate the need for and extent of remediations. The commission is committed to revising these rules periodically and making whatever changes are felt to be appropriate in light of our experience gained from the implementation of these rules.

Section 335.554 describes the criteria which must be attained in order for a person to achieve compliance with Risk Reduction Standard Number 1. Respondents on §335.554 included: American Industrial Health Council; Amoco Oil Company; Baker & Botts/Beazer; Chemical Manufacturers Association; Exxon Company, USA; Exxon Chemical Americas; FINA Oil and Chemical Company; Industrial Service Company; KOCH Refining Company; Shell Oil Company; Texas Chemical Council; Texas Mid-Continent Oil and Gas Association; Union Carbide Chemicals and Plastics Company; and Valero Refining Company.

Some commenters stated that cleanup to background as required by Risk Reduction Standard Number 1 was overly conservative and arbitrary in its application and suggested that this standard be eliminated. The commission has retained cleanup to background as one of the risk reduction standards because it continues to offer the greatest degree of protection to human health and the environment and upon attainment no continuing regulatory obligations are imposed and no notices are required to be placed on the title to the property. These risk reduction rules afford a person a range of options in performing closures or remediations; Risk Reduction Standard Number 1 is but one option. As stated in §335.8(c)(1) of this title, the person can choose the risk reduction standard to be attained.

Regarding §335.554(a), some designations of subsections have changed as a result of the commission having added an additional subsection to this section. This is reflected here by changing "(b)-(f)" to "(b)-(g)".

Regarding §335.554(b), one commenter noted that the requirement to remove all waste and waste residues from the unit would require expensive removal of all waste, regardless of whether the waste could meet the standards after treatment in place. The commenter recommended allowing decontamination of wastes as well as removal. This subsection as well as the parallel language in Risk Reduction Standard Number 2 received multiple comments. The commission has applied the same changes to this subsection as was done for §335.555(b) and (c) of this title (relating to Attainment of Risk Reduction Standard Number 2), in that a differentiation is made between hazardous waste and non-hazardous waste. Subsection (b) addresses hazardous waste and hazardous waste residues by requiring removal at closure of a unit or remediation of an area of unauthorized discharge. Contaminated design and operating system components must also be removed. Contaminated media can be removed or decontaminated to achieve the cleanup levels for this standard. This issue is discussed more thoroughly under the discussion for §§335.555(b) and (c) later in this preamble.

Regarding §335.554(c), this language is being added here as a continuation of the commission's response to the comment on subsection (b). All remaining subsections of this section have been redesignated. The requirements for closure of non-hazardous waste units and for response to non-

hazardous waste discharges, allow both the removal and decontamination of waste, waste residues, contaminated design and operating system components, and contaminated media so as to achieve the cleanup levels for this standard.

Regarding §335.554(d), formerly designated as subsection (c) of this section, numerous commenters discussed the meaning of "background" and sought exclusions for industrial areas or expanded guidance in determining background. Several commenters agreed with the definition of background, including certain anthropogenic levels (e.g., residues from automobile exhaust, or agricultural use of pesticides in accordance with labeling requirements), and they expressed the view that some areas of Texas have been heavily industrialized for many years and that widely dispersed, low levels of contaminants do not pose a health threat, are not related to current industrial activities, or have been added to a property as a result of a neighbor's industrial activity. For these scenarios, the commenters suggested that the commission not exclude such contamination from being considered as a part of background.

Other commenters sought expanded guidance on the determination of background levels as it pertains to statistical characterization or ranges of naturally occurring levels as reported in the scientific literature. The commission recognizes the need for some flexibility in establishing background levels and agrees with one commenter who suggested that site-specific background be developed by applicants at each site. On the other hand, the commission has also utilized published tables of ranges of values in soils in setting background levels. The commission has some concern for this approach if the high literature values represent mineralized zones or other areas that are not representative of the location in question. The commission does not intend to specify one method over the other at this time so as to retain flexibility, but it does intend to expand its existing guidance on this subject. The format of this subsection was modified by combining paragraphs (1) and (2) with the text of the subsection in order to more closely parallel similar language for Risk Reduction Standard Number 2.

Regarding §335.554(e), formerly designated as subsection (d) of this section, the majority of the proposed text, including paragraphs (1) and (2), was relocated to §335.553(d) of this title (relating to Required Information). Comments regarding the relocated text are discussed in that section.

Regarding §335.554(f), formerly designated as subsection (e) of this section, one commenter requested an outline of the required elements of the report that is referenced in this subsection. This information is specified in §335.553(a) of this title (relating to Required Information). Two commenters requested a deadline for commission review of the report so as not to delay additional work at a site which would cause an unreasonable cost on industry. Suggested timeframes ranged from 30 to 180 days. The commission cannot agree to a specific time limit within which it will review these reports. The commission agrees that timely reviews

are desirable and will work towards this goal. No change was made to the language previously proposed.

Regarding §335.554(g), formerly designated as subsection (f) of this section, no comments were provided. The commission added the word "area" for clarification and consistency in that it is the "facility or area" for which attainment of this risk reduction standard can be demonstrated.

Sections 335.555-335.560 describe the criteria which must be attained and the conditions which must be satisfied in order for a person to achieve compliance with Risk Reduction Standard Number 2.

Section 335.555 describes the general criteria which must be attained in order to achieve compliance with Risk Reduction Standard Number 2 and these criteria are further described in §§335.556-335.560.

Respondents on §335.555 included: Amoco Oil Company; Baker & Botts/Beazer; Department of the Navy; Exxon Chemical Americas; FINA Oil and Chemical Company; Geraghty & Miller, Inc.; Groundwater Services, Inc.; IT Corporation; KOCH Refining Company; Texas Eastman; Porter & Clements; Shell Oil Company; Shell Pipe Line Company; Texas Mid-Continent Oil and Gas Association; Texas Chemical Council; and Union Carbide Chemicals and Plastics Company.

Two commenters felt that, in general, Risk Reduction Standard Number 2 cleanup requirements are too strict as a result of utilizing compounding conservative exposure assumptions that exceed the reasonable maximum exposure (RME) suggested by EPA guidance. One of these commenters suggested the use of quantitative probabilistic methods, such as Monte Carlo Analysis, as an alternative method to determine cleanup levels. The TWC acknowledges that the specified methods to determine cleanup levels in this section do represent a conservative estimate of what is necessary to protect persons at the upper end of the exposure distribution, but this approach is a necessary trade-off to define self-implementing, easy-to-review procedures: Risk Reduction Standard Number 3 offers a more flexible approach, but still within prescribed limits, for assessing risks and determining cleanup levels. The TWC has committed to revise these rules in response to reviews of new or evolving ways to characterize risk.

In regard to §335.555(b), numerous commenters questioned the requirement to remove all waste and waste residues from the waste management unit (WMU) undergoing closure. As noted previously regarding the definition for "remove", some changes were necessary to rectify an apparent discrepancy between the definition of remove, the language of Risk Reduction Standard Number 2 as stated in §335.8(b)(2)(B), and the required actions to attain this standard as stated in this section. Further, some commenters noted that the proposed language in this section would require the removal of large quantities of minimally contaminated materials from such units as stormwater ponds and raw water clarification basins. Such units tend to accumulate particulate residues that are soil-

like in composition. According to the respondents, removal of such materials seemed to be contrary to the concept of determining appropriate action based upon the risk posed by the materials.

We have addressed this inconsistency by requiring hazardous waste and hazardous waste residues to be removed while allowing media that have become contaminated by releases from a hazardous waste management unit to be removed or decontaminated to the cleanup levels specified for Risk Reduction Standard Number 2. Differentiation of requirements for non-hazardous waste is specified in §335.555(c), also in response to these comments. Additionally, unauthorized discharges of hazardous waste must be removed. In practice, the commission envisions removal to apply to the hazardous waste that is physically separable from the underlying media, as might occur in spill response situations. Where hazardous waste is dispersed within the contaminated media, decontamination processes can be applied to attain the cleanup levels specified or referenced by this section. These revised requirements further specify that contaminated design and operating system components such as liners, leachate collection systems and dikes must be removed, in contrast to the proposed requirement that such components could be removed or decontaminated. This change reflects the deletion of these items from the definition of contaminated media and, further, conforms with the intent of EPA's modified closure-by-removal approach as described in the March 19, 1987, preamble to a final rule on interim status closure requirements (52 FedReg 8704).

Regarding §335.555(c), the original subsection describing treatment processes was moved to §335.553(c) (relating to Required Information) so that it will apply to all three risk reduction standards. In its place we have specified that non-hazardous waste and media that have become contaminated by discharges of non-hazardous waste or other contaminants must be removed or decontaminated during closures or remediations to the cleanup levels determined for Risk Reduction Standard Number 2.

Regarding §335.555(d), commenters noted, here and in §335.559, that Risk Reduction Standard Number 2 does not define groundwater, as does Risk Reduction Standard Number 3 (§335.563(h)), in terms of a current or potential source of drinking water. This subsection identifies groundwater as an example of contaminated media of concern and is not intended to provide additional definitions. This comment will be discussed in more detail regarding §335.559(h). Paragraph 2 of this subsection was modified in a manner similar to Risk Reduction Standard Number 1 in that the requirements for sampling and testing of contaminated media and the comparison procedures for demonstrating attainment of the cleanup levels were moved to §335.553(d) (relating to Required Information). Comments concerning these requirements were discussed previously.

Regarding §335.555(e), a commenter questioned the timing of the deed certification being filed in county records prior to review and

approval by the executive director of the report demonstrating attainment of the risk reduction standard. Another commenter addressed removal of the deed record if at a later time a Risk Reduction Standard Number 1 cleanup could be demonstrated. Another commenter raised several issues, including potentially serious consequences on the marketability of property and the authority of the commission to require deed recordations. The changes made to this subsection and subsection (f) of this section were in response to the first comment. Rather than filing a deed certification without benefit of commission review and approval and possibly having to do a second filing, the person is now instructed to submit a document as part of the final report that he intends to use for this purpose.

Regarding §335.555(f), requests were made to clarify the requirements of the report required by this subsection and for the commission to commit to a reasonable response time (e.g., 90-180 days) to review the report. The required contents of the report are specified in §335.553(a) of this title (relating to Required Information) so additional clarification is not necessary at this time. As noted earlier, the commission cannot agree to a specific time limit within which it will review these reports. The commission agrees that timely reviews are desirable and will work towards this goal. The change made to this subsection is a continuation of our response to comments regarding the timing of the deed certification. As noted previously, the report must include the document intended to fulfill the deed certification requirements for Risk Reduction Standard Number 2. Upon approval of the report by the executive director, the person then files the deed certification in the county records. The last step in demonstrating attainment of Risk Reduction Standard Number 2, as specified in §335.560 of this title (relating to Post Closure Care and Deed Certification for Risk Reduction Standard Number 2), is to submit proof of deed certification. This is accomplished by submitting a notarized copy of the deed certification consistent with existing practice of the commission.

Section 335.556 describes the procedures to be used to determine cleanup levels for Risk Reduction Standard Number 2.

Respondents on §335.556 included: American Industrial Health Council; Cooper Industries; Exxon Chemical Americas; IT Corporation; Merichem Company; and Texas Mid-Continent Oil and Gas Association.

Regarding §335.556(a), a commenter stated that the reliance upon standards, particularly the drinking water maximum contaminant level (MCL), is inappropriate in that this approach, among other things, does not take into consideration the effects of attenuation by soils as contaminants migrate to a point of exposure. The commenter opined that such cleanup levels cannot realistically be viewed as risk-based, but instead are rather arbitrary. The commission disagrees with this last point since our approach has been to develop cleanup standards using quantitative human health-based risk assessment procedures only where we lacked a promulgated standard which was well-suited for use as a

cleanup level. The commission considers MCLs appropriate as cleanup levels in a number of situations. Risk Reduction Standard Number 2 assumes uncontrolled future land use such that the point of exposure, such as a drinking water well, could be placed in the center of the closed unit or remediated area. Under this scenario, there would not be an opportunity for attenuation of contaminants in the lateral direction of groundwater movement, hence the approaches for defining cleanup levels under Risk Reduction Standard Number 3 are not appropriate for use and cleanup levels therefore must be protective throughout the site. The commission has clarified the language of this subsection to reflect that these procedures for determining cleanup levels are intended for individual contaminants and that if promulgated standards are not available or do not provide appropriate protection for human health or the environment, then other numeric criteria must be developed as cleanup levels.

The potential for the downward migration of contaminants from soil to groundwater is addressed under Risk Reduction Standard Number 2 and several options are available for use, as specified more fully in §335.559 of this title (relating to Medium Specific Requirements and Adjustments for Risk Reduction Standard Number 2). Other commenters suggested that alternative methods or assumptions be allowed to determine cleanup levels. The commission is not prepared at this time to offer additional flexibility for the types of information necessary to develop cleanup levels under Risk Reduction Standard Number 2 in a self-implemented fashion. Within prescribed limits, use of alternative values and methods is currently available under Risk Reduction Standard Number 3, subject to review and approval by the commission. As the staff of the commission gains experience with these risk reduction standards over time, the commission will review the general procedures for establishing numeric cleanup levels and propose whatever alternative procedures are warranted for incorporation into revised versions of these regulations.

Regarding §335.556(b), commenters agreed with the need to evaluate other exposure pathways in addition to those pathways specified for Risk Reduction Standard Number 2, but pointed out that these rules do not provide specific guidance as to how this evaluation should be done. The commission recognizes this as a need of the regulated community and has added language directing persons to available guidance or scientific literature in developing cleanup levels. The great range of potential environmental receptors and the site-specific nature of other human-health based exposure pathways precludes the use of standardized procedures as was done for the medium-specific concentrations (MSCs). The commission recommends starting with the EPA's *Environmental Evaluation Manual* (EPA/540/1-89/001) and *Ecological Assessments of Hazardous Waste Sites: A Field and Laboratory Reference Document* (EPA/600/3-89/013).

Additional language was added to this subsection to add emphasis to the requirement to consider environmental receptors. One

commenter recommended limiting Risk Reduction Standard Number 2 to human health considerations only. The commission strongly disagrees with this suggestion. While the commission believes that levels protective of human health will in many instances also be protective of the environment, evaluations must be made, and additional remediation must be performed, in those instances when this is not the case. Also, the commission clarified that the exposure pathways are those that are defined or referenced in this section (§335.556). The proposed language was unclear by stating "the following sections" which could be interpreted to mean sections for Risk Reduction Standard Number 3. Lastly, the language of subsections (c), (d), and (e) was clarified by adding "The person must..." to indicate who must perform these functions.

Section 335.557 describes the criteria which determine whether non-residential soil requirements under Risk Reduction Standard Number 2 may be used for the closure/remediation of a facility or area.

Respondents on §335.557 consisted of Colonial Pipeline Company, which suggested that government controlled property, such as wetlands under the control of the United States Army Corps of Engineers, should be considered for non-residential soil requirements. The commission disagrees with this comment because of the specific reference to wetlands. For this type of land, the commission would expect cleanup levels to be governed by environmental receptors and hence inadequately protected by the non-residential worker exposure scenario. The commission has deleted language regarding additional notifications as part of the deed certification. This change was necessary to conform with changes in the model deed certification language of Appendix III, to be discussed in more detail later.

Section 335.558 describes the processes and equations which will be used to determine medium specific concentrations which are the starting point in the establishment of cleanup levels under Risk Reduction Standard Number 2.

Respondents on §335.558 included: American Industrial Health Council; Colonial Pipeline Company; Department of the Air Force (Kelly AFB); Exxon Chemical Americas; Geraghty & Miller, Inc.; Harcross Chemical Group; Shell Oil Company; and Texas Mid-Continent Oil and Gas Association.

Regarding §335.558(b), commenters generally did not support the use of the strict risk levels of (10E-6 or 0.000001) for Class A and B carcinogens and (10E-5 or .00001) for Class C carcinogens. The change generally recommended by the commenters was to adopt a risk range as was done in Risk Reduction Standard Number 3. Some commenters expressed the view that the use of a rigid 0.000001 risk level, when combined with the compounding effects of conservative exposure assumptions, results in a cleanup level that is overly stringent and might even compel cleanups to essentially background levels, resulting in excessive expenditures that produce little improvement in environmental protection. Commenters also noted

that the preamble to the proposed rule did not state the risk values. Regrettably, those values, which were expressed in scientific notation, were omitted from the text but did appear in the rule section. The risk range for Risk Reduction Standard Number 3, 10E-6 (0.000001) to 10E-4 (0.0001), which is consistent with the National Contingency Plan, is from one excess cancer case in a population of 1,000,000 to one excess cancer case in a population of 10,000. The commission believes that the strict risk levels established for Risk Reduction Standard Number 2 are appropriate given the self-implementing nature of the standard and that no post-closure care is required.

Regarding the specific algorithms (Equations 1, 2, 3, and 4) presented in this section, commenters generally took exception with the use of default exposure assumptions and requested the use of more site-specific values. For the reasons stated previously in this preamble, the commission is not prepared at this time to allow modifications to the default exposure assumptions. Some amount of site specificity can be introduced into Risk Reduction Standard Number 2 in the next section (§335.559, relating to Medium Specific Requirements and Adjustments for Risk Reduction Standard Number 2). Another alternative is to provide site-specific information in the manner specified for Risk Reduction Standard Number 3. Consequently, the commission is not making any additional changes to the text previously published for subsections (b) and (c) of this section. The format was changed by moving subsection (d) of this section to §335.553(e) of this title (relating to Required Information) to make it applicable to both Risk Reduction Standard Numbers 2 and Number 3. Former subsection (e) has been redesignated as subsection (d) of this section without making any additional changes to the text previously published.

One commenter did suggest that the commission ought to carefully survey the range of established and soon to be proposed or promulgated regulatory standards in order to ensure that Subchapter S criteria are not in significant conflict with criteria and limits established under other regulatory programs. The commission anticipates doing this survey as part of the annual revision of Appendix II. Comments on individual chemicals will be discussed in §335.568 of this title (relating to Appendix II).

Section 335.559 specifies requirements that can define or modify numeric cleanup levels such as MSCs and can also require non-health based concerns to be addressed.

Respondents on §335.559 included: American Industrial Health Council; Baker & Botts/Beazer; Colonial Pipeline Company; Crain, Caton & James; Department of the Air Force (Brooks Air Force Base); Department of the Navy; Department of the Air Force (Kelly Air Force Base); ENSR Consulting & Engineering; EXIDE Company; Exxon Chemical Americas; FINA Oil and Chemical Company; Geraghty & Miller, Inc.; Groundwater Services, Inc.; IT Corporation; Porter & Clements; Shell Oil Company; Texas Chemical Council; Texas Mid-Continent Oil and Gas Association; and Union Carbide Chemicals and Plastics Company.

Regarding §335.559(b), several commenters questioned the use of MCLs as a criteria for surface water quality, particularly if the surface water was not suitable as a human drinking water resource. The commission recognizes that this situation is likely to exist and has clarified its intentions by substituting the word "appropriate" for "applicable" in relation to MCLs. We believe, however, that the respondents have misunderstood the requirements of this subsection. The first sentence defines the quality of runoff or of overland discharge which determines the necessity for conducting soil or groundwater remediation. The second sentence speaks to the effect that any discharge from the area to a surrounding surface water body can have on that surface water body. Another commenter raised the concern that cleanup levels required by this section could be lower than permitted discharge limits for the same substance at the same location. As a regulatory matter, this concern bears out the difference in handling of authorized versus unauthorized discharges, and, similarly, controlled versus uncontrolled situations. The second sentence specifically states that a discharge may be subject to the permitting requirements of Chapter 305 or other authorization from the commission. The discharge limits established in any such permit for the facility or area would define authorized levels of contaminant discharge. Finally, a commenter sought guidance as to whether the commission meant these requirements to apply to total concentrations or dissolved concentrations of contaminants in surface water. The commission makes no distinction in this case, as contaminant transport could occur in both situations and should be evaluated on a contaminant and site-specific basis.

Regarding §335.559(c), one commenter suggested revisions to this subsection to clarify references to federal and state requirements which appeared to be confusing and incomplete as originally stated. After conferring with the Texas Air Control Board, the commission made the suggested revisions.

Regarding §335.559(d), the commission will first point out the format change in that the groundwater requirements that had been in subsection (g) have been relocated to subsection (d) so that the order of presentation of media requirements more closely follows the order of Risk Reduction Standard Number 3. Placement of the discussion for soil cleanup levels last in this sequence is appropriate since soil cleanup levels are established in part upon a consideration of what contaminant concentrations can remain in soil and still be protective of the other media. The discussion of comments on groundwater requirements follows.

Several commenters questioned the use of the Maximum Contaminant Level (MCL) as the cleanup level, noting that this value is meant to be applied to water drawn at the tap and that it does not account for attenuation that could occur in the subsurface soils. Another commenter added that MCLs are set for a compound group based on the more toxic or soluble properties of one compound and are therefore overly protective for that compound group. The commission again points out that one of the assumptions of Risk Re-

duction Standard Number 2 is that direct exposure could occur at the facility or area. A water well installed in the groundwater zone in question would be delivering this water to the tap and must therefore be afforded the same level of protection as regulated supply systems. Hence, the commission will retain the MCL as appropriate for use in Risk Reduction Standard Number 2.

Other commenters requested that the standard be revised to allow the potential use of groundwater at a location to be determined in a manner similar to Risk Reduction Standard Number 3, and others requested an MSC based on non-residential exposure rates. In taking these comments into account, the commission has developed parallel requirements for residential and non-residential exposure situations and presents these as new paragraphs (1) and (2), respectively. Former paragraphs (1) and (2) are now renumbered (3) and (4), respectively. Much of the originally proposed requirements for groundwater are retained in paragraph (1). The statement regarding phase-separated non-aqueous liquids has been clarified to reflect the need for action to be applied in a manner consistent with the removal or decontamination requirements of this standard. One commenter questioned whether the requirements apply to dissolved or total concentrations of the contaminant. The original language specifies dissolved concentrations.

New paragraph (2) addresses non-residential exposure situations. Much of this language has been moved from proposed subsection (f)(2) (now (g)(2)) of this section. One commenter questioned why no adjustment was applied to MCLs when MSCs could be adjusted by factors of 3.36 or 2.8 for carcinogens or systemic toxicants, respectively. The federal government takes into account the effectiveness and cost of treatment as well as health effects when setting MCLs. The final value of an MCL often is not at a target risk of 0.000001; some equate to a target risk of 0.0001. Thus, an MCL in many cases would be less stringent than the corresponding MSC calculated for the same compound. Therefore, the commission believes sufficient relief already exists in many MCLs such that no additional adjustments are being considered at this time. The commission had previously proposed that the groundwater cleanup levels for non-residential exposure would be the same as for residential exposure because of the concern of migration of contaminants to off-site receptors at levels not protective of residential exposure. In allowing this adjustment in this final rule, the Commission has added a requirement that persons must demonstrate that the quality of groundwater at the facility property boundary will be protective for residential exposure. This provision therefore will allow for some consideration of contaminant attenuation, as several commenters had suggested. Lastly, the requirement addressing phase-separated non-aqueous liquids is modified slightly to account for non-residential settings.

New paragraph (3) addresses the adjustment allowable for groundwater with naturally occurring high salinity. Commenters did not question the adjustment per se, rather, they sought resolution of the issue of subsequent

adjustments to soil concentrations being prohibited by this paragraph. In response to this concern, the commission has removed this restriction from this paragraph and modified the requirements for soils to address residential and non-residential soil-to-groundwater cross-media protection concentrations separately. These modifications will be discussed below in the subsections regarding soils.

Regarding §335.559(e), previously designated as subsection (d) of this section, one commenter thought that the requirement for soils remaining in place to not exhibit the hazardous waste characteristics of ignitability, corrosivity, or reactivity was overly restrictive. The scenario described in the comment concerned releases from a landfill. As this type of situation would require evaluation under Risk Reduction Standard Number 3 (a hazardous waste landfill can not be closed and remain in place under Risk Reduction Standard Number 2), the commission will retain this requirement. Numerous comments focused on the requirement imposing a limitation of 1000 ppm on total volatile organic compounds in soils. Commenters questioned its apparent arbitrary nature and whether it had a rational basis and suggested that it be removed entirely or be modified. Other comments suggested that the commission identify a specific analytical method or approach to be used to determine and analyze total volatile organic compounds. Also, if this requirement is maintained, should it apply to each volatile compound individually or to the total for all volatile compounds? The commission found the suggestions of one commenter to be particularly convincing and modified this requirement accordingly. The subsection has been revised to reflect that the limiting factor is the sum of the concentrations of volatile organic compounds in the vapor phase in soil rather than the sum of the total concentrations. Methods of analysis and calculation have been added for clarification.

Regarding §335.559(f), previously designated as subsection (e) of this section, commenters questioned whether soils buried at some depth, perhaps 5 or 10 feet deep, should have to address the same criteria as soils at the surface where direct exposure via ingestion and inhalation of vapors and particulates is more probable. One commenter argued that exposure to subsurface soils is more likely to occur in industrial settings via workers in excavations and that the subdivisions of the soil column into surface and subsurface soils should be applied to the residential soil criteria instead of the non-residential soil criteria. Others suggested the soil columns should be divided for both settings. Another commenter suggested stopping the soil requirements at the water table. The commission disagrees with some of these interpretations of the intent of this paragraph for two main reasons. The first reason is that commenters appear to have limited the land use to residential (in the sense of a family residence) largely from a literal reading of the term. The commission's intent is for residential criteria to be protective of any future uncontrolled land use, not just human habitation. Under this broader interpretation, no controls would be imposed on any activity, which could include excavations deeper than

the two feet of surface soil. Secondly, the use of the soil MSC serves as an upper limit on soil concentrations when the option to develop the soil-to-groundwater cross-media protection concentration of paragraph (2) of this subsection is used in place of the default method of paragraph (1). For these reasons, the commission has retained these requirements for residential soils as previously proposed. Clarifications were made to identify subsection (e) as being in this section, and to differentiate between the residential and non-residential soil-to-groundwater cross-media protection concentrations.

Paragraphs (1) and (2) of this subsection provide options for determining the soil-to-groundwater cross-media protection concentration. The method provided in paragraph (1) received numerous comments that questioned whether the selection of 100 as the dilution attenuation factor was based on sound science. Commenters pointed out that it is a conservative estimate that fails to take into account site- and chemical-specific factors. The commission acknowledges the concerns of the commenters and recognizes that such an approach sacrifices case-by-case specificity for ease of implementation. Some commenters noted that the method of paragraph (1) seems to account for dilution and attenuation whereas the method stated in paragraph (2) does not. The default value of 100 times the groundwater concentration is not used here as a true dilution-attenuation factor, as it is merely a multiplier to generate a concentration of the contaminant in soil, not in a leachate. Consequently, the suggestion that applying a 100 times multiplier to the leachate concentration of paragraph (2) as equal treatment allowable under paragraph (1) is not valid. The commission points out that these rules provide persons with considerable flexibility in defining this cleanup level through use of the alternative method of paragraph (2) or other test method subject to prior approval. This flexible approach did receive some favorable comments. Therefore, the commission retains the method of paragraph (1) and is receptive to alternative testing protocols under the provisions of paragraph (2).

Note that under paragraph (1) of subsection (f) the Residential Soil-to-Groundwater Cross-Media Protection Concentration is determined by multiplying the residential groundwater cleanup level determined by the procedures of paragraph (1) of subsection (d) by 100. These rules for residential soil do not allow the increase in groundwater cleanup levels due to high total dissolved solids content allowed in paragraph (3) of subsection (d) of this section to be taken into account when determining the Residential Soil-to-Groundwater Cross-Media Protection Concentration.

Regarding §335.559(g), previously designated as subsection (f) of this section, commenters questioned the manner in which the commission applied the various criteria to non-residential surface and subsurface soils. One commenter felt that non-residential surface soils should not be subject to groundwater protection criteria. The commission has revised the non-residential soil-to-groundwater cross-media protection concentration and adjustments such that this value

will need to be considered along with the soil MSC in determining cleanup levels of surface soils. The same commenter was incorrect in stating that subsurface soils must be compared to the non-residential soil MSC. This is required of surface soils only. Even so, another commenter felt that the soil MSC should not even be applied to soils at two feet in depth, the defined limit of surface soils. In contrast, another commenter felt that there should not be any subdivision of the soil column, as workers could be exposed in excavations deeper than two feet. The commission has retained the language as previously proposed and notes that other federal programs address workplace safety and short-term exposure situations. However, the commission did revise the first sentence of this subsection to clarify a requirement that previously appeared to apply only to surface soils. It is the commission's intent that the requirements of subsection (e) of this section apply to both surface and subsurface soils.

Paragraph (2) received comments similar to paragraphs (1) and (2) of subsection (f) regarding use of the 100 times multiplier and leachate or other testing to develop the soil-to-groundwater cross-media protection concentration. The commission's response to comments on those subjects is the same and will not be repeated here. Additional comments on this subject include an observation that the default approach could result in values that are below background and that additional guidance is needed on the performance of the leach test with regard to number of samples, replicate analyses, etc. The commission points out that §335.555(d)(1) gives instructions on the comparison of cleanup levels and background levels to demonstrate attainment of Risk Reduction Standard Number 2, and §335.553(d) gives limited guidance on sampling requirements. Some conforming changes were made to address the revisions to subsection (d) of this section regarding groundwater cleanup levels. The language describing adjustments to account for differences in exposure rates between residential and non-residential settings was relocated and revised as a new paragraph (2) of subsection (d). In its place is a reference to subparagraphs (A) or (B) for defining the soil-to-groundwater cross-media protection concentrations. Subparagraph (A) is clarified by applying the 100 times multiplier to the non-residential groundwater cleanup values of either paragraph (2) (based on industrial exposure rates, except MCLs) or paragraph (3) (the saline water adjustment for industrial MSCs and MCLs) of subsection (d) of this section. These changes therefore allow adjustments to soil concentrations for non-residential locations underlain by saline groundwater. Subparagraph (B) remains unchanged from the text previously published. One commenter asked if other test methods, in regard to the standard leach test, allow for the measurement or calculation of such values as fractional organic carbon content of soil, octanol-water partition coefficients, fractional organic carbon content of soil and inorganic distribution coefficient values. Such an approach is not prohibited by this subparagraph but it must be submitted for review and approval prior to utilization under Risk Reduction Standard Number 2.

Regarding §335.559(h), one commenter, writing in general terms concerning the entire subchapter, requested that the commission establish a Total Petroleum Hydrocarbon (TPH) and Benzene, Toluene, Ethylbenzene and Xylene (BTEX) performance standard consistent with that of the commission's Petroleum Storage Tank program in those situations when the person can verify, through process knowledge, that the closure or remediation of concern is related solely to a release or spill of a petroleum substance. This comment has been described previously in this preamble under the discussion for the new §335.553(f) (relating to Required Information). The only other comment on this subsection dealt with the concern that secondary MCLs, which are based on aesthetic considerations, would automatically be applied to remediations and thereby have a major impact on the cost and feasibility of corrective action programs. The commenter suggested that the commission retain the option to exercise discretion regarding the application of such additional criteria to individual sites. The commission agrees with this comment and revised the language to read "may be utilized" instead of "shall be utilized". Additionally, the commission added "environmental receptors" to be consistent with the requirements of §335.556(b) of this title (relating to Determination of Cleanup Levels for Risk Reduction Standard Number 2).

Section 335.560 establishes the deed recordation and post-closure care requirements which a person must perform in order to attain Risk Reduction Standard Number 2.

Respondents on §335.560 included: Department of Air Force (Kelly Air Force Base); Exxon Chemicals Americas; Exxon Company USA; FINA Oil and Chemical; Groundwater Services, Inc.; Shell Pipeline Company; Texas Chemical Council; and Texas Mid-Continent Oil and Gas Association.

Commenters questioned many aspects of this section. Will deed recordation have serious consequences on the marketability of the property? What is required in those instances when the responsible person is not the property owner? What is the commission's legislative authority to require such deed recordation, particularly with regard to spills and unauthorized discharges? If the commission's risk reduction standards are protective of human health, why does it want such deed recordation? Can any negative consequences be reduced by making changes to the proposed model language? Are there timing problems with the requirement to certify closures preceding the review and approval of the final report by the commission? Should the model language allow consolidation of multiple closures at a site into a single document? Can the deed recordation be removed if the contamination degrades over time to background levels?

In response to these comments, the commission has made numerous revisions to the requirements of this section as well as to the model deed certification language of §335.569 of this title (relating to Appendix III). It is the commission's intent to have persons provide notice to future land owners so that they can have knowledge of the condition of

the land. When so advised, they can obtain more information based on the instructions in the notice. This will be done in a manner similar to the current practice by the commission of requiring deed recordation for disposal sites (including storage and processing units and areas of unauthorized disposal closed as landfills) in accordance with §335.5 of this title (relating to Deed Recordation of Waste Disposal). We have made specific changes in the wording of the document to be placed in the county deed records. After consideration of the comments, the commission has also revised some of the specific requirements of this section. Changes to the model deed certification language of Appendix III will be discussed later.

Regarding §335.560(b), previously designated as subsection (c) of this section, commenters noted that the timing of the deed certification requirements and the final report requirements of §335.555 of this title (relating to Attainment of Risk Reduction Standard Number 2) could cause the certifying person to attest to actions and make conclusions without certainty that closures or remediations were carried out in accordance with commission regulations. Under the proposed rules, it would appear that in many cases, commission approval of the final report would still be pending when the deed certification was required to be filed in the county records. This sequence of actions would be burdensome on both the commission and the facilities. The facilities would be at risk of having to perform a second filing if the final report was not approved and additional closure or remediation had to be performed. This type of situation is of concern to the commission; consequently, the sequence of required actions has been revised. Former subsection (c) has been redesignated as subsection (b) and the language was modified to reflect that the proof of deed certification is required 90 days after acceptance of the final report by the executive director. In this manner, if additional actions are required of the person, they will be completed before the deed certification is filed and a second filing should be avoided.

Paragraph (1) of subsection (b) of this section was revised in response to comments that the commission appears to have gone beyond what is necessary to inform any future buyer of the presence of the past cleanup activities. Rather than stating that the closure or remediation was carried out in accordance with applicable regulations and appropriate guidance, and resulted in a remedy, the language now states that the plan designed to meet Risk Reduction Standard Number 2 was carried out. Paragraph (3) of subsection (b) of this section was also revised to provide new language stating that current and future owners must undertake actions as necessary to protect human health and the environment in accordance with the rules of the commission. References to specific reporting actions in response to a change in land use from non-residential to residential have been deleted from this paragraph, the model deed certification language and §335.557 of this title (relating to Criteria for Selection of Non-Residential Soil Requirements for Risk Reduction Standard Number 2), and the parallel requirement for deed certification in §335.566(c) of this

title (relating to Deed Recordation for Risk Reduction Standard Number 3).

Regarding §335.560(c), former subsection (b) has been redesignated as subsection (c), and additional language is added to clarify the sequence of requirements which were partly addressed in the discussion of changes to subsection (b) of this section. As newly stated, the person is released from post-closure care responsibilities "upon acceptance by the executive director of the proof of deed certification required by subsection (b) of this section."

Several other commenters expressed concerns about applying these deed certification requirements to spills. This action was viewed as burdensome when responding to small, numerous, and frequent spills, as in a manufacturing area. One commenter questioned the commission's legal authority to require deed certifications of spill cleanups, particularly if the person certifying does not own the land in question. Another commenter asked how the federal government can apply the recordation of property under deed restrictions for land on federal property. Multiple spills could be handled in a single certification in the same manner as multiple units or areas can be combined for purposes of reporting to the commission in response to §335.8(c)(4) of this title (relating to Closure and Remediation).

The commission believes that many of the commenters' concerns regarding small and multiple spills will be addressed in the forthcoming rulemaking for the Spill Response program. However, once a spill becomes subject to these risk reduction rules, the requirements for deed certification are applicable to the person if he conducts the activity under Risk Reduction Standards Numbers 2 or 3. Please note that the commission is not forcing the person to deed-certify the property since the person always has the option to close/remediate in accordance with Risk Reduction Standard Number 1, which does not require deed certification. For dealing with the issue of imposing a deed certification on the property owned by another person, the commission suggests that the responsible person close/remediate in accordance with Risk Reduction Standard Number 1, thereby eliminating the need to deed certify. Concerns that imposing a deed certification on the person's land or land owned by another will devalue the property is also of concern to the commission. It is for this reason that the commission proposed this model language to begin with. When one considers the historical practice and historical model language that merely describes the property as having been used for disposal of waste, one should conclude that the proposed deed certification language is an improvement. The new language reflects that the property has been cleaned up to some acceptable level. This notice should not devalue a property in the same way the historical language would by referencing use of the property for waste disposal.

With regard to the comment that the proposed language appears to go so far as to constitute an affirmative warranty about the condition of the property and the suitability of the property for certain purposes, the com-

mission has revised the model language of Appendix III to include a statement that the deed certification is not a representation or warranty by the commission of the suitability of the land for any purpose, nor does it constitute a guarantee that the remediation standards have been met. The statements about future land use have been retained but modified so as not to be an affirmative warranty by adding the qualifying word "considered". Other changes not previously discussed here were made to conform to the suggested language provided by one of the commenters.

Sections 335.561-335.566 describe the criteria which must be attained and the conditions which must be satisfied in order to achieve compliance with Risk Reduction Standard Number 3.

Section 335.561 describes the remedy selection criteria which will be used to determine what actions a person must take in order to achieve compliance with Risk Reduction Standard Number 3.

Respondents on §335.561 included: Cooper Industries; Department of the Air Force (Kelly Air Force Base); Exxon Chemical Americas; and TransAmerican Waste Industries, Inc.

One commenter stated strong support for the flexibility provided in the proposed rule and recommended that this flexibility should be preserved to allow consideration of site-specific exposure and algorithms and data evaluation procedures that differ from Risk Reduction Standard Number 2 if they can demonstrate more satisfactory methods. Another commenter requested that probabilistic techniques be specified for use, such as Monte Carlo simulation for ranges of exposure values. This section has not been modified from the proposed rule. The degree of flexibility under this standard regarding site-specific exposure parameters and exposure algorithms has been discussed in the previous section regarding §335.553 (relating to Required Information). The discussion for §335.553 also explains the commission's rationale for not incorporating Monte Carlo and other quantitative probabilistic risk assessment methods into the decision-making process for Risk Reduction Standard Number 3. Revisions to the data evaluation procedures, as has been discussed previously in §335.553 of this title (relating to Required Information), allow persons to propose alternative statistical procedures for any of the risk reduction standards.

Regarding §335.561(a), another commenter expressed concern over the broad discretion of the commission's staff in deciding whether to approve or disapprove a proposed remedy and offered suggestions concerning due-process rights to appeal such decisions to higher authority. Another commenter felt the phrase "in the evaluation of the executive director" was too elusive and may create unnecessary delays or misunderstandings. In response to these concerns, the commission points out that due process rights of appeal already exist in the various regulatory programs which would apply these rules. This has been discussed previously in this preamble. As for the mechanisms by which the staff of the commission communicates its evaluations, this is similarly handled by existing pro-

cedures in the various regulatory programs. It is the commission's intent and normal practice that such decisions be communicated in writing. The commission has added statements to clarify the sequence of events necessary to demonstrate attainment of this standard in addition to what had been previously proposed, to include submittal of a final report, initiation of any post-closure care, and lastly, completion of deed recordation requirements. This listing of requirements makes this section conform more closely with the approach taken in §335.555 of this title (relating to Attainment of Risk Reduction Standard Number 2).

Regarding §335.561(b), a commenter suggested that the last word of this sentence, "possible", be replaced with the phrase "that is feasible at a site", noting that the phrase was used in the preamble, that the term "feasible" takes more factors into account than the word "possible", and that use of the phrase coincides with the analysis in subsection (c) of this section regarding cost-effectiveness. The commission has retained the language as it was previously proposed. This subsection requires the highest degree of long-term effectiveness possible, if a permanent remedy is not practicable. We disagree that use of the word "possible" in this context will preclude other site-specific considerations, because the remedy evaluation process must be viewed in its entirety, not just its component requirements. In this regard, readers should note that subsection (a) of this section indicates that compliance with this standard is attained when "... the person recommends the remedy which best achieves the requirements of subsection (b)-(d) of this section . . ." Thus, the remedies are to be compared to each other to determine which one "best achieves" all of the requirements. More specifically, a remedy or remedies considered to achieve the highest degree of long-term effectiveness possible for a given closure or remediation could be modified or eliminated from further consideration when the test of cost-effectiveness of subsection (c) is applied. We believe the same end result will be reached that the commenter described, but in going through the remedy evaluation process, we do not want persons to eliminate potential remedies without first giving due consideration to all of the criteria.

Regarding §335.561(c), several commenters discussed and emphasized the role that cost considerations should play in the remedy evaluation process. Another commenter questioned why the "regulatory community" would be interested in cost considerations and what importance it would place on the cost of a remedial effort. The commission has identified the role of cost-effectiveness to be an important one in the remedy selection process. The commission believes that the language in the rule as explained in the preamble for the proposed rule describes the proper relationship between long-term effectiveness and cost-effectiveness. The language from the preamble is repeated in the following two paragraphs and it has been modified to reflect that this is a final rather than a proposed rule.

The second requirement for a Standard 3 remedy is that it must be cost-effective. The

text of the rule describes a cost-effective remedy as one that achieves the best balance between long-term effectiveness and cost for alternative remedies which meet the cleanup objectives for a facility. Unless the executive director requests additional information, the person would only describe in the corrective measure study that remedy which he believes best meets the remedy selection criteria. The rule requires the person's selection to be based upon an evaluation of the relative abilities and effectiveness of potential remedies to achieve the remedy requirements. The consideration of a range of alternatives would not need to be included in the corrective measure study unless requested by the executive director. The commission does not expect to request such information in those instances where the person proposes a high quality remedy with a high degree of long-term effectiveness.

Section 335.553 states that the executive director may upon review of the corrective measure study require the person to further evaluate the proposed remedy or to evaluate one or more additional remedies. When necessary, the commission may require a more extensive cost-effectiveness evaluation as part of this additional information. This evaluation would consist of a range of alternatives which vary in degree of long-term effectiveness but which will all achieve the site remediation objectives. The alternative which achieves the site remediation objectives at the lowest cost would be identified and represents the bottom value for the cost-effectiveness evaluation. The cost of the permanent remedy would also be determined and would represent the ceiling for the cost-effectiveness evaluation. The total cost for the other alternatives would be determined and all alternatives would be ranked according to the degree of long-term effectiveness they provide. The remedy that provides the best balance between long-term effectiveness and cost would be the most cost-effective.

On a closely related subject, a respondent stated in regard to §335.562(g) (relating to Costs), which describes the types of cost that will be considered when evaluating remedies, that the commission should add as an evaluation factor the financial condition of the person responsible for conducting the closure or remediation and his ability to absorb the expense for the action. The commission has not modified this rule in response to the commenters suggestion. The commission believes that the procedure previously described establishes the proper fashion in which cost-effectiveness and long-term effectiveness should be considered. The commission believes that the appropriate way to implement this regulation is to determine what actions are necessary to protect human health and the environment and that neither more stringent nor less protective measures should be applied based upon a person's ability or inability to fund the action.

Another commenter suggested that costs associated with the "no action" alternative be added as there may be cases where this is the best option for a site. Yet another commenter thought that the "no action" alternative had not been considered as part of

these rules. The "no action" alternative is addressed in §335.553(b) of this title (relating to Required Information). Under this section (§335.561), the "no action" alternative would be evaluated as any other type of remedy being considered for inclusion in the corrective measures study; therefore, it has not been identified separately in this section.

No specific comments were offered regarding §335.561(d), although some suggestions were made to restructure Risk Reduction Standard Number 3 along lines of media cleanup requirements and the post-closure care requirements. The "no action" alternative would fit into the category of remediation that does not require post-closure care, under the rules being finalized today and according to the commenter's recommendation. At this time, however, the commission is not considering any further subdivisions of these risk reduction standards but will be receptive to suggestions if actual experience during implementation suggests that these finalized standards need revision. For this reason, the commission is not making any additional changes to the text previously published.

Section 335.562 describes the factors which persons must consider when evaluating the relative abilities and effectiveness of potential remedies to achieve the requirements for remedies under Risk Reduction Standard Number 3, which are described in §335.561.

Respondents on §335.562 included: EXIDE Company; Exxon Chemical Americas; Geraghty & Miller, Inc.; Texas Mid-Continent Oil and Gas Association; and TransAmerican Waste Industries.

Regarding §335.562(a), one commenter supported the remedy evaluation process for its streamlined approach in that costly and burdensome feasibility studies are not required. Another commenter suggested that the concept of "remedy" include an allowance for several different treatment, control, or natural remediation processes to be incorporated into a "remedy" to achieve desired cleanup goals. The commission agrees with this interpretation in that any combination of removal, decontamination, or control measures can be considered by these criteria. It is the best combination of measures satisfying these criteria that is proposed as the remedy to attain the requirements of Risk Reduction Standard Number 3.

Regarding §335.562(e), one commenter supported the commission's requirement to consider the short-term effects of remedies, particularly in instances where implementing a remedy poses more problems for acute exposure to workers or local population than it solves for chronic exposure.

Regarding §335.562(g), a commenter noted in a general way, in addition to the previous discussion about costs, that the commission should give equal consideration to cost of cleanup as it does to the level of protection being provided. The commenter also implied that the State will have to perform some cleanups in cases where excessive remediation costs will cause companies to fail and that other forced, unnecessary cleanups will result in negative economic impacts. The commission disagrees with this comment. We

believe these rules provide an appropriate balance between the need to provide long-term protection for human health and the environment and the need for remedies to be cost-effective. Also, as noted elsewhere, these rules do not "force" the cleanup, rather, they provide the means to define the closure or remediation performance standards once a statute or another rule, order, or permit of the commission requires the action.

No specific comments were provided for subsections (b), (c), (d), and (f) of this section; therefore, the commission has not changed the language proposed previously.

Section 335.563 describes the procedures that persons shall use in preparing and proposing media cleanup values to satisfy Risk Reduction Standard Number 3.

Commenters on §335.563 included: American Industrial Health Council; Cooper Industries; Department of the Air Force (Kelly Air Force Base); Exxon Chemical Americas; Geraghty & Miller, Inc.; IT Corporation; Shell Oil Company; Texas Chemical Council; Texas Mid-Continent Oil and Gas Association; Thompson & Knight; and TransAmerican Waste Industries, Inc.

Regarding §335.563(b), one commenter noted approval for the risk range specified for carcinogens but expressed concern that the use of 10E-6 (0.000001) target risk as a goal will, in practice, create a strict 10E-6 level of risk for Risk Reduction Standard Number 3. Other comments provided on the 10E-6 "brightline" approach of Risk Reduction Standard Number 2 could be directed at this provision as well; however, in the larger context of setting cleanup levels under Risk Reduction Standard Number 3 procedures, one should see that the development of a "brightline" approach in Risk Reduction Standard Number 3 is not our intent. For clarification of this issue, the commission is republishing the portion of the proposed rule preamble pertinent to this section. In essence, one starts with the goal of 10E-6 for an individual carcinogen but then modifies this "preliminary remediation goal" according to the criteria of subsection (d) of this section. The final cleanup levels should present a cumulative excess risk no greater than 10E-4.

Regarding §335.563(c), several commenters questioned the approach specified in paragraph (2) of this subsection for the hazard index when dealing with multiple systemic toxicants. One commenter expressed the view that the EPA recommends a hazard index of one for scoping purposes in the development of preliminary remediation goals but that in the final analysis a hazard index greater than one is not a cause for concern, only that additional investigation and evaluation are warranted. Another commenter suggested that the approach as specified here does not clarify that hazard indices can be calculated that cumulatively equal one for only those substances with the same toxic endpoint. Further, the commenter suggested allowing a range of one to ten for the hazard index. Several commenters noted that a limitation with the hazard index is that the summation of a sufficient number of insignificant hazards (i.e., hazard quotient less than 1) can lead to the conclusion that an unacceptable

hazard exists at the site. For example, ten hazard quotients of 0.1 each would sum to a hazard index of 1. They concluded that this is a conclusion based on mathematics and not necessarily on science. The commission disagrees with these comments and notes that paragraph (2) clearly indicates that the hazard index will be determined by summing the hazard quotients which affect the same target organ or act by the same method of toxicity. We feel that this method, when combined with the flexibility offered by subsections (d) and (e) of this section, is necessary to assure adequate protection of human health. As the commission staff gains experience in application of this provision, we will any consider revisions to the requirements of this subsection which prove to be warranted.

Regarding §335.563(e), commenters questioned the necessity of starting with residential exposure assumptions and then having to demonstrate that other site-specific conditions support a departure from the default exposure values of Table 1. This question and the commission's response in this matter has been discussed in the previous section of this preamble for §335.553(b) (relating to Required Information). As this subsection specifies a requirement and then offers an alternative which allows flexibility to address other site-specific circumstances, the commission has not changed the language that was previously proposed.

Regarding §335.563(f), the commission made changes to address the comments of respondents. Changes similar to those made to §335.559(c) of this title (relating to Air) for Risk Reduction Standard Number 2 were made here in response to the same comment to clarify references to federal and state requirements which appeared to be confusing and incomplete as originally stated. Other commenters suggested that values protective of worker safety, such as threshold limit values or OSHA permissible exposure limits or other criteria applicable to an industry setting, should be applicable within the property boundary of an industrial facility and that criteria that satisfy subsections (b)-(e) of this section for contaminants in air should apply at the property boundary. The commission revised this subsection as recommended. New paragraphs (2) and (3) were added to distinguish the requirements for residential and non-residential settings, respectively. Another commenter sought clarification of the meaning of "site boundary", as to whether it is limited to the solid waste management unit disposal boundary or to the lateral extent of soil contaminations. The commission believes the proposed language was clear in specifying the property boundary.

Regarding §335.563(g), the commission has clarified the use of Maximum Contaminant Levels (MCLs) in the same manner and in response to the same comment for §335.559(b) of this title (relating to Surface Water), by substituting the word "appropriate" for "applicable".

Regarding §335.563(h), one commenter noted that this subsection provides multiple ways to determine alternatives to MCLs as cleanup values for groundwater, but that a key factor missing here is that fate and trans-

port models must be allowed to be used to characterize concentration profiles in the groundwater. Such models are recognized for the determination of soil concentration values in subsection (i)(2)(A) of this section but it is not specifically stated that they can be used for groundwater. The commission did not intend to imply that the use of fate and transport models is specifically limited to determining soil cleanup levels. The use of such models is recognized implicitly by referencing the informational requirements of §335.160(b) of this title (relating to Alternate Concentration Limits). Additionally, the specific reference to fate and transport models in subsection (i) of this section applies to groundwater cleanup levels, as well as to surface water and air cleanup levels, in that contaminants remaining in soils must not cause the cleanup levels for these other media to be exceeded. The commission expressly states that "such determinations shall be based on sound scientific principles including fate and transport evaluations of contaminant migration." in clause (2)(A) of that subsection.

Several commenters sought clarification of the term "usable quantities" relating to the definition of a current or potential source of drinking water as specified in paragraph (1) of this subsection. One commenter offered a pumping rate of 3 gallons per minute as a cutoff. Others suggested that low producing zones and tight clay soils be added as specific examples of where these standards are not applicable. Another commenter sought consideration of the heterogeneity of an alluvial aquifer system. The commission recognizes the need for quantification of this definition. As such a definition can influence other regulatory programs and even the activities of other agencies, the commission cannot unilaterally act to address this concern as part of this rule promulgation but will commit to work with representatives of other programs and agencies on this matter. In the interim, one source of guidance is the EPA document **Guidelines for Groundwater Classification under the EPA Groundwater Protection Strategy, Final Draft, December 1986**.

Another commenter supported the commission's approach in paragraph (2)(c) of this subsection which allows for consideration of natural dilution and attenuation of a plume consistent with the approach for alternate concentration limits, provided that institutional and legal controls will effectively prevent the use of contaminated groundwater.

Another commenter, in the commission's opinion, misunderstood the intent of paragraph (3)(A) of this subsection, so the commission revised the language for clarification. This paragraph is not meant to define cleanup levels for groundwater that is not a current or potential source of drinking water; rather, it is intended to describe a condition that, if met, can result in a decision that lesser amounts of remediation need be performed than specified elsewhere in this subsection. The commission believes persons could confuse the paragraph with the requirements for alternate concentration limits as described in paragraph (2) of this subsection. To eliminate this confusion, this paragraph has been re-

vised to clarify the three conditions that must be met. Essentially, the person must demonstrate that the contaminated groundwater is isolated from surface water or other groundwater that is a current or potential source of drinking water. The language regarding concentrations of contaminants impacting the other water resources has been deleted. If such groundwater did have the potential to impact surface water or other usable groundwater, the person cannot successfully make this demonstration and must then consider the cleanup levels specified in this subsection, such as the alternate concentration limits of paragraph (2). Other commenters requested guidance on determining the technical impracticability of restoring groundwater to cleanup levels of this subsection and suggested, as for the pumping rate issue, that "low producing zones and tight clay soils" be specific examples of where these standards are not applicable. Additionally, they suggested that the removal of a very viscous immobile material be another example. Yet another commenter differed with this approach, favoring instead to show that allowing substances to remain in place without threat to human health or the environment should be acceptable. The commission intends to rely upon guidance from a variety of sources to address the range of possible situations covered by this paragraph, but a suitable document to serve as a starting point would be EPA's **Alternate Concentration Limit Guidance for Hazardous Waste Management Facilities Part I; ACL Policy and Information Requirements** (Directive 9481.00-6C, December 13, 1987).

One commenter suggested that a distinction be made in paragraph (4) of this subsection regarding "phase-separated non-aqueous liquids" as to residual (trapped and non-mobile) hydrocarbons and mobile liquid hydrocarbons which can be removed from an aquifer. The commission believes that this concern is addressed implicitly in the existing requirement to remove such liquids "to the extent practicable", which recognizes the limitations of remedial technologies, aquifer conditions, and characteristics of liquids.

Regarding §335.563(i), a commenter pointed out that fate and transport evaluation is an area in which there is a high level of uncertainty and that essentially no guidance is given with regard to the use and acceptability of fate and transport models. Another commenter sought clarification that certain parameters commonly used to describe soils in terms of fate and transport of contaminants would be included in consideration as "sound scientific principles". The commission recognizes that fate and transport modeling is an integral step in determining cleanup levels and it is also one of rapid development. The commission will consider the general guidelines set out by EPA in the ACL guidance document referenced in the preceding subsection for evaluating the suitability of various fate and transport models. Several Commenters were supportive of the commission's approach to allow site-specific consideration of other exposure pathways regarding soils, as specified in subparagraph (B) of paragraph (2) of this subsection.

Regarding §335.563(j), commenters were supportive of the site-specific or flexible approaches allowed in paragraphs (1) and (2), however, one commenter stated that paragraph (3) should be deleted because of the uncertainty surrounding this provision and the commenter's perceived lack of available guidance. The commission disagrees with this commenter and points out that the proposed rule preamble cited two EPA documents (**Environmental Evaluation Manual (EPA/540/1-89/001)** and **Ecological Assessments of Hazardous Waste Sites: A Field and Laboratory Reference Document (EPA/600/3-89/013)**) considered to be appropriate guidance for ecological risk assessment at its current stage of development. It is widely recognized that the state of the art of ecological assessments lags behind human health assessment methodologies. The commission therefore can not specify in the same detailed way as was done for human health criteria the exact manner in which such an evaluation of environmental receptors will be performed, but the cited guidance will serve as a starting point. For these reasons the commission will retain this provision in the final rule.

A second commenter questioned what other more stringent regulations could the commission apply (e.g., "Clean Water and Air Act"). The commission points out that the specific language of this paragraph states "more stringent cleanup levels may be established..." The commission intends this paragraph to be a basis for adjusting the site-specific cleanup levels developed according to the procedures specified in subsection (a)-(f) of this section. Regulations, and standards, would be evaluated according to the remedy evaluation factors of §335.562(b) of this title (relating to Compliance With Other Laws and Regulations).

Section 335.564 describes the conditions under Risk Reduction Standard Number 3 when post-closure care is not required.

Commenters included Baker & Botts/Beazer. The commenter suggested that deed recordation and post-closure care should only be required if the cleanup involves engineering or institutional controls. For example, a facility that cleans up with site-specific levels without use of control measures should only have to do the limited deed certification as required by Risk Reduction Standard Number 2 and should have no continuing requirement for deed recordation or post-closure care. The commission points out that changes made to the model deed certification language of §335.569 of this title (relating to Appendix III) in response to other comments should result in a document that serves the same purpose. For this reason, there were no changes made to the section proposed previously. An extensive discussion of the conditions under which a person may pursue not performing post-closure care for a Risk Reduction Standard Number 3 remedy is provided in a previous section of this preamble pertaining to §335.553(b)(3) (relating to Required Information).

Section 335.565 describes the conditions under Risk Reduction Standard Number 3 when post closure care is required.

Commenters included Exxon Chemical Americas. The commenter suggested changing the opening phrase of paragraph (2) from "hazardous waste management facilities" to "hazardous waste storage, processing, or disposal facilities". The change was made as suggested.

Section 335.566 explains the deed recordation requirements that are applicable under Risk Reduction Standard Number 3.

Commenters on §335.566 included: Department of the Air Force (Kelly Air Force Base); Exxon Chemical Americas; Exxon Company; FINA Oil and Chemical Company; Groundwater Services, Inc.; Shell Pipe Line Company; Texas Chemical Council; and Texas Mid-Continent Oil and Gas Association.

Many of the same comments that were directed to §335.560 of this title (relating to Post-Closure Care and Deed Certification for Risk Reduction Standard Number 2) were made regarding this section as well. The commission's response to those comments is equally applicable here, with changes having been made to subsections (a), (b) and (c) of this section to address those comments. Additionally, the commission has revised subsection (a) so that the sequence of required actions now calls for the proof of deed recordation to be submitted within 90 days after the executive director accepts the final report. This change conforms to changes in the parallel requirements of Risk Reduction Standard Number 2.

Section 335.567 explains the manner in which the reduced equations for MSCs under Risk Reduction Standard Number 2 were derived.

Respondents on §335.567 included: Department of the Air Force (Kelly Air Force Base); ENSR Consulting & Engineering; Exxon Chemical Americas; Geraghty & Miller, Inc.; Shell Oil Company; and Texas Mid-Continent Oil and Gas Association.

Overall, commenters felt that the default values are too conservative and that the commission should allow for use of alternative, more realistic values. As stated previously, the commission is not prepared at this time to offer additional flexibility for the types of information necessary to develop cleanup levels under Risk Reduction Standard Number 2 in a self-implemented fashion. As the staff of the commission gains experience with these Risk Reduction Standards, the staff will review the general procedures for establishing numeric cleanup levels and incorporate additional procedures into these regulations as necessary. The commission's commitment to do this is specified in §335.551(b) of this title (relating to Purpose, Scope and Applicability).

Regarding Equation 1 (MSC for Ingestion of Water; Carcinogenic Effects), several commenters noted that the parameter A (Absorption factor) was included in the denominator of the equation, but that the default value was set at one, meaning 100% of the substance is absorbed by the body. Some commenters suggested that where the absorption potential of a substance is known, this information should be utilized, otherwise the effect of the default value is to add to the

compounding effect of conservative assumptions. These comments apply to Equation 3 as well.

Regarding Equation 2 (MSC for Ingestion of Soils and Inhalation of Volatiles and Particulates; Residential Scenario; Carcinogenic Effects), one commenter pointed out that the parameter BW (Body Weight) in units of kilograms in the denominator should be changed to ED (Exposure Duration). The commenter is in error. The parameter IF soil/adj includes units milligram-year/kilogram-day. The kilogram units cancel out (as do another pair of kilogram units elsewhere in the equation) to produce the proper units of measurement for the equation. Other commenters challenge the applicability of the Volatilization Factor (VF) and the Particulate Emission Factor (PEF) to a residential setting where air inhalation is assumed to be indoors but all other assumptions are for outdoor exposure. Also, the site-specific parameters of these two factors are not subject to adjustment to fit the specifics of a given situation. These same concerns can be repeated for Equations 4, 5, and 6.

Regarding the Volatilization Factor equation, other commenters requested use of site-specific information. Another commenter questioned the commission's values for the parameter T (Exposure Interval), calculated to be $7.9e+08$ seconds for industrial settings and $9.5e+08$ seconds for residential exposure. The commission believes these values to be correct because the underlying assumption is that the waste unit or area will be subject to blowing wind for 24 hours per day for 25 and 30 years, respectively. The commenter had suggested that the exposure factors for human air intake be used in calculating VF. This is not correct-human exposure is not considered in calculating VF, rather, it is considered by the factors of IR air (Inhalation Rate (daily, indoor)) for residential or worker exposure. In other words, a resident would inhale 15 cubic meters per day of air that has been receiving vapors at a rate of 24 hours per day for 30 years. Likewise, a worker inhales 20 cubic meters per 8 hour work day of air that has been receiving vapors at a rate of 24 hours per day for 25 years.

Regarding the Table of Parameters, Definitions, and Values, several commenters suggested using sub-chronic reference doses where shorter term exposure is likely. This would not be an appropriate procedure to calculate MSCs but could be performed if other exposure pathways are of concern at the site pursuant to §335.556(b) of this title (relating to Determination of Cleanup Levels for Risk Reduction Standard Number 2). For clarification purposes, the commission has added values to reflect the industrial worker exposure rates for ATs (Averaging Time for Systemic Toxicants), EF (Exposure Frequency), ED (Exposure Duration), IRW (Daily Water Ingestion Rate), and IR air (Daily Indoor Inhalation Rate). Other commenters offered examples of default values for several parameters. The commission recognizes that their values are based on valid demographic studies, but for reasons discussed previously, is not going to change the default values at this time.

Examples of Medium-Specific Concentrations, Standards, and Criteria for Health-Based Closure/Remediation. Section 335.568 presents a table of examples of MSCs that have been calculated using the reduced equations for Risk Reduction Standard Number 2, as well as a number of other standards and criteria.

Respondents on §335.568 included: Chemical Manufacturers Association; Cohn, Simpson, Cowlishaw, Aranza, & Wolfe; Department of the Air Force (Brooks Air Force Base); ENSR Consulting & Engineering; EXIDE Company; Groundwater Services, Inc.; Harcos Chemical Group; KWBES (K.W. Brown Environmental Services); Merichem Company; Shell Oil Company; Texas A&M University; Texas Mid-Continent Oil and Gas Association; and Union Carbide Chemicals and Plastics Company.

Commenters generally offered information on specific chemicals or chemical groups. The commission will consider this information in regard to the toxicity information preferences specified in §335.553(e) of this title (relating to Required Information) in determining which Appendix II values to revise. As §335.553(e) states, persons may utilize data from these sources (referring to paragraphs (1)-(5) of that subsection) that are more current than those used to derive the unadjusted MSCs of Appendix II. The commission emphasizes that the values listed in Appendix II are **examples of unadjusted MSCs** and should not be viewed as final cleanup values. Only after all of the appropriate considerations and adjustments, if any, have been performed as specified in Subchapter S does one arrive at a final cleanup value. Although the commission has committed to performing annual revisions of Appendix II to incorporate current toxicity information (as it becomes known to the commission), persons should perform their own calculations using the equations and factors specified for Risk Reduction Standard Number 2 to ensure that their cleanup values reflect the most current data available. Discrepancies between their values and Appendix II values should be brought to the attention of the commission.

One commenter provided toxicity data for ten compounds and pointed out that this information was being considered by EPA for use in updating the IRIS data base. Another commenter referenced recent studies concerning the pesticides aldrin, dieldrin, and DDT as examples which show that a weight-of-evidence approach does not support their classification as human carcinogens. This commenter further stated that current guidance at the federal level supports the incorporation of supplemental information regarding the likely non-carcinogenicity of chemicals into the risk assessment process. As stated earlier in this preamble, the commission will consider such information to the extent that our limited resources allow but that we must rely primarily upon the expertise and judgment of other organizations, principally the EPA, in making determinations of this type.

In considering other comments on this section, however, the commission was able to revise some MSCs which had contained errors in calculation or in use of appropriate

toxicity information. The SAI-Industrial MSC for bis (2-chloro-ethyl) ether was changed from 5.39e-01 to 3.77e-01 mg/kg as a correction. Para-cresol was revised to reflect use of the same reference dose of 0.05 mg/kg/day as for ortho- and meta-cresol. The reference dose of 0.005 mg/kg/day for para-cresol had been withdrawn from IRIS but because the three isomers are so similar in chemical and physical properties, the commission agreed with the comment that their MSCs should be equal. The compound naphthalene was added to the appendix because the commenters provided sufficient information to verify that the proposed toxicity data (0.04 mg/kg/day oral RfD) complied with §335.553(e). Another commenter pointed out that the compound pyrene had undergone a weight-of-evidence classification change from Class C to Class D. After verifying this information with the current IRIS data base, the commission revised the MSCs utilizing an oral RfD value of 0.03 mg/kg/day. Lastly in this category of changes, the commission corrected the SAI-Residential MSC for the compound xylene, which had been proposed as 6.00e+3 mg/kg but is being finalized as 5.47e+3 mg/kg based on the oral RfD of 2 mg/kg/day and inhalation RfD of 0.2 mg/kg/day.

Other changes to the appendix include a substitution of promulgated soil cleanup levels in place of MSCs for polychlorinated biphenyls (PCBs). These values of 10 and 25 mg/kg for residential and industrial soils, respectively, had been referenced by the footnote but are now stated here for clarity. Footnotes 2, 3, 4, 6, and 13 were revised to conform to the various changes in the rules that are cited therein. In response to the change in Footnote 3, the explanation of the column heading for "GW" was revised to clarify that the groundwater MSCs of this column are for the residential exposure conditions. Lastly, six compounds now show the symbol "NHHB (16)" in place of the SAI-Industrial MSC: diethyl phthalate, ethylene glycol, nitrate, phenol, phthalic anhydride, and vinyl acetate. As explained in the new footnote 16, this symbol means "Not Human Health Based. The SAI-Industrial MSC for this compound exceeds 10e+6 ppm, which means it is not toxic to humans when exposed to soils under these assumptions. Persons must consider other criteria of 31 TAC §335.559 to develop numeric cleanup values."

Model Deed Certification Language. Section 335.569 presents an example format for the deed certification required for conformance with Risk Reduction Standard Numbers 2 and 3.

Respondents on §335.569 included: Texas Chemical Council and Texas Mid-Continent Oil and Gas Association.

Numerous issues and comments regarding deed certification have been identified and discussed previously in §335.560 of this title (relating to Post Closure Care and Deed Certification for Risk Reduction Standard Number 2), including some changes to the model deed certification language. Items being discussed here address the balance of comments and changes. One commenter suggested that the commission should re-

place the statements about complying with regulations with "the site has been cleaned up to the Texas Water Commission's approved standards for protection of human health." The commission is not clear what specific language should be replaced so this suggested change was not made. Another commenter provided very specific recommendations for alternate language; most of these recommendations have been made. The only exceptions are that the commission has retained and modified the statement: "future land use is considered suitable for (residential, non-residential (i.e., industrial/commercial)) purposes in accordance with Risk Reduction Standards applicable at the time of this filing. Future land use is intended to be (residential, non-residential)." The commission believes that these modifications should remove the concerns of commenters that this document implies a guarantee or an affirmative warranty on the suitability of the property for certain uses and also limits the assumptions determining suitability to a specific point in time.

In this final section of the preamble, we are republishing for informational purposes a small section of the preamble from the proposed rules, in which numbers expressed in scientific notation were not accurately represented. However, these numbers were accurately presented in the text of the proposed rule itself so that the commission's intent regarding implementation of these rules was clearly stated within the proposed rule package. The text of this section has been modified to reflect that these are final rather than proposed rules.

The media cleanup requirements for Standard 3 remedies are defined in §335.563. Section §335.563 requires persons to develop media cleanup levels in accordance with the conditions described in the following six sections and then to propose them in the corrective measure study.

First, §335.563 (a)-(e) define the general requirements which apply equally to the determination of cleanup levels for all media. Cleanup levels will be derived in response to these requirements using quantitative human health-based risk assessment procedures whenever the media-specific requirements of §335.563 (f)-(i) do not identify an applicable standard or rule or specify an alternative procedure. In addition, §335.563(j), which is more fully discussed later, describes adjustments that may need to be made to the cleanup levels developed in response to §335.563 (a)-(i). Among other requirements, this subsection allows the executive director to establish more stringent cleanup levels if necessary to protect environmental receptors.

Subsection 335.563(b) specifies that cleanup levels for known or suspected carcinogens will be established at concentrations which represent an excess upperbound lifetime risk of between one in ten thousand and one in one million. For carcinogens, risks are estimated as the incremental probability of an individual developing cancer over a lifetime as a result of exposure to a potential carcinogen (i.e. incremental or excess individual lifetime cancer risk). Known or suspected carcinogens are those chemicals that are

classified as Group A, B, or C pursuant to the United States Environmental Protection Agency's Weight of Evidence System for Carcinogenicity. "Upperbound" as used in this requirement means that the TWC is reasonably confident that the "true risk" will not exceed the estimated risk and is likely to be less than predicted. The risk estimate is felt to be an upperbound estimate because the slope factor used to report the toxicity for carcinogens is generally an upper 95th percentile confidence limit of probability of response, based on experimental animal data used in the multistage model.

Subsection 335.563(b) further states that the executive director will use one in one million as a goal in establishing media cleanup level concentrations. This means that a cumulative risk level of one in one million will be used as the starting point (or initial protectiveness goal) for determining media cleanup levels that remedies will attain. The use of one in one million as the starting point for a cumulative risk level expresses the TWC's preference for media cleanup levels that result in risks at the more protective end of the risk range. This preference, however, does not reflect a rigid requirement when other factors, identified in the rules and discussed later, point to a different level of protection. Subsection 335.563(b) concludes by specifying that in no case shall the cumulative excess risk to exposed populations (including sensitive subgroups) be greater than one in ten thousand.

The remediation goals (i.e. cleanup levels) for a medium will typically be established by means of a two-step approach. A preliminary remediation goal for a potential carcinogen will be calculated to correspond to a one in one million incremental risk of an individual developing cancer over a lifetime as a result of exposure to the potential carcinogen from all significant exposure pathways for a given medium. For example, the preliminary cleanup concentration for a specific potential carcinogen in soil could be calculated by setting the sum of the risk from ingestion of soil, inhalation of volatiles from soil, and inhalation of particulates from soil equal to one in one million, provided these exposure pathways would all be significant at a given site. The TWC will use the procedures outlined in EPA OSWER Directive 9285. 7-01B entitled **Human Health Evaluation Manual, Part B: "Development of Risk-Based Preliminary Remediation Goals"**, or other guidance to be developed by the Commission, to evaluate the initial cleanup levels proposed for carcinogens in the media at a site.

The second step in the determination of media cleanup levels involves the consideration of the site-specific and technical feasibility issues identified in §335.563(d). Such factors, which are discussed later, will enter into the determination of where within the risk range of one in ten thousand to one in one million the cleanup level for a potential carcinogen would be established. Consideration of such factors may also indicate the need to establish a risk goal for an individual carcinogen that is less than one in one million in order to achieve the overall cumulative risk goal (i.e., one in one million). Thus, the preliminary remediation goal based upon a one in one

million risk level represents a "sticky point" from which departure in the direction of increased or decreased risk would be allowed, provided that action could be justified based upon the issues presented in §335.563(d).

The general media cleanup requirements for systemic toxicants (i.e. noncarcinogens) are presented in §335.563(c). Preliminary remediation goals for noncarcinogens will be calculated based upon these requirements and, similar to the case for carcinogens, these preliminary values may be modified based upon the site-specific and technical feasibility issues identified in §335.563(d). The basic requirement for noncarcinogens is that the media cleanup levels be set at concentrations to which the human population (including sensitive subgroups) could be exposed on a daily basis without appreciable risk of deleterious effect during a lifetime. Two conditions must be satisfied to meet this requirement and are described in the following paragraphs.

The first condition is that the hazard quotient must not exceed 1. The hazard quotient is defined as the ratio of a single systemic toxicant exposure level for a specified time period to the reference dose for that systemic toxicant derived from that same time period. The noncancer hazard quotient assumes that there is a level of exposure (i.e. the reference dose) below which it is unlikely for even sensitive populations to experience adverse health effects. If the exposure level exceeds this threshold (i.e. the hazard quotient exceeds unity) there may be concern for potential noncarcinogenic effects. As a rule, the greater the value of the hazard quotient above 1, the greater the level of concern. In contrast to the case for carcinogens, hazard quotients must not be interpreted as statistical probabilities. The hazard quotient value of 1 is used as a protective level to judge when adverse noncarcinogenic effects may begin.

The second condition is that the hazard index shall not exceed 1. The hazard index is the sum of the hazard quotients for a single or multiple systemic toxicants which affect the same target organ or act by the same method of toxicity and act through a single or multiple media exposure pathways. This approach assumes that simultaneous subthreshold exposure to a toxicant or several toxicants acting through a single or several exposure pathways could also result in an adverse health effect. It also assumes that the magnitude of the adverse effect will be proportional to the sum of the ratios of the subthreshold exposure to acceptable exposures. This assumption of dose additivity is most properly applied when the compound affects the same target organ or acts by the same method of toxicity.

The preliminary remediation goal for a particular systemic toxicant will be determined by calculating the concentration that corresponds to a hazard index of 1, based upon human exposure to the chemical from all significant exposure pathways in a given medium. As an example, the preliminary cleanup concentration for a particular systemic toxicant in soil could be calculated by setting the sum of the hazard quotients for ingestion of soil, inhalation of volatiles from soil, and inhalation of particulates from soil equal to 1,

provided these exposure pathways are all significant at a given site. Similar to the case for carcinogens, the TWC will use the procedures described in EPA OSWER Directive 9285.7-01B, which is entitled **Human Health Evaluation Manual, Part B: "Development of Risk-based Preliminary Remediation Goals"**, or other guidance to be developed by the Commission, to review the initial cleanup levels proposed for noncarcinogens in the media at a site.

Section 335.563(d) states that in establishing media cleanup levels pursuant to §335.563(b) and (c) the executive director may consider and may direct persons who submit plans or reports to consider a number of additional factors. These factors include: multiple contaminants in a medium, exposure to multiple contaminated media, reasonable expected future exposure conditions at the facility, and the technical limitations, effectiveness, practicability, or other relevant features of available remedies. Based upon a consideration of these factors, the preliminary remediation goals may be modified, if warranted, to determine the final media cleanup levels to be achieved by the proposed remedy.

The first two of these factors, that is, multiple contaminants in a medium and exposure to multiple contaminated media, may require the risk goal for an individual carcinogen or noncarcinogen to be lower than the overall cumulative risk goal of one in one million or hazard index of 1, respectively. At many sites, it is likely that the potential human health effects of more than one contaminant in a medium must be assessed. Determining remediation levels by considering one chemical in a medium at a time might significantly underestimate the risks associated with simultaneous exposure to several substances. Likewise, at some sites an individual might be exposed to a substance or combination of substances through several media. For example, an individual might be exposed to substance(s) from a site by both consuming contaminated drinking water and by inhaling dust originating from the site. One should not automatically sum risks from all exposure pathways evaluated at a site, however. Cleanup levels are to be based upon an estimate of the reasonable maximum exposure expected to occur under future land use conditions. The reasonable maximum exposure is defined as the highest exposure that is reasonably expected to occur at a site and is estimated for each pathway. The intent of the reasonable maximum exposure is to estimate a conservative exposure case (i.e. well above the average case) that is still within the range of possible exposures. Until such time as additional guidance is developed, the TWC will use EPA's Human Health Evaluation Manual Parts A (EPA/540/1-89/002) and B (OSWER Directive 9285.7-01B) to review the manner in which the proposed preliminary remediation goal will be modified to reflect these two factors.

The third factor of §335.563(d) allows the preliminary remediation goal to be modified based upon the reasonable expected exposure conditions at the facility. This is consistent with §335.563(e), which addresses whether the standard exposure factors for residential use or some other exposure condi-

tions will be used to determine media cleanup levels at a site.

And finally, the fourth factor of §335.563(d) allows the preliminary cleanup levels to be modified based upon technical limitations, effectiveness, practicability, or other relevant features of available remedies. In cases where the remedy which best achieves the requirements for a standard three remedy identified in §335.561 cannot achieve the cumulative risk goal of one in one million, a greater risk level could be allowed, as necessary. For carcinogens, the cumulative risk must be within the risk range from one in ten thousand to one in one million. Institutional controls may be required as part of the remedy for such a site.

Subsection 335.563(e) states that in determining media cleanup levels for carcinogens and systemic toxicants pursuant to §335.563(b) and (c), a person shall use the standard exposure factors for residential use of the facility as set forward in Table 1 of Subchapter S unless the person documents to the satisfaction of the executive director that alternative assumptions regarding future exposure conditions are warranted. The standard exposure factors presented in Table 1 have been developed to be consistent for the most part with EPA's OSWER Directive 9285.6-03 entitled **Human Health Evaluation Manual, Supplemental Guidance: "Standard Default Exposure Factors"**. The rule describes two exceptions where exposure assumptions other than the standard exposure factors for residential use would be allowed.

The first exception presented in §335.563(e)(1) allows alternative exposure factors for a particular land use to be used, provided site-specific data warrant deviation from the standard exposure factors. The standard default values in Table 1 of Subchapter S are being provided to reduce unwarranted variability in the exposure assumptions and to provide a consistent approach to the determination of media cleanup levels. Accordingly, the exposure factors presented in Table 1 are considered most appropriate and must be used unless alternative values based upon site-specific data can be clearly justified. The TWC's intent is to base media cleanup levels upon a reasonable maximum exposure. The standard exposure values have been selected to combine upperbound and mid-range exposure factors so that the resulting estimate of intake is highly protective and reasonable but does not represent the worst possible (and highly unlikely) case.

The second exception presented in §335.563(e)(2) allows the person to base the media cleanup levels on a land use other than residential provided the person can demonstrate to the satisfaction of the executive director that such land use is a more appropriate assumption. Such demonstration must be based upon consideration of the historical, current, and probable future land use as well as the effectiveness of institutional or legal controls placed on the future use of the land. To adequately support a land use other than residential, the person must demonstrate both that future residential use of the property is unlikely and that effective institu-

tional or legal controls, that are adequate to maintain the alternative land use and prevent residential use, have been or will be placed on the property.

The new sections are adopted under the Texas Water Code, §§5.103 and §26.011, which provides the commission with authority to adopt any rules necessary to carry out its powers, duties, and policies and to protect water quality in the state. The sections are also promulgated under §361.017 of the Texas Solid Waste Disposal Act, Texas Health and Safety Code, Chapter 361, which provides the commission the authority to regulate industrial solid wastes and hazardous municipal wastes and all other powers necessary or convenient to carry out its responsibilities.

• 31 TAC §§335.1, 335.5, 335.6, 335.8

The amended sections are adopted under the Texas Water Code, §§5.103 and §26.011, which provides the commission with authority to adopt any rules necessary to carry out its powers, duties, and policies and to protect water quality in the state. The sections are also promulgated under §361.017 of the Texas Solid Waste Disposal Act, the Texas Health and Safety Code, Chapter 361, which provides the commission the authority to regulate industrial solid wastes and hazardous municipal wastes and all other powers necessary or convenient to carry out its responsibilities.

§335.1. Definitions. The following words and terms, when used in this chapter, shall have the following meanings, unless the context clearly indicates otherwise.

Closure—The act of permanently taking a waste management unit or facility out of service.

Contaminant—Includes but is not limited to solid waste, hazardous waste, and hazardous waste constituent as defined in this subchapter; "pollutant," as defined in the Texas Water Code, §26.001, and the Texas Health and Safety Code, §361.431, "hazardous substance," as defined in the Texas Health and Safety Code, §361.003; and other substances that are subject to the Texas Hazardous Substances Spill Prevention and Control Act, the Texas Water Code, §§26.261-26.268.

Contaminated medium/media—A portion or portions of the physical environment to include soil, sediment, surface water, groundwater or air, that contain contaminants at levels that pose a substantial present or future threat to human health and the environment.

Control—To apply engineering measures such as capping, reversible treatment methods, and/or institutional measures such as deed restrictions to facilities or areas with wastes or contaminated media which result in remedies that are protective of human health and the environment when combined with appropriate maintenance, monitoring, and any necessary further corrective action.

Decontaminate—To apply a treatment process(es) to wastes or contaminated media whereby the substantial present or future threat to human health and the environment is eliminated.

Remediation—The act of eliminating or reducing the concentration of contaminants in contaminated media.

Remove—To take waste, contaminated design or operating system components, or contaminated media away from a waste management unit, facility, or area to another location for storage, processing, or disposal.

Treatment—To apply a physical, biological, or chemical process(es) to wastes and contaminated media which significantly reduces the toxicity, volume, or mobility of contaminants and which, depending on the process(es) used, achieves varying degrees of long-term effectiveness.

§335.8. Closure and Remediation.

(a) **Applicability.** The regulations in this section are effective on June 28, 1993. The regulations in this section apply to persons who undertake the closure of facilities used for the storage, processing, or disposal of industrial solid waste or municipal hazardous waste. The regulations in this section also apply to persons who undertake the remediation of contaminated media resulting from unauthorized discharges from such facilities, either as part of closure or at any time before or after closure. The regulations in this section also apply to persons who undertake remediation of areas that are not otherwise designated as a facility but that contain unauthorized discharges of industrial solid waste or municipal hazardous waste. The regulations of this subsection, in addition to other applicable rules, permits, or orders, establish the obligation for persons to perform closures or remediations for facilities or areas containing industrial solid and municipal hazardous waste and further specify the mechanism to evaluate such closures or remediations. The obligation to perform remediations for unauthorized discharges of contaminants under the state superfund and spill response programs occurs through the application of the commission's rules and statutes pertaining to those programs; however, once such obligation has occurred the regulations in this section will be used to specify the mechanism to evaluate remediation of unauthorized discharges of contaminants subject to those programs. The regulations in this section supplement but do not replace any requirements for closure or remediation specified in the regulations for the programs subject to these rules and shall apply as specified in paragraphs (1)-(6) of this subsection.

(1) Persons shall complete notification and response actions for spills in accordance with the Texas Water Code,

§26.039 and §26.261, and the administrative and procedural requirements of the commission to carry out the Texas Hazardous Substance Spill Prevention and Control Act. This section applies to spills when the response actions do not result in remediation within the timeframes specified by the commission's spill response program. In such circumstances the person shall submit a plan in accordance with subsection (b) of this section.

(2) This section applies to remediations performed under the state superfund program in accordance with Subchapter K of this chapter (relating to Hazardous Substance Facilities Assessment and Remediation) with the exception that information, including a baseline risk assessment, shall be provided and potential remedies shall be evaluated in response to Subchapter K rather than the requirements of subsections (c) and (d) of this section, §335.553 (relating to Required Information), and §335.562 (relating to Remedy Evaluation Factors for Risk Reduction Standard Number 3). Also, under the state superfund program, persons shall determine media cleanup levels assuming future residential land use unless the person demonstrates to the satisfaction of the executive director using the provisions of §335.563(e) of this title (relating to Media Cleanup Requirements for Risk Reduction Standard Number 3) that an alternative land use is more appropriate.

(3) Any person who stores, processes, or disposes of industrial solid waste or municipal hazardous waste at a facility permitted under §335.2(a) of this title (relating to Permit required), shall, unless specifically modified by other order of the commission, close the facility in accordance with the closing provisions of the permit.

(4) Any person who stores, processes, or disposes of hazardous waste is also subject to the applicable provisions relating to closure and post-closure in Subchapters E and F of this chapter (relating to Interim Standards for Hazardous Waste Storage, Processing, or Disposal Facilities; and Permitting Standards for Owners and Operators of Hazardous Waste Storage, Processing, or Disposal Facilities, respectively).

(5) Persons who have received approval of closure or remediation plans by the executive director and have either completed or not completed the action prior to the effective date of this section may either maintain or complete the action, as applicable, according to the approved plan and are not subject to the requirements of this section unless a substantial change in circumstances develops at the facility or area which results in an unacceptable threat to human health or the environment as described in subsection (b)(5) of this section.

Plans or reports submitted but not approved prior to the effective date of this section will be reviewed according to the regulations in effect at the time of document submittal. If the executive director denies approval of the plan or report under those regulations for reasons of technical inadequacy, the person must then comply with the requirements of this section upon receipt of written notice from the executive director that the plan or report is not approved. Closure plans approved as part of an industrial solid or municipal hazardous waste permit which was issued prior to the effective date of this section but not implemented at the time of permit renewal are subject to review for compliance with this section as part of the permit renewal process. Persons may resubmit such plans or reports that they have revised voluntarily to conform with the requirements of this section, unless such resubmittal would result in noncompliance with a previously approved or imposed schedule of compliance.

(6) The requirements of this section do not apply to substances discharged or spilled from storage tanks regulated by Chapter 334 of this title (relating to Underground Storage Tanks).

(b) Closure and Remediation Obligations. Persons identified in subsection (a) of this section have the obligation to conduct the activities described in paragraphs (1)-(4) of this subsection when performing a closure or remediation. Upon receipt of approval by the executive director of reports demonstrating compliance with all applicable requirements, the person has completed these obligations unless a substantial change in circumstances results in an unacceptable risk to human health or the environment as described in paragraph (5) of this subsection.

(1) Notify the executive director in writing of any closure or remediation activities as is further specified in subsection (c) of this section;

(2) Perform closure or remediation activities at the facility or area of unauthorized discharge which meet one or more of the risk reduction standards specified in subparagraphs (A)-(C) of this paragraph. Unless the requirement to close a waste management facility is specified by other rule, permit, or order, the person will determine the time for initiation of closure. The timely remediation of unauthorized discharges resulting from operation of a waste management unit does not compel the closure of the unit unless closure is a necessary part of the remedy to achieve protection of human health and the environment.

(A) Risk Reduction Standard Number 1: Closure/remediation to background—to remove and/or decontaminate all

waste, waste residues, leachate, and contaminated media to background levels unaffected by waste management or industrial activities as further specified in §335.554 of this title (relating to Attainment of Risk Reduction Standard Number 1); or

(B) Risk Reduction Standard Number 2: Closure/remediation to health-based standards and criteria—to remove and/or decontaminate all waste, waste residues, leachate, and contaminated media to standards and criteria such that any substantial present or future threat to human health or the environment is eliminated as further specified in §335.555 of this title (relating to Attainment of Risk Reduction Standard Number 2); or

(C) Risk Reduction Standard Number 3: Closure/remediation with controls—to remove, decontaminate and/or control all waste, waste residues, leachate, and contaminated media to levels and in a manner such that any substantial present or future threat to human health or the environment is eliminated or reduced to the maximum extent practicable, as further specified in §335.561 of this title (relating to Attainment of Risk Reduction Standard Number 3).

(3) Demonstrate in writing to the executive director that closure or remediation has been completed as is further specified in subsection (d) of this section;

(4) Perform any necessary post-closure care and deed certification or recordation activities as required by Subchapter S (relating to Risk Reduction Standards) of this chapter; and

(5) Respond on a continuing basis pursuant to paragraphs (1)-(4) of this subsection in the event that a substantial change in circumstances at the facility or area results in an unacceptable threat to human health or the environment. In response to these substantial changes in circumstances, the person shall comply with this subsection utilizing the then-prevailing criteria and perform such actions as necessary to provide protection of human health and the environment. A substantial change in circumstance can include but is not limited to the situations described in subparagraphs (A)-(D) of this paragraph.

(A) a failure of institutional or engineering controls to prevent or mitigate exposure at the approved performance level;

(B) a change in land use from non-residential to residential; or

(C) an actual exposure condition is determined to be occurring at levels not protective of human health or the

environment. For purposes of this subparagraph, changes made to Subchapter S of this chapter (relating to Risk Reduction Standards) in response to periodic reviews of the general procedures specified to generate numeric cleanup levels, or in response to annual revisions of Appendix II of Subchapter S to reflect new toxicity data, do not constitute a substantial change in circumstances, unless these changes are of such magnitude to present an unacceptable threat to human health or the environment when evaluated for future exposure conditions based on site-specific considerations; or

(D) new information indicates that the contamination at the facility or area was not sufficiently characterized such that an unacceptable threat to human health or the environment continues to exist.

(c) Notification and Initiation Requirements.

(1) A person who intends to perform any activity of closure or remediation in accordance with subsection (b) of this section shall determine the risk reduction standard(s) to be attained. The person shall notify the executive director and the commission's office in the district where the facility or area is located in writing of the following information at least ten days prior to conducting the activity:

(A) the facility or area to be subject to closure or remediation activities;

(B) the risk reduction standard(s) to be attained; and

(C) the estimated time necessary to complete the activity.

(2) After performing notification in accordance with paragraph (1) of this subsection, the person may initiate the actions necessary to attain Risk Reduction Standard Numbers 1 or 2 without prior approval by the executive director, unless such approval is required by other regulation, order, or permit of the commission. Any plan submitted for prior approval by the executive director shall contain the information specified in §335.553(a) of this title (relating to Required Information).

(3) If the person intends to attain Risk Reduction Standard Number 3, or determines that Standard Number 1 or 2 have not been attained in a self-implemented action, the person shall submit to the executive director the information specified in §335.553(b) of this title (relating to Required Information) for approval prior to beginning, or continuing, as applicable, the closure or remediation activities.

(4) The person may include one or more waste management units or areas in a submittal for the purpose of responding to this subsection and subsection (d) of this section.

(5) Notwithstanding any other requirement, the person shall submit to the executive director upon request such information as may reasonably be required to enable the executive director to determine whether the closure or remediation is compliant with this section.

(d) Demonstration of Conformance with Risk Reduction Standards. Upon completion of a closure or remediation, the person shall demonstrate in a form acceptable to the executive director that the activity meets the intended risk reduction standards and any applicable closure criteria listed or referenced in this chapter. Any submittal to the executive director in response to this subsection shall be in the form of a plan or report that contains the information specified in §335.553 of this title (relating to Required Information).

This agency hereby certifies that the rule as adopted has been reviewed by legal counsel and found to be a valid exercise of the agency's legal authority.

Issued in Austin, Texas, on June 7, 1993.

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Mary Ruth Holder
Director, Legal Division
Texas Water Commission

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For further information, please call: (512) 908-2340

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**Chapter 335. Industrial Solid
Waste and Municipal
Hazardous Waste**

**Subchapter S. Risk Reduction
Standards**

• 31 TAC §§335.551-335.569

The new sections are adopted under the Texas Water Code, §5.103 and §26.011, which provides the commission with authority to adopt any rules necessary to carry out its powers, duties, and policies and to protect water quality in the state. The sections are also promulgated under the Texas Solid Waste Disposal Act, §361.017, Texas Health and Safety Code, Chapter 361 (Vernon Pamphlet 1992), which provides the commission the authority to regulate industrial solid wastes and hazardous municipal wastes and all other powers necessary or convenient to carry out its responsibilities.

§335.551. Purpose, Scope, and Applicability.

(a) Purpose. This subchapter specifies the information and procedures necessary to demonstrate compliance with the three risk reduction standards of §335.8 of this title (relating to Closure and Remediation).

(b) Scope. The requirements of this subchapter will, when adequately carried out, assure adequate protection of human health and the environment from potential exposure to contaminants associated with releases from solid waste management facilities or other areas. Cleanup levels are specified for different types of contaminated media such as air, surface water, ground water, and soil, and for cross-media contamination pathways such as soil to ground water and soil to air. General procedures based on scientific principles are provided or referenced by these regulations so that specific numeric cleanup levels can be generated. The commission will periodically review the general procedures and revise these regulations as necessary.

(c) Applicability. The requirements of this subchapter apply to persons who undertake a closure or remediation in accordance with §335.8 of this title.

§335.552. Definitions. The following words and terms, when used in this subchapter, shall have the following meanings, unless the context clearly indicates otherwise.

Carcinogen—Substances which have been classified for human carcinogenic risk based on the United States Environmental Protection Agency's Weight of Evidence System of Carcinogenicity as Group A—Human Carcinogen; Group B—Probable Human Carcinogen; or Group C—Possible Human Carcinogen.

Carcinogen Classification—The basis by which substances are classified for human carcinogenic risk based on the United States Environmental Protection Agency's Weight of Evidence System for Carcinogenicity: Group A—Human Carcinogen; Group B—Probable Human Carcinogen; Group C—Possible Human Carcinogen; Group D—Not Classifiable as to Human Carcinogenicity; and Group E—Evidence of Non-Carcinogenicity for Humans.

Long-term effectiveness—The ability of a remediation or corrective action to maintain over time the required level of protection of human health and the environment.

Non-residential property—Any real property or portion of a property not currently being used for human habitation or for other purposes with a similar potential

for human exposure, at which activities have been or are being conducted, having the primary Standard Industrial Classification (SIC) major group numbers 01-48 inclusive, 49 except 4941, 50-67 inclusive, 72-79 inclusive, 80 except 8051, 8059, 8062, 8063, 8069, 81 and 82 except 8211, 8221, 8222, 83 except 8351, 8361, 84-86 except 8661, 87-91 inclusive, 92 except 9223, and 93-97 inclusive. Non-residential property includes all of the block(s) and lot(s) controlled by the same owner or operator that are vacant land, or that are used in conjunction with such business. For leased properties, non-residential property includes the leasehold and any external tank, surface impoundment, septic system, or any other structure, vessel, contrivance, or unit that provides, or are utilized, for the management of contaminants to or from the leasehold.

Permanence/permanent/permanently—The property of achieving the maximum degree of long-term effectiveness and of enduring indefinitely without posing the threat of any future release that would increase the risk above levels established for the facility or area.

Point of exposure—A location where human or environmental receptors can come into contact with contaminants; also, a location which can be arbitrarily determined for purposes of estimating or measuring the concentration of contaminants available for exposure.

Practical quantitation limit/PQL—The lowest concentration of an analyte which can be reliably quantified within specified limits of precision and accuracy during routine laboratory operating conditions. The PQL minimizes to the extent possible the effects of instrument and operator variability and the influences of the sample matrix and other contaminants or substances upon the quantitation of the analyte. "Specified limits of precision and accuracy" are the criteria which have been included in applicable regulations or which are listed in the quality control sections of the analytical method. The PQL may be directly obtained or derived from the following sources with preference given to the most recent, scientifically valid method: federal regulations; EPA guidance documents; calculation from interlaboratory studies; and experimentally determined analytical methods not available from other existing sources.

Residential property—Any property that does not exclusively meet the definition of non-residential property. Also, a portion of non-residential property that is used in part for residential activities, such as a day care center, is defined as residential.

Systemic toxicant—Substances shown either through epidemiological studies or through laboratory studies to cause adverse health effects other than cancer.

§335.553. Required Information.

(a) For risk reduction standard Number 1 or 2. The person shall provide a final report that documents attainment of the risk reduction standard in accordance with §335.554 or §335.555 of this title (relating to Attainment of Risk Reduction Standard Number 1 and Attainment of Risk Reduction Standard Number 2). The report shall include, but is not limited to, descriptions of procedures and conclusions of the investigation to characterize the nature, extent, direction, rate of movement, volume, composition and concentration of contaminants in environmental media; basis for selecting environmental media of concern; documentation supporting selection of exposure factors; descriptions of removal or decontamination procedures performed in closure or remediation; summaries of sampling methodology and analytical results which demonstrate that contaminants have been removed or decontaminated to applicable levels; and a document that the person proposes to use to fulfill the requirements of §335.560(b) of this title (relating to Post Closure Care and Deed Certification), as applicable.

(b) Risk reduction standard Number 3, the person shall conduct the activities set forth in paragraphs (1)-(4) of this subsection. The results of activities required by paragraphs (1)-(3) of this subsection may be combined to address a portion of a facility or one or more facilities of a similar nature or close proximity. The submittal shall be subject to review and approval by the executive director prior to carrying out the closure or remediation. Upon completion of the approved activity, the person shall submit the final report required by paragraph (4) of this subsection.

(1) The person shall prepare a remedial investigation report which contains sufficient documentation such as, but not limited to, descriptions of procedures and conclusions of the investigation to characterize the nature, extent, direction, rate of movement, volume, composition, and concentration of contaminants in environmental media of concern, including summaries of sampling methodology and analytical results. Information obtained from attempts to attain Risk Reduction Standard Numbers 1 or 2 may be submitted for this purpose.

(2) The person shall prepare a baseline risk assessment report which describes the potential adverse effects under both current and future conditions caused by the release of contaminants in the absence of any actions to control or mitigate the release. The report shall also discuss the degree of uncertainty associated with the baseline risk assessment. Residential land use with on-site exposure shall be assumed to evaluate the future use condition unless the person demonstrates to the satisfaction of the executive director that a different land use assumption such as industrial use is more appropriate. The standard exposure factors set forth in Table 1 (located in paragraph (4) of this subsection) shall be used unless the person documents to the executive director's satisfaction that site-specific exposure data should be used instead.

(3) The person shall evaluate the relative abilities and effectiveness of potential remedies to achieve the requirements for remedies described in §335.561 of this title (relating to Attainment of Risk Reduction Standard Number 3) when considering the evaluation factors described in §335.562 of this title (relating to Remedy

Evaluation Factors). Using this information, the person shall prepare a corrective measure study which recommends the remedy which best achieves the requirements for remedies described in §335.561 of this title. Persons may seek to satisfy the requirements of §335.564 of this title (relating to Post Closure Care not required for Risk Reduction Standard Number 3) by demonstrating in the corrective measure study using the procedures of §335.563 of this title (relating to Media Cleanup Requirements for Risk Reduction Standard Number 3) that no remedy needs to be performed since the existing conditions of the facility or area conform to the media cleanup requirements without the use of removal, decontamination or control measures. Persons may also seek to satisfy the requirements of §335.564 by demonstrating in the corrective measure study that following completion of their recommended removal and/or decontamination activities the conditions of the facility or area will conform to the media cleanup requirements of §335.563 without the use of control measures. Upon review of the corrective measure study, the executive director may require the person to further evaluate the proposed remedy or to evaluate one or more additional remedies.

(4) The person shall submit to the executive director, for review and acceptance, a final report containing sufficient documentation which demonstrates that the remedy has been completed in accordance with the approved plan and also a document that the person proposes to use to fulfill the requirements of §335.566 of this title (relating to Deed Recordation for Risk Reduction Standard Number 3).

Table 1. Standard Exposure Factors (for use with §335.553(b)(2) and §335.563(e)).

Land Use	Exposure Pathway	Daily Intake Rate	Exposure Frequency	Exposure Duration	Body Weight
Residential	Ingestion of Potable Water	2 liters	350 days/yr	30 years	70 kg
	Ingestion of	200 mg-child, age 1 - 6	350 days/yr	6 years*	15.1 kg*
	Soil and Dust*	100 mg-adult, age 7 - 31		24 years**	70 kg**
(*=child, **=adult)					
+ These factors yield the age-adjusted soil ingestion factor of 114 mg-yr/kg-day					
Commercial/ Industrial	Inhalation of Contaminants	20 cu.m.-total	350 days/yr	30 years	70 kg
	Ingestion of Potable Water	1 liter	250 days/yr	25 years	70 kg
	Ingestion of	50 mg	250 days/yr	25 years	70 kg
	Soil and Dust				
	Inhalation of	20 cu.m./workday	250 days/yr	25 years	70 kg
	Volatiles				
	Agricultural	Consumption of Homegrown Produce	42 g-fruit 80 g-vegetables	350 days/yr	30 years
Factors for ingestion of potable water, soil and dust, and inhalation of volatiles: Use the Residential Land Use factors.					
Recreational	Consumption of	10 g-freshwater	350 days/yr	30 years	70 kg
	Locally Caught Fish	15 g-saltwater			

(c) For risk reduction standards Numbers 1, 2, and 3. In order for a treatment process to achieve decontamination in contrast to being a control measure, the person must demonstrate to the satisfaction of the executive director that the treatment process permanently alters all contaminants to levels that will not pose a substantial present or future threat to human health and the environment, and must further demonstrate that any residue remaining in place from the treatment will not pose the threat of any future release that would increase the concentrations of contaminants in environmental media above the cleanup levels determined for that particular risk reduction standard.

(d) For risk reduction standards Numbers 1, 2, and 3, attainment of cleanup levels shall be demonstrated by collection and analysis of samples from the media of concern. Persons shall utilize techniques de-

scribed in SW 846, Test Methods for Evaluating Solid Waste, United States Environmental Protection Agency, or other available guidance in developing a sampling and analysis plan appropriate for the distribution, composition and heterogeneity of contaminants and environmental media. A sufficient number of samples shall be collected and analyzed for individual compounds to both accurately assess the risk to human health and the environment posed by the facility or area and to demonstrate the attainment of cleanup levels. Non compound-specific analytical techniques (e.g., Total Petroleum Hydrocarbons, Total Organic Carbon, etc.) may, where appropriate for the nature of the wastes or contaminants, be used to aid in the determination of the lateral and vertical extent and volume of contaminated media; however, such non compound-specific analyses will serve only as indicator measures and must be appropriately supported by compound-specific anal-

yses. Comparisons may be based on the following methods:

(1) direct comparison of the results of analysis of discrete samples of the medium of concern with the cleanup level;

(2) for a data set of ten or more samples, statistical comparison of the results of analysis utilizing the 95% confidence limit of the mean concentration of the contaminant as determined by the following expression: $\text{Cleanup Level} \geq \bar{x} + ts/\text{sqrt}(n)$, where \bar{x} is the mean concentration, s is the standard deviation and t is a value from Table 2 (located following paragraph (3) of this subsection) based on the number of samples, and $\text{sqrt}(n)$ is the square root of the sample size; or

(3) other statistical methods appropriate for the distribution of the data, subject to prior approval by the executive director.

Table 2. Values for "t" (for use with §335.553(d)).

n	t	n	t	n	t
10	1.812	20	1.725	50	1.676
11	1.796	21	1.721	60	1.671
12	1.782	22	1.717	70	1.667
13	1.771	23	1.714	80	1.664
14	1.761	24	1.711	90	1.662
15	1.753	25	1.708	100	1.661
16	1.746	30	1.697	120	1.658
17	1.740	35	1.690	145	1.656
18	1.734	40	1.684		
19	1.729	45	1.680		

(e) For Risk Reduction Standards Numbers 2 and 3, in determining toxicity information for contaminants (e.g., Environmental Protection Agency carcinogen classification, type of toxicant, reference doses, carcinogenic slope factors, etc.), persons shall utilize values from the following sources in the order indicated. For Risk

Reduction Standard Number 2, persons may utilize data from these sources that are more current than those used to derive the unadjusted MSCs listed in §335.568 of this title (relating to Appendix II), provided that substantiating information is furnished to the executive director in the report required by §335.555(f) of this title (relating to Attainment of Risk Reduction Standard Number 2):

- (1) integrated Risk Information System (IRIS);
- (2) health Effects Assessment Summary Table (HEAST);
- (3) united States Environmental Protection Agency Criteria Documents;

(4) agency for Toxic Substances and Disease Registry (ATSDR) Toxicological Profiles; and

(5) other scientifically valid published sources.

(f) For risk reduction standards Numbers 2 and 3, persons determining cleanup levels for contaminated media characterized by non compound-specific analytical techniques (e.g., Total Petroleum Hydrocarbons, Total Organic Carbon, etc.) and for which individual compounds such as hazardous constituents are not present as contaminants, must at a minimum consider other scientifically valid published numeric criteria to address: adverse impacts on environmental quality; adverse impacts on the public welfare and safety; conditions that present objectionable characteristics (e.g., taste, odor, etc.); or conditions that make a natural resource unfit for use.

§335.554. Attainment of Risk Reduction Standard Number 1: Closure/Remediation to Background.

(a) Compliance with this standard is attained when the criteria set forth in subsections (b)-(g) of this section are met.

(b) For closure of hazardous waste management units and response to unauthorized discharges of hazardous waste, all hazardous waste and hazardous waste residues and contaminated design and operating system components such as liners, leachate collection systems and dikes must be removed from the unit or area of the unauthorized discharge. For remediation of media that have become contaminated by releases from a hazardous waste management unit or by other unauthorized discharge of hazardous waste, the contaminated media must be removed or decontaminated to cleanup levels specified in this section.

(c) For closure of non-hazardous industrial solid waste management units, response to unauthorized discharges of non-hazardous industrial solid waste, and the remediation of media that have become contaminated by discharges of non-hazardous industrial solid waste or other contaminants, all waste and waste residues, contaminated design and operating system components such as liners, leachate collection systems and dikes, and contaminated media must be removed or decontaminated to cleanup levels specified in this section.

(d) Background as represented by results of analyses of samples taken from media that are unaffected by waste management or industrial activities shall be used to determine compliance with the requirements of this section. If the Practical Quantitation Limit (PQL) is greater than background, then the PQL rather than background shall

be used as the cleanup level provided that the person satisfactorily demonstrates to the executive director that lower levels of quantitation of a contaminant are not possible.

(e) Attainment of cleanup levels shall be demonstrated by collection and analysis of samples from the media of concern using the procedures of §335.553(d) of this title (relating to Required Information).

(f) The person must submit a report to the executive director in accordance with §335.553(a) of this title (relating to Required Information) that documents compliance with the requirements of this section.

(g) Provided that attainment of this risk reduction standard for the facility or area can be demonstrated to the executive director pursuant to this section, the person is released from deed recordation requirements of §335.5 of this title (relating to Deed Recordation of Waste Disposal) and post-closure care responsibilities.

§335.555. Attainment of Risk Reduction Standard Number 2: Closure/Remediation to Health-Based Standards and Criteria.

(a) Compliance with this standard is attained when the criteria set forth in subsections (b)-(f) of this section are met.

(b) For closure of hazardous waste management units and response to unauthorized discharges of hazardous waste, all hazardous waste and hazardous waste residues must be removed from the unit or area of the unauthorized discharge. Contaminated design and operating system components such as liners, leachate collection systems and dikes must be removed from the unit or area of the unauthorized discharge. For remediation of media that have become contaminated by releases from a hazardous waste management unit or by other unauthorized discharge of hazardous waste, the contaminated media must be removed or decontaminated to cleanup levels specified in this section or such other lower levels necessary to be in conformance with current hazardous waste regulations.

(c) For closure of non-hazardous industrial solid waste management units, response to unauthorized discharges of non-hazardous industrial solid waste, and the remediation of media that have become contaminated by discharges of non-hazardous industrial solid waste or other contaminants, all waste and waste residues, contaminated design and operating system components such as liners, leachate collection systems and dikes, and contaminated media must be removed or decontaminated to cleanup levels specified in this section.

(d) The concentration of a contaminant in contaminated media of concern such as ground water, surface water, air or soil

shall not exceed cleanup levels as defined in §335.556 of this title (relating to Determination of Cleanup Levels for Risk Reduction Standard Number 2).

(1) If the Practical Quantitation Limit (PQL) and/or the background concentration, determined in a manner consistent with §335.554 of this title (relating to Attainment of Risk Reduction Standard Number 1) for a contaminant is greater than the cleanup level, the greater of the PQL or background shall be used for determining compliance with the requirements of this section.

(2) Attainment of cleanup levels shall be demonstrated by collection and analysis of samples from the contaminated media of concern using the procedures of §335.553(d) of this title (relating to Required Information).

(e) The person must prepare a document that he intends to use to fulfill the deed certification requirements of §335.560 of this title (relating to Post Closure Care and Deed Certification for Risk Reduction Standard Number 2) and include this document as part of the report of subsection (f) of this section.

(f) The person must submit a report to the executive director in accordance with §335.553(a) of this title (relating to Required Information) that documents compliance with the requirements of this section. The executive director may require additional information or analysis, such as but not limited to, consideration of cumulative health effects and cross-media contamination, prior to accepting a certification of closure or remediation under this performance standard. Upon approval of the report by the executive director, the person shall comply with the requirements of §335.560 of this title (relating to Post Closure Care and Deed Certification for Risk Reduction Standard Number 2).

§335.556. Determination of Cleanup Levels for Risk Reduction Standard Number 2.

(a) For purposes of this risk reduction standard, cleanup levels for individual contaminants are represented by Texas or federal promulgated health-based standards, or, when these are not available or do not provide appropriate protection for human health or the environment, persons must develop cleanup levels based on procedures specified or referenced in this section for determining other numeric criteria, referred to as Medium Specific Concentrations (MSCs), and are required to perform any necessary adjustments to these numeric criteria. The MSCs address a single contaminant in a medium and consider one or more exposure pathways, specifically, water ingestion (Water MSC) and soil ingestion with inhalation of volatiles and particulates

(Soil MSC). Where a contaminant in one medium has the potential to contaminate another medium, defined as cross-media contamination, additional numeric criteria are developed as cleanup levels (e.g., the soil-to-ground water contaminant pathway). To determine cleanup levels for contaminated media of concern, persons must perform the evaluations of subsections (b)-(e) of this section.

(b) In addition to the exposure pathways defined or referenced in this section, the person must evaluate other exposure pathways at or near the facility (e.g., dermal absorption, ingestion of contaminated fish, etc.) by which human populations (including sensitive subgroups) or environmental receptors (e.g., aquatic organisms, food-chain crops, etc.) are likely to be exposed to contaminants. If such evaluation indicates the need for additional remediation at the facility to adequately protect human health or environmental receptors, then the person shall develop numeric criteria by utilizing available guidance or scientific literature to serve in place of, or in addition to, cleanup levels determined pursuant to this section.

(c) The person must determine the appropriate exposure factors from §335.557 of this title (relating to Criteria for Selection of Non-Residential Soil Requirements for Risk Reduction Standard Number 2).

(d) The person must calculate MSCs in accordance with §335.558 of this

title (relating to Medium Specific Concentrations for Risk Reduction Standard Number 2).

(e) The person must determine any cross-media requirements and modifications to cleanup levels in accordance with §335.559 of this title (relating to Medium Specific Requirements and Adjustments for Risk Reduction Standard Number 2).

§335.557. *Criteria for Selection of Non-Residential Soil Requirements for Risk Reduction Standard Number 2.* All facilities or areas shall be subject to the residential soil requirements unless one of the conditions of paragraphs (1)-(3) of this section is satisfied for use of the non-residential soil requirements.

(1) For property located within the jurisdictional area of a zoning authority, persons may provide documentation that the property is zoned for commercial or industrial use.

(2) For property not located within the jurisdictional area of a zoning authority, persons may provide documentation that the activities being conducted on the property satisfy the definition for non-residential property (§335.553 of this title (relating to Definitions)).

(3) For government-owned (local, state, or federal) property which does not satisfy either of the conditions of subsections (a) or (b) of this section but does

have non-residential activities occurring on all or portions of the property, the person may provide documentation that access will be restricted such that the exposure assumptions remain valid for the duration of government control.

§335.558. *Medium Specific Concentrations for Risk Reduction Standard Number 2.*

(a) Medium specific concentrations (MSCs) for ingestion of surface water and ground water, and soil ingestion along with inhalation of volatiles and particulates are calculated according to the procedures specified in subsections (b)-(d) of this section based on residential exposure factors. MSCs are subject to additional numeric criteria and adjustments of §335.559 of this title (relating to Medium Specific Requirements and Adjustments for Risk Reduction Standard Number 2). The derivation of all equations is presented in §335.567 of this title (relating to Appendix I).

(b) For a contaminant which is a carcinogen, the MSC is the concentration which represents an excess upper bound lifetime cancer Target Risk (TR) of 0.000001 (also expressed as one in one million) for Class A and B carcinogens, or 0.00001 (also expressed as one in 100,000) for Class C carcinogens due to continuous lifetime exposure as calculated using the equations and factors listed in paragraphs (1) and (2) of this subsection.

(1) Water MSC for Ingestion, in units of milligrams per liter (mg/L):

$$MSC = \frac{85.16 (TR)}{SF_0} \quad \text{Equation 1}$$

where SF_0 is the chemical-specific oral cancer slope factor.

(2) Soil MSC for Ingestion with Inhalation of volatiles and particulates, in units of milligram per kilogram (mg/kg):

$$\text{Equation 2}$$

$$MSC = \frac{5110 (TR)}{[(7.98 \times 10^{-3}) \times SF_0] + [SF_i \times [(450/VF) + (9.72 \times 10^{-8})]]}$$

where VF is the chemical-specific soil-to-air volatilization factor.

(c) For a contaminant which is a systemic toxicant, the MSC is the concentration to which human populations (including sensitive subgroups) could be exposed by direct ingestion or inhalation on a daily

basis without appreciable risk of deleterious effects during a lifetime. The MSC is calculated using the equations and factors listed in paragraphs (1) and (2) of this subsection.

(1) Water MSC for Ingestion in units of milligram per liter (mg/L):

$$MSC = 36.5 \text{ RfD}_o \text{ mg/L} \quad \text{Equation 3}$$

where RfD_o is the chemical-specific oral reference dose.

(2) Soil MSC for Ingestion with Inhalation of volatiles and particulates, in units of milligram per kilogram (mg/kg):

$$\text{Equation 4}$$

$$MSC = 2190 \text{ mg/kg} \\ [(7.98 \times 10^{-3}/\text{RfD}_o) + ((1/\text{RfD}_o) \times [(450/\text{VF}) + (9.72 \times 10^{-4})])]$$

where VF is the chemical-specific soil-to-air volatilization factor.

(d) Examples of unadjusted MSCs, standards and criteria are listed in §335.568 of this title (relating to Appendix II: "Examples of Medium Specific Concentrations, Standards and Criteria for Health-Based Closure/Remediation (§335.558).") The Commission will revise Appendix II on an annual basis to reflect newly promulgated standards and MSCs based on current toxicological data.

§335.559. Medium Specific Requirements and Adjustments for Risk Reduction Standard Number 2.

(a) Numeric cleanup levels. The subsections (b)-(h) of this section specify requirements that can define or modify numeric cleanup levels such as MSCs or require non-health based criteria to be addressed.

(b) Surface water. In determining the necessity for remediation at the facility, persons shall utilize Chapter 307 of this title (relating to Texas Surface Water Quality Standards) or, if those values are not avail-

able, Maximum Contaminant Levels (MCLs) promulgated under the Safe Drinking Water Act, or if MCLs are not available or appropriate, MSCs based upon human ingestion of the water. Any discharge or release into or adjacent to surface water, including storm water runoff, occurring during or after attainment of Risk Reduction Standard Number 2, shall be compliant with the Texas Surface Water Quality Standards of Chapter 307 of this title and may be subject to the permitting requirements of Chapter 305 of this title (relating to Consolidated Permits) or other authorization from the commission.

(c) Air. In determining the necessity for remediation at the facility, persons shall observe limitations established by the National Ambient Air Quality Standards (NAAQS) and the National Emission Standards for Hazardous Air Pollutants (NESHAPS) as found in the 40 Code of Federal Regulations Parts 50 and 61, respectively, and other applicable federal standards and guidelines of the United States Environmental Protection Agency. Also, limitations established by the Texas

Air Control Board (TACB) under the Texas Clean Air Act, the State Implementation Plan or other federal requirements must be observed. Permit requirements, limitations established by Standard Exemptions, or other requirements of the TACB relative to atmospheric emissions and/or air quality may also apply.

(d) Ground water. The ground-water cleanup levels shall be determined by a consideration of the following.

(1) For residential exposure, the concentration of a contaminant dissolved in ground water must not exceed the Maximum Contaminant Level (MCL), if promulgated pursuant the Federal Safe Drinking Water Act, §141, otherwise the water MSC for ingestion determined pursuant to §335.556 of this title (relating to Determination of Cleanup Levels for Risk Reduction Standard Number 2). Phase-separated non-aqueous liquids released from the unit that is undergoing closure or remediation must be removed or decontaminated.

(2) For non-residential exposure, the concentration of a contaminant

dissolved in ground water must not exceed the Maximum Contaminant Level (MCL) if promulgated pursuant to the Federal Safe Drinking Water Act, §141. If no MCL has been promulgated, the ground water concentration shall not exceed the water MSC for ingestion determined pursuant to §335.556 of this title (relating to Determination of Cleanup Levels for Risk Reduction Standard Number 2), which has been multiplied by a factor of 3.36 for carcinogens or 2.8 for systemic toxicants to account for lower ingestion rates associated with non-residential worker exposure. Persons must be able to demonstrate that the quality of ground water at the facility property boundary will be protective for residential exposure. Phase-separated non-aqueous liquids released from the unit that is undergoing closure or remediation must be removed or decontaminated to the extent practicable.

(3) For residential and non-residential exposure, if the ground water at the facility or area has a naturally occurring background Total Dissolved Solids concentration greater than 10,000 milligrams per liter, the cleanup level for a contaminant dissolved in this ground water determined pursuant to paragraph (1) or (2) of this subsection, as appropriate, may be adjusted by multiplying by 100. The resulting value becomes the maximum concentration for ground water for residential and non-residential exposure, respectively.

(4) The executive director may require the evaluation of additional exposure pathways or environmental receptors as part of the adjustment of paragraph (3) of this subsection.

(e) Soil. For all situations, concentrations of contaminants in soils must be protective of surface water, air and ground water as specified in subsections (b), (c), and (d) of this section. No soil remaining in place shall exhibit the hazardous waste characteristics of ignitability, corrosivity, or reactivity as defined in 40 Code of Federal Regulations, Part 261, Subpart C. The sum of concentrations of the volatile organic compounds in vapor phase in soil shall not exceed 1,000 parts per million by weight or volume, as measured by EPA Test Method 8015 or calculated by using soil concentrations and Henry's Law constants.

(f) Residential soil requirements. In addition to the requirements of subsection (e) of this section, the concentration of a contaminant throughout the soil column (i.e., surface and subsurface soils) shall not exceed the lower of the Soil MSC, based upon residential human ingestion of soil and inhalation of particulates and volatiles (as defined in the preceding section), and the Residential Soil-to-Ground Water Cross-Media Protection Concentration, a numeric value which is determined as follows:

(1) a value which is one hundred times the residential ground water cleanup level determined by the procedures of paragraph (1) of subsection (d) of this section. Examples of such values are listed in Appendix II; or

(2) a concentration in soil that does not produce a leachate in excess of MCLs or MSCs for ground water when subjected to the Synthetic Precipitation Leaching Procedure, Method 1312 of SW 846, Test Methods for Evaluating Solid

Waste, United States Environmental Protection Agency. Other test methods that more accurately simulate conditions at the facility may be used in the demonstration in place of this method, subject to prior approval of the executive director.

(g) Non-residential soil requirements. Non-residential soils shall conform to the requirements of subsection (e) of this section. The concentration of a contaminant in near-surface soils (i.e., within two feet of the land surface) shall not exceed the lower of the Non-Residential Soil MSC defined in paragraph (1) of this subsection, based upon worker ingestion of soil and inhalation of particulates and volatiles, and the Non-Residential Soil-to-Ground Water Cross-Media Protection Concentration defined in paragraph (2) of this subsection. In no event shall compliance be achieved with the surface soil criteria by applying two feet of clean soil onto the surface of a facility or area without prior approval from the executive director. The concentration of a contaminant in subsurface soils (i.e., greater than two feet in depth from the land surface) shall not exceed the Non-Residential Soil-to-Ground Water Cross-Media Protection Concentration.

(1) Non-residential soil MSC. The MSC is calculated using the equations and factors listed in subparagraphs (A) and (B) of this paragraph. The chemical-specific factors SF₁, SF₂, RfD₁, RfD₂, and VF are the same as for the soil MSCs of the preceding section. The derivation of all equations is presented in Appendix I.

(A) Carcinogenic Effects Equation, in units of milligram per kilogram (mg/kg):

Equation 5

$$\text{MSC} = \frac{286.16 (\text{TR})}{\left[(5 \times 10^{-5}) \times \text{SF}_0 + (\text{SF}_1 \times [(20/\text{VF}) + (4.3 \times 10^{-9})]) \right]} \quad \text{mg/kg}$$

(B) System: C Toxicant Effects Equation, in units of milligram per kilogram (mg/kg):

Equation 6

$$\text{MSC} = \frac{102.2}{\left[(5 \times 10^{-5}/\text{RFD}_0) + ((1/\text{RFD}_1) \times [(20/\text{VF}) + (4.3 \times 10^{-9})]) \right]} \quad \text{mg/kg}$$

(2) Non-residential soil-to-ground water cross-media protection con-

centration. Persons must demonstrate that a contaminant in soil does not pose the potential for a future release of leachate in excess

of the ground-water concentration considered to be protective for non-residential worker exposure. Persons may make this

demonstration by showing that a contaminant occurs in soil at less than the concentration described in either subparagraph (A) or (B) of this paragraph:

(A) a concentration which is 100 times the non-residential ground-water cleanup level determined by the procedures of paragraphs (2) or (3), as applicable, of subsection (d) of this section;

(B) a concentration in soil that does not produce a leachate in excess of the ground-water concentration of this paragraph when subjected to the Synthetic Precipitation Leaching Procedure, Method 1312 of SW 846, Test Methods for Evaluating Solid Waste, U. S. Environmental Protection Agency. Other test methods that more accurately simulate conditions at the facility may be used in the demonstration in place of this method, subject to prior approval by the executive director.

(h) Other criteria. For contaminants that do not exceed standards or criteria protective of human health and environmental receptors as determined by the procedures of this section but otherwise adversely impact environmental quality, or the public welfare and safety, or present objectionable characteristics (e.g., taste, odor, etc.), or make a natural resource unfit for use, other scientifically valid published criteria may be utilized such as, but not limited to, Threshold Limit Values for air and secondary maximum contaminant levels for water.

§335.560. Post Closure Care and Deed Certification for Risk Reduction Standard Number 2.

(a) Provided that attainment of this risk reduction standard for the facility can be demonstrated to the executive director pursuant to §335.555 of this title (relating to Attainment of Risk Reduction Standard Number 2), the conditions of subsections (b) and (c) of this section apply.

(b) The person is required to place in the county deed records of the county or counties in which such activities take place the information specified in paragraphs (1)-(4) of this subsection. The statements should be worded such that a lay person can easily understand them. An example format is provided in §335.569 of this title (relating to Appendix III). Proof of deed certification of the required information shall be provided to the executive director in writing no later than 90 days after acceptance of the report required by §335.555(f) of this title (relating to Attainment of Risk Reduction Standard Number 2):

(1) a certification signed by the person, showing the person's full name and title, and stating that closure or remediation

of the facility or area was carried out in accordance with a plan designed to meet §335.555 of this title (relating to Risk Reduction Standard Number 2), which mandates that the remedy be designed to eliminate substantial present and future risk, such that no post-closure care or engineering or institutional control measures are required to protect human health and the environment;

(2) a metes and bounds description of the portion or portions of the tract of land on which closure or remediation of industrial solid waste, municipal hazardous waste or contaminants was achieved;

(3) for a facility that satisfies the conditions of §335.557 of this title (relating to Criteria for Selection of Non-Residential Soil Requirements for Risk Reduction Standard Number 2) for use of non-residential soil requirements, a statement that current or future owners of the facility must undertake actions as necessary to protect human health and the environment in accordance with the rules of the commission;

(4) a statement that information and documents concerning the closure or remediation of the facility or area are available for inspection upon request at the Texas Water Commission. The statement shall further describe the jurisdiction of the Texas Water Commission to review the establishment of the final cleanup criteria.

(c) The person is released from post-closure care responsibilities upon acceptance by the executive director of the proof of deed certification required by subsection (b) of this section.

§335.563. Media Cleanup Requirements for Risk Reduction Standard Number 3.

(a) General. For closure/remediation in accordance with Risk Reduction Standard Number 3, persons shall propose media cleanup levels in accordance with the conditions set forth in subsections (b)-(j) of this section.

(b) Carcinogens. For known or suspected carcinogens, media cleanup levels shall be established at concentrations which represent an excess upperbound lifetime risk of between one in 10,000 and one in one million. The executive director will use one in one million as a goal in establishing such concentration limits. The cumulative excess risk to exposed populations (including sensitive subgroups) shall not be greater than one in 10,000.

(c) Systemic toxicants. For systemic toxicants, media cleanup levels shall represent concentrations to which the human population (including sensitive subgroups) could be exposed on a daily basis without appreciable risk of deleterious ef-

fect during a lifetime or part of a lifetime and where:

(1) the hazard quotient, which is the ratio of a single systemic toxicant exposure level for a specified time period to a reference dose for that systemic toxicant derived from the same time period, shall not exceed one; and

(2) the hazard index shall not exceed one. The hazard index is the sum of the hazard quotients for a single or multiple systemic toxicants which affect the same target organ or act by the same method of toxicity and act through a single or multiple media exposure pathways.

(d) Additional considerations. In establishing media cleanup levels pursuant to subsections (b) and (c) of this section, the executive director may consider and may direct persons who submit plans or reports in accordance with §335.553(b) of this title (relating to Required Information) to address the following:

(1) multiple contaminants in a medium;

(2) exposure to multiple contaminated media;

(3) reasonable expected future exposure conditions at the facility; and

(4) the technical limitations, effectiveness, practicability, or other relevant features of available remedies.

(e) Standard exposure factors. In determining media cleanup levels pursuant to subsections (b) and (c) of this section, persons shall use the standard exposure factors for residential use of the facility as set forward in Table 1 (located following §335.553) unless the person documents to the satisfaction of the executive director that:

(1) site-specific data warrant deviation from the standard exposure factors; or

(2) a land use other than residential is more appropriate based on:

(A) historical, current, and probable future land use; and

(B) effectiveness of institutional or legal controls placed on the future use of the land.

(f) Air. Media cleanup levels for air will be established to meet the lowest of the values determined by the requirements of paragraphs (1)-(3) of this subsection.

(1) Concentrations of contaminants in air that emanate from a facility, area of soil contamination, or plume of contaminated ground water shall not exceed:

(A) National Ambient Air Quality Standards (NAAQS), National Emission Standards for Hazardous Air Pollutants (NESHPAS) (as found in 40 Code of Federal Regulation Parts 50 and 61 respectively) and other applicable federal standards and guidelines of the Environmental Protection Agency; and

(B) concentrations established by the Texas Air Control Board (TACB) under the Texas Clean Air Act, the State Implementation Plan or other federal requirements. Permit requirements, limitations established by Standard Exemptions, or other requirements of the TACB relative to atmospheric emissions and/or air quality may also apply.

(2) For residential exposure conditions, concentrations of contaminants in air that emanate from a facility, area of soil contamination, or plume of contaminated ground water shall not exceed concentrations that satisfy subsections (b)-(e) of this section at exposure points located both within the contaminated area and at the property boundary.

(3) For nonresidential exposure conditions, concentrations of contaminants in air that emanate from a facility, area of soil contamination, or plume of contaminated ground water shall not exceed either OSHA permissible exposure limits, threshold limit values or other criteria applicable to an industrial exposure setting within the facility boundaries or concentrations that satisfy subsections (b)-(e) of this section at the property boundary.

(g) Surface water. In determining the necessity for remediation at the facility, persons shall utilize Chapter 307 of this title (relating to Texas Surface Water Quality Standards) or, if those values are not available, Maximum Contaminant Levels (MCLs) promulgated under the Safe Drinking Water Act or, if MCLs are not available or appropriate, values calculated pursuant to subsections (b)-(e) of this section based upon human ingestion of the water or other site-specific exposure pathway. Any discharge or release into or adjacent to surface water, including storm water runoff, occurring during or after attainment of Risk Reduction Standard Number 3, shall be compliant with Chapter 307 of this title and may be subject to the permitting requirements of Chapter 305 of this title (relating to Consolidated Permits) or other authorization from the Commission.

(h) Ground water. Media cleanup levels for ground water that is a current or potential source of drinking water as defined in paragraph (1) of this subsection shall not exceed Maximum Contaminant Levels (MCLs) promulgated under the Safe

Drinking Water Act or, if MCLs are not available, values calculated according to subsections (b)-(e) of this section based upon human ingestion of the water. Cleanup levels for ground water may be subject to the modifications of paragraphs (2)-(4) of this subsection.

(1) Ground water that has a background Total Dissolved Solids (TDS) content less than or equal to 10,000 milligrams per liter (mg/L) and that occurs within a geologic zone that is sufficiently permeable to transmit water to a pumping well in usable quantities shall be considered a current or potential source of drinking water for the purpose of determining cleanup levels.

(2) The cleanup levels shall be achieved throughout the plume of contaminated ground water, with the exception of the circumstances described in subparagraphs (A)-(C) of this paragraph:

(A) when Alternate Concentration Limits of §335.160(b) of this title (relating to Alternate Concentration Limits) have been approved in a permit issued by the Commission for a hazardous waste management facility;

(B) when the selected remedy calls for waste to be left in place and when appropriate control measures are installed or operated, the executive director may authorize the zone underlying the area encompassing the original source(s) of release to be excluded from this requirement;

(C) when the person documents to the executive director's satisfaction pursuant to subsection (e) of this section that a future land use other than residential is appropriate for the facility or area and further demonstrates that institutional or legal controls will effectively prevent use of the contaminated ground water, the extent of plume remediation may be determined in a manner consistent with §335.160(b) of this title (relating to Alternate Concentration Limits).

(3) The executive director may determine that remediation of ground water to the extent required in paragraphs (1) or (2) of this subsection is not necessary if the person demonstrates to the executive director's satisfaction that:

(A) the contaminant is present in ground water that is not a current or potential source of drinking water and the contaminated ground water is not hydraulically connected with and is not likely to migrate to either surface water or to ground water that is a current or potential source of drinking water.

(B) restoration of the ground water to these levels is technically impracticable.

(4) If a determination is made pursuant to paragraph (3) of this subsection, the executive director may require any alternative measures or cleanup levels that are necessary to protect human health and the environment. At a minimum, for all cases described in this subsection, phase-separated non-aqueous liquids shall be removed from ground water zones to the extent practicable.

(i) Soil. Concentrations of contaminants in soil shall not exceed the following values:

(1) the values calculated pursuant to subsections (b)-(d) of this section based upon human ingestion of the soils at all points where direct contact exposure to the soils may occur; and

(2) values which will allow the air, surface water, and ground-water cleanup levels specified in subsections (f), (g), and (h) of this section, respectively, to be maintained over time taking into account the effects of engineering controls.

(A) Such determinations shall be based on sound scientific principles including fate and transport evaluation of contaminant migration. Procedures and conclusions shall be documented to the satisfaction of the executive director.

(B) The executive director may require the evaluation of additional migration pathways beyond those listed in this section if determined necessary. Such additional pathways may include but are not limited to food chain contamination, impairment of soil for agricultural purposes, phytotoxicity, accumulations of contaminants in sediment of surface water bodies, or other impairments of natural resources, land, or water use.

(j) Other adjustments. Cleanup levels may be adjusted according to paragraphs (1)-(3) of this subsection.

(1) If the Practical Quantitation Limit (PQL) or the background concentration (represented by results of analyses of samples taken from media that are not affected by waste management or industrial activities) for a contaminant is greater than the cleanup level determined by procedures of this section, then the greater of the PQL or background shall become the cleanup level.

(2) Other scientifically valid published criteria, such as, but not limited to, Threshold Limit Values for air and secondary maximum contaminant levels for

water, shall be utilized as cleanup levels for contaminants for which the procedures of this section are not appropriate (e.g., mixtures or substances that do not have toxicological data) or that do not exceed standards or criteria protective of human health as determined by the procedures of this section but otherwise adversely impact environmental quality, or the public welfare and safety, or present objectionable characteristics (e.g., taste, odor, etc.), or make a natural resource unfit for use.

(3) More stringent cleanup levels may be established for a facility than are specified in this section if, by utilizing available guidance or scientific literature, the executive director determines that it is necessary to protect environmental receptors.

§335.566. Deed Recordation for Risk Reduction Standard Number 3.

(a) Within 90 days after acceptance by the executive director of the final report referenced in §335.561 (a) of this title (relating to Attainment of Risk Reduction

Standard Number 3), the person must record in the county deed records of the county or counties in which such activities take place the information specified in subsections (b)-(e) of this section and submit written proof of such recordation to the executive director. The statements should be worded such that a lay person can easily understand them. An example format is provided in §335.569 of this title (relating to Appendix III).

(b) A certification, signed by the person, showing the person's full name and title, and stating: that remediation of the facility or area was carried out in accordance with a plan designed to meet §335.561 of this title (relating to Risk Reduction Standard Number 3), which mandates that the remedy be designed to eliminate or reduce to the maximum extent practicable, substantial present and future risk; and (2) whether continued post-closure care or engineering or institutional control measures (Post-Closure Measures) are required to protect human health and the environment together with a description of any required Post-Closure Measures:

(1) a description of any institutional or legal controls placed by the person on the future use of the property. The notice shall indicate that the current or future owner must undertake actions as necessary to protect human health and the environment in accordance with the rules of the commission.

(2) a metes and bounds description of the portion or portions of the tract of land on which closure or remediation of industrial solid waste, municipal hazardous waste, or contaminants was achieved; and

(3) A statement that information and documents concerning the closure or remediation of the facility or area are available for inspection upon request at the Texas Water Commission. The statement shall further describe the jurisdiction of the Texas Water Commission to review the establishment of the final cleanup criteria.

§335.567. Appendix 1. Derivation of Reduced Equations for Calculation of Medium Specific Concentrations of Risk Reduction Standard Number 2.

Equation 1 - MSC for Ingestion of Water; Carcinogenic Effects:

$$\text{MSC} = \frac{85.16 \text{ TR}}{\text{SF}_0}$$

is derived from the following expression:

$$\text{MSC} = \frac{\text{TR} \times \text{BW} \times \text{AT}_c \times 365 \text{ days/yr}}{\text{SF}_0 \times \text{IR}_w \times \text{EF} \times \text{ED} \times \text{A}}$$

Equation 2 - MSC for Ingestion of Soils and Inhalation of Volatiles and Particulates; Residential Scenario; Carcinogenic Effects:

$$\text{MSC} = \frac{5110 \text{ TR}}{[(7.98 \times 10^{-3}) \times \text{SF}_0] + (\text{SF}_i \times [(450/\text{VF}) + (9.72 \times 10^6)])}$$

is derived from the following expression:

$$\text{MSC} = \frac{\text{TR} \times \text{BW} \times \text{AT}_c \times 365 \text{ days/yr}}{\text{EF} [(\text{BW} \times \text{SF}_0 \times 10^{-6} \text{ Kg/mg} \times \text{IF}_{\text{soil/adj.}}) + (\text{SF}_i \times \text{ED} \times \text{IR}_{\text{air}} \times [1/\text{VF} + 1/\text{PEF}])]}$$

Equation 3 - MSC for Ingestion of Water; Systemic Toxicant Effects:

$$\text{MSC} = 36.5 \text{ RfD}_0$$

is derived from the following expression:

$$\text{MSC} = \frac{\text{THI} \times \text{RfD}_0 \times \text{BW} \times \text{AT}_c \times 365 \text{ days/yr}}{\text{IR}_w \times \text{EF} \times \text{ED} \times \text{A}}$$

Equation 4 - MSC for Ingestion of Soils and Inhalation of Volatiles and Particulates; Residential Scenario; Systemic Toxicant Effects:

$$MSC = \frac{2190}{[(7.98 \times 10^3 / RfD_o) + ((1/RfD_i) \times [(450/VF) + (9.72 \times 10^8)])]}$$

is derived from the following expression:

$$MSC = \frac{THI \times BW \times AT \times 365 \text{ days/yr}}{EF \{ [(1/RfD_o) \times BW \times 10^{-6} \text{ Kg/mg} \times IF_{soil/adj}] + ((1/RfD_i) \times ED \times IR_{air} [1/VF + 1/PEF]) \}}$$

Equation 5 - MSC for Worker Ingestion of Soils and Inhalation of Volatiles and Particulates; Carcinogenic Effects:

$$MSC = \frac{286.16 \text{ TR}}{[(5 \times 10^5) \times SF_o] + (SF_i \times [(20/VF) + (4.3 \times 10^9)])}$$

is derived from the following expression:

$$MSC = \frac{TR \times BW \times AT \times 365 \text{ days/yr}}{EF \times ED \times [(SF_o \times 10^{-6} \text{ Kg/mg} \times IR_{soil}) + (SF_i \times IR_{air} \times [1/VF + 1/PEF])]}$$

Equation 6 - MSC for Worker Ingestion of Soils and Inhalation of Volatiles and Particulates; Systemic Toxicant Effects:

$$MSC = \frac{102.2}{[(5 \times 10^3 / RfD_o) + ((1/RfD_i) \times [(20/VF) + (4.3 \times 10^9)])]}$$

is derived from the following expression:

$$MSC = \frac{THI \times BW \times AT \times 365 \text{ days/yr}}{EF \times ED \times [(1/RfD_o) \times 10^{-6} \text{ Kg/mg} \times IR_{soil}] + ((1/RfD_i) \times IR_{air} \times (1/VF + 1/PEF))]}$$

VF: Parameters, Definitions and Values for the Soil to Air
Volatilization Factor

$$VF(m^3/kg) = \frac{(LS \times V \times DH)}{A} \times \frac{(3.14 \times \alpha \times T)^{1/2}}{(2 \times D_{ei} \times E \times K_{sa} \times 10^{-3} \text{ kg/g})}$$

SITE DATA/DEFAULT FACTORS:

LS	Length of contaminated area (m)	=	45
E	true soil porosity (unitless)	=	0.35
V	wind speed in mixing zone (m/s)	=	2.25
ps	true soil density (g/cm ³)	=	2.65
DH	diffusion height (m)	=	2
T	exposure interval (s)	=	7.90e+08
A	area of contamination (cm ²)	=	2.03e+07
OC	organic carbon content, soil fraction (unitless)	=	0.02

CHEMICAL SPECIFIC DATA:

D _i	Molecular Diffusivity (cm ² /s).
H	Henry's Law Constant (atm-m ³ /mol).
K _{oc}	Organic Carbon Partition Coefficient (cm ³ /g).
D _{ei}	Effective Diffusivity (cm ² /sec), calculated from D _i X E ^{0.33} .
K _d	Soil-water partition coefficient (cm ³ /g), calculated from K _{oc} X OC.
α	Alpha, (cm ² /s) = $\frac{(D_{ei} \times E)}{E + (p_s)(1-E)/K_{sa}}$
K _{sa}	Soil/air partition coefficient (g soil/cm ³ air). Calculated from K _{sa} = (H/K _d) X 41.

Parameters, Definitions and Values used in Equations 1 through 6 are displayed in the following table:

Parameters	Definitions (Units)	Values
MSC	Medium Specific Concentration (mg/Kg)	chemical-specific
TR	Target excess individual lifetime cancer risk (unitless)	10 ⁻⁶ for Class A and B carcinogens; 10 ⁻⁵ for Class C carcinogens
THI	Target hazard index (unitless)	1
SF _o	Oral cancer slope factor ((mg/Kg-day) ⁻¹)	chemical-specific
SF _i	Inhalation cancer slope factor ((mg/Kg-day) ⁻¹)	chemical-specific
RfD _o	Oral chronic reference dose (mg/Kg-day)	chemical-specific
RfD _i	Inhalation chronic reference dose (mg/Kg-day)	chemical-specific
BW	Adult body weight (Kg)	70 Kg
AT _c	Averaging time for carcinogens (yr)	70 yr
AT _s	Averaging time for systemic toxicants (yr)	30 yr residential 25 yr worker
EF	Exposure frequency (days/yr)	350 residential 250 worker
ED	Exposure duration (yr)	30 yr residential 25 yr worker
IR _w	Daily water ingestion rate (liter/day)	2 l/day residential 1 l/day worker
IR _{soil}	Workday soil ingestion rate (mg/day)	50 mg/day
IF _{soil/adj}	Age-adjusted ingestion factor (mg-yr/Kg-day)	114 mg-yr/Kg-day
IR _{air}	Daily indoor inhalation rate (m ³ /day)	15 m ³ /day residential 20 m ³ /8 hr day worker
PEF	Particulate emission factor (m ³ /Kg)	4.63 x 10 ⁹ m ³ /Kg
VF	Soil-to-air volatilization factor	chemical-specific
A	Absorption factor	1

Reference: U.S. EPA, OSWER Directive 9285.7-01B, December 13, 1991, Human Health Evaluation Manual, Part B: "Development of Risk-based Preliminary Remediation Goals"

§335.568. *Appendix II. Examples of Medium-Specific Concentrations, Standards, and Criteria for Health-Based Closure/Remediation* (See §335.558 of this title (relating to Medium Specific Concentration of Risk Reduction Standards Number 2.))
CAS # = Chemical Abstracts Service Number for the Specific Compound.

GW = Groundwater. Maximum Concentration in Ground water (mg/L) for residential exposure conditions.

GWP-Res = Ground-Water Protection Standard for Residential Use. Concentration in Residential Soil Assumed Protective of Groundwater Considering Cross-media Contamination of Groundwater from Contaminated Soil (mg/kg).

GWP-Ind = Groundwater Protection Standard for Industrial Use. Concentration in Industrial Soil Assumed Protective of Groundwater Considering Cross-media Contamination of Groundwater from Contaminated Soil (mg/kg).

SAI-Res = Soil/Air and Ingestion Standard for Residential Use. Maximum Concentration in Residential Soil Considering Cross-media Contamination of Air and the Human Ingestion and Inhalation Pathways (mg/kg).
SAI-Ind = Soil/Air and Ingestion Standard for Industrial Use. Maximum Concentration in Industrial Soil.

Considering Cross-media Contamination of Air and the Human Ingestion and Inhalation Pathways (mg/kg).

CONSTITUENT	CAS #	GW (1-4)	GMP-Res (1,5)	GMP-Ind (1,6)	SAI-Res (1,7, 10,11)	SAI-Ind (1,8, 10,11)
Acenaphthene	83-32-9	2.19e+00	2.19e+02	6.13e+02	1.34e+04 (13)	4.43e+04 (13)
Acetone	67-64-1	3.65e+00	3.65e+02	1.02e+03	3.82e+03 (13)	4.16e+03 (13)
Acetonitrile	75-05-8	2.19e-01	2.19e+01	6.13e+01	1.65e+03	1.23e+04
Acetophenone	98-86-2	3.65e+00	3.65e+02	1.02e+03	2.26e+04	8.15e+04
Acrolein	107-02-8	7.30e-01 (12)	7.30e+01	2.04e+02	1.56e+03 (12)	2.04e+04 (12)
Acrylamide	79-06-1	1.89e-05	1.89e-03	6.36e-03	1.42e-01	1.27e+00
Acrylonitrile	107-13-1	1.58e-04	1.58e-02	5.30e-02	1.15e-01 (13)	1.44e-01 (13)
Atachlor	15972-60-8	2.00e-03 (9)	2.00e-01	2.00e-01	7.95e+00	7.10e+01
Aldicarb	116-06-3	3.00e-03 (9)	3.00e-01	3.00e-01	5.49e+01	4.09e+02
Aldicarb Sulfone	1646-88-4	2.00e-03 (9)	2.00e-01	2.00e-01	8.23e+01	6.13e+02
Aldicarb Sulfoxide	1646-88-3	4.00e-03 (9)	4.00e-01	4.00e-01	5.49e+01	4.09e+02
Aldrin	309-00-2	5.01e-06	5.01e-04	1.68e-03	3.77e-02	3.36e-01
Aluminum Phosphide	20859-73-8	1.46e-02	1.46e+00	4.09e+00	1.10e+02	8.18e+02
Aniline	62-53-3	1.49e-02	1.49e+00	5.02e+00	4.18e-02 (13)	4.80e-02 (13)
Anthracene	120-12-7	1.10e+01	1.10e+03	3.07e+03	5.91e+04 (13)	1.51e+05 (13)

CONSTITUENT	CAS #	GW (1-4)	GWP-Res (1,5)	GWP-Ind (1,6)	SAI-Res (1,7, 10,11)	SAI-Ind (1,8, 10,11)
Antimony	7440-36-0	6.00e-03 (9)	6.00e-01	6.00e-01	1.10e+02	8.18e+02
Arsenic	7440-38-2	5.00e-02 (9)	5.00e+00	5.00e+00	3.66e-01	3.27e+00
Atrazine	1912-24-9	3.00e-03 (9)	3.00e-01	3.00e-01	2.88e+01	2.58e+02
Barium (ionic)	7440-39-3	2.00e+00 (9)	2.00e+02	2.00e+02	1.91e+04	1.37e+05
Benzene	71-43-2	5.00e-03 (9)	5.00e-01	5.00e-01	1.33e+00 (13)	1.62e+00 (13)
Benzidine	92-87-5	3.70e-07	3.70e-05	1.24e-04	2.78e-03	2.49e-02
Beryllium	7440-41-7	4.00e-03 (9)	4.00e-01	4.00e-01	1.49e-01	1.33e+00
Biphenyl	92-52-4	1.83e+00	1.83e+02	5.11e+02	6.68e+03 (13)	1.11e+04 (13)
Bis (2-chloro-ethyl) ether	111-44-4	7.74e-05	7.74e-03	2.60e-02	2.20e-01 (13)	3.77e-01 (13)
Bis (2-chloroisopropyl) ether	39638-32-9	1.22e-02	1.22e+00	4.09e+00	4.50e+01 (13)	9.05e+01 (13)
Bis (2-ethyl-hexyl) phthalate	117-81-7	6.08e-03	6.08e-01	2.04e+00	4.57e+01	4.09e+02
Bromodichloromethane	75-27-4	1.00e-01 (9)	1.00e+01	1.00e+01	7.19e-01 (13)	9.46e-01 (13)
Bromoform	75-25-2	1.00e-01 (9)	1.00e+01	1.00e+01	8.11e+01	7.24e+02
Bromomethane	74-83-9	5.11e-02	5.11e+00	1.43e+01	2.44e+01 (13)	2.47e+01 (13)
Butyl-4,6-dinitrophenol, 2-sec-	88-85-7	3.65e-02	3.65e+00	1.02e+01	2.74e+02	2.04e+03
Cadmium	7440-43-9	5.00e-03 (9)	5.00e-01	5.00e-01	1.37e+02	1.02e+03

CONSTITUENT	CAS #	GW	(1-4)	GWP-Res (1,5)	GWP-Ind (1,6)	SAI-Res (1,7,10,11)	SAI-Ind (1,8,10,11)
Carbofuran	1563-66-2	4.00e-02 (9)	4.00e+00	4.00e+00	4.00e+00	1.37e+03	1.02e+04
Carbon Disulfide	75-15-0	3.65e+00	3.65e+02	1.02e+03	1.02e+03	2.45e+01 (13)	2.34e+01 (13)
CarbonTetrachloride	56-23-5	5.00e-03 (9)	5.00e-01	5.00e-01	5.00e-01	4.14e-01 (13)	5.13e-01 (13)
Chlordane	57-74-9	2.00e-03 (9)	2.00e-01	2.00e-01	2.00e-01	4.93e-01	4.40e+00
Chloroaniline, p-	106-47-8	1.46e-01	1.46e+01	4.09e+01	4.09e+01	1.10e+03	8.18e+03
Chlorobenzene	108-90-7	1.00e-01 (9)	1.00e+01	1.00e+01	1.00e+01	2.56e+02 (13)	2.56e+02 (13)
Chlorobenzilate	510-15-6	7.30e-01	7.30e+01	2.04e+02	2.04e+02	5.49e+03	4.09e+04
Chloroethane (Ethylchloride)	75-00-3	7.30e-01	7.30e+01	2.04e+02	2.04e+02	4.99e+03 (13)	2.30e+04 (13)
Chloroform	67-66-3	1.00e-01 (9)	1.00e+01	1.00e+01	1.00e+01	4.37e-01 (13)	5.04e-01 (13)
Chloronaphthalene, 2-	91-58-7	2.92e+00	2.92e+02	8.18e+02	8.18e+02	2.20e+04	1.64e+05
2-chlorophenol	95-57-8	1.83e-01	1.83e+01	5.11e+01	5.11e+01	1.37e+03	1.02e+04
Chromium (total)	7440-47-3	1.00e-01 (9)	1.00e+01	1.00e+01	1.00e+01	3.91e+02 (12)	5.11e+03 (12)
Chromium (VI)	7440-47-3	1.00e-01 (9)	1.00e+01	1.00e+01	1.00e+01	3.91e+02 (12)	5.11e+03 (12)
Cresol, m-	108-39-4	1.83e+00 (12)	1.83e+02	5.11e+02	5.11e+02	3.91e+03 (12)	5.11e+04 (12)
Cresol, o-	95-48-7	1.83e+00 (12)	1.83e+02	5.11e+02	5.11e+02	3.91e+03 (12)	5.11e+04 (12)
Cresol, p-	106-44-5	1.83e+00 (12)	1.83e+02	5.11e+02	5.11e+02	3.91e+03 (12)	5.11e+04 (12)

CONSTITUENT	CAS #	GW	(1-4)	GMP-Res	(1,5)	GMP-Ind	(1,6)	SAI-Res	(1,7, 10,11)	SAI-Ind	(1,8, 10,11)
Cyanide	57-12-5	2.00e-01	(9)	2.00e+01	2.00e+01	2.00e+01	2.00e+01	5.49e+03		4.09e+04	
DDD	72-54-8	3.55e-04		3.55e-02	3.55e-02	1.19e-01	1.19e-01	2.67e+00		2.38e+01	
DDE	72-55-9	2.50e-04		2.50e-02	2.50e-02	8.41e-02	8.41e-02	1.88e+00		1.68e+01	
DDT	50-29-3	2.50e-04		2.50e-02	2.50e-02	8.41e-02	8.41e-02	1.88e+00		1.68e+01	
Di-n-butyl phthalate	84-74-2	3.65e+00		3.65e+02	3.65e+02	1.02e+03	1.02e+03	2.74e+04		2.04e+05	
Di-n-octyl phthalate	117-81-7	7.30e-01		7.30e+01	7.30e+01	2.04e+02	2.04e+02	5.49e+03		4.09e+04	
Dibromo-3-chloropropane, 1,2-	96-12-8	2.00e-04	(9)	2.00e-02	2.00e-02	2.00e-02	2.00e-02	4.57e-01		4.09e+00	
Dibromochloromethane	124-48-1	1.00e-01	(9)	1.00e+01	1.00e+01	1.00e+01	1.00e+01	7.62e+01		6.81e+02	
Dichlorobenzene (1,2)	95-50-1	6.00e-01	(9)	6.00e+01	6.00e+01	6.00e+01	6.00e+01	6.69e+03	(13)	8.39e+03	(13)
Dichlorobenzene (1,3)	541-73-1	6.00e-01	(9)	6.00e+01	6.00e+01	6.00e+01	6.00e+01	7.61e+03	(13)	9.99e+03	(13)
Dichlorobenzene (1,4)	106-46-7	7.50e-02	(9)	7.50e+00	7.50e+00	7.50e+00	7.50e+00	8.64e+01	(13)	1.38e+02	(13)
Dichlorodifluoromethane	75-71-8	7.30e+00		7.30e+02	7.30e+02	2.04e+03	2.04e+03	5.00e+01	(13)	4.79e+01	(13)
Dichloroethane (1,1)	75-34-3	3.65e+00		3.65e+02	3.65e+02	1.02e+03	1.02e+03	7.30e+03	(13)	2.04e+04	(13)
Dichloroethane (1,2)	107-06-2	5.00e-03	(9)	5.00e-01	5.00e-01	5.00e-01	5.00e-01	4.17e-01	(13)	5.05e-01	(13)
Dichloroethylene (1,1)	75-35-4	7.00e-03	(9)	7.00e-01	7.00e-01	7.00e-01	7.00e-01	7.15e-01	(13)	8.72e-01	(13)
Dichloroethylene, cis-(1,2)	156-59-2	7.00e-02	(9)	7.00e+00	7.00e+00	7.00e+00	7.00e+00	1.08e+02	(13)	1.08e+02	(13)

CONSTITUENT	CAS #	GW	(1-4)	GMP-Res	(1,5)	GMP-Ind	(1,6)	SAI-Res	(1,7, 10,11)	SAI-Ind	(1,8, 10,11)
Dichloroethylene, trans-(1,2)	156-60-5	1.00e-01	(9)	1.00e+01		1.00e+01		2.56e+02	(13)	2.56e+02	(13)
Dichlorophenol, 2,4-	120-83-2	1.10e-01		1.10e+01		3.07e+01		8.23e+02		6.13e+03	
Dichlorophenoxyacetic acid, 2,4-	94-75-7	7.00e-02	(9)	7.00e+00		7.00e+00		2.74e+03		2.04e+04	
Dichloropropane (1,2)	78-87-5	5.00e-03	(9)	5.00e-01		5.00e-01		6.88e-01	(13)	8.43e-01	(13)
Dieldrin	60-57-1	5.32e-06		5.32e-04		1.79e-03		4.00e-02		3.57e-01	
Diethyl phthalate	84-66-2	2.92e+01		2.92e+03		8.18e+03		2.20e+05		NHNB	(16)
Diethylhexyl adipate	103-23-1	5.00e-01	(9)	5.00e+01		5.00e+01		5.34e+03		4.77e+04	
Dimethoate	60-51-5	7.30e-03		7.30e-01		2.04e+00		5.49e+01		4.09e+02	
Dimethyl phenol, 2,4-	105-67-9	7.30e-01		7.30e+01		2.04e+02		5.49e+03		4.09e+04	
Dinitrobenzene, 1,3-	99-65-0	3.65e-03		3.65e-01		1.02e+00		2.74e+01		2.04e+02	
Dinitrophenol, 2,4-	51-28-5	7.30e-02		7.30e+00		2.04e+01		5.49e+02		4.09e+03	
Dioxane (1,4)	123-91-1	7.74e-03		7.74e-01		2.60e+00		1.55e+01	(13)	2.31e+01	(13)
Diphenylamine	122-39-4	9.13e-01		9.13e+01		2.56e+02		6.86e+03		5.11e+04	
Diphenylhydrazine, 1,2-	122-66-7	1.06e-04		1.06e-02		3.58e-02		8.00e-01		7.15e+00	
Disulfoton	298-04-4	1.46e-03		1.46e-01		4.09e-01		1.10e+01		8.18e+01	
Endosulfan	115-29-7	1.83e-03		1.83e-01		5.11e-01		1.37e+01		1.02e+02	

CONSTITUENT	CAS #	GW	(1-4)	GMP-Res	(1,5)	GMP-Ind	(1,6)	SAI-Res	(1,7, 10,11)	SAI-Ind	(1,8, 10,11)
Endothall	145-73-3	1.00e-01	(9)	1.00e+01		1.00e+01		5.49e+03		4.09e+04	
Endrin	72-20-8	2.00e-03	(9)	2.00e-01		2.00e-01		8.23e+01		6.13e+02	
Ethoxy ethanol, 2-	110-80-5	1.46e+01		1.46e+03		4.09e+03		1.10e+05		8.17e+05	
Ethoxyethanol acetate, 2-	111-15-9	1.10e+01		1.10e+03		3.07e+03		8.23e+04		6.13e+05	
Ethyl benzene	100-41-4	7.00e-01	(9)	7.00e+01		7.00e+01		1.14e+04	(13)	1.70e+04	(13)
Ethylene dibromide	106-93-4	5.00e-05	(9)	5.00e-03		5.00e-03		7.09e-03	(13)	4.53e-02	(13)
Ethylene glycol	107-21-1	7.30e+01		7.30e+03		2.04e+04		5.49e+05		NHBB	(16)
Ethylene oxide	75-21-8	8.35e-05		8.35e-03		2.80e-02		1.11e-01	(13)	1.51e-01	(13)
Fluoranthene	206-44-0	1.46e+00		1.46e+02		4.09e+02		1.10e+04		8.18e+04	
Fluorene	86-73-7	1.46e+00		1.46e+02		4.09e+02		9.60e+03	(13)	3.87e+04	(13)
Fluorides	7782-41-4	4.00e+00	(9)	4.00e+02		4.00e+02		1.65e+04		1.23e+05	
Formaldehyde	50-00-0	7.30e+00	(12)	7.30e+02		2.04e+03		1.56e+04	(12)	2.04e+05	(12)
Heptachlor	76-44-8	4.00e-04	(9)	4.00e-02		4.00e-02		1.42e-01		1.27e+00	
Heptachlor epoxide	1024-57-3	2.00e-04	(9)	2.00e-02		2.00e-02		7.04e-02		6.29e-01	
Hexachlorobenzene	118-74-1	1.00e-03	(9)	1.00e-01		1.00e-01		4.00e-01		3.57e+00	
Hexachlorobutadiene	87-68-3	1.09e-02		1.09e+00		3.67e+00		8.21e+01		7.33e+02	

CONSTITUENT	CAS #	GW	(1-4)	GMP-Res (1,5)	GMP-Ind (1,6)	SAI-Res (1,7,10,11)	SAI-Ind (1,8,10,11)
Hexachlorocyclohexane, alpha	319-84-6	1.35e-05		1.35e-03	4.54e-03	1.02e-01	9.08e-01
Hexachlorocyclohexane, beta	319-85-7	4.73e-04		4.73e-02	1.59e-01	3.56e+00	3.18e+01
Hexachlorocyclohexane, gamma	58-89-9	2.00e-04 (9)		2.00e-02	2.00e-02	8.23e+01	6.13e+02
Hexachloroethane	67-72-1	6.08e-02		6.08e+00	2.04e+01	4.57e+02	4.09e+03
Isobutyl alcohol	78-83-13	1.10e+01		1.10e+03	3.07e+03	8.23e+04	6.13e+05
Lead (inorganic)	7439-92-1	1.50e-02 (9)		1.50e+00	1.50e+00	5.00e+02 (14)	1.00e+03 (14)
Mercury	7439-97-6	2.00e-03 (9)		2.00e-01	2.00e-01	8.23e+01	6.13e+02
Methomyl	16752-77-5	9.13e-01		9.13e+01	2.56e+02	6.86e+03	5.11e+04
Methoxy ethanol	109-86-4	1.46e-01		1.46e+01	4.09e+01	1.10e+03	8.18e+03
Methoxychlor	72-43-5	4.00e-02 (9)		4.00e+00	4.00e+00	1.37e+03	1.02e+04
Methoxyethanol acetate	110-49-6	7.30e-02		7.30e+00	2.04e+01	5.49e+02	4.09e+03
Methyl Ethyl Ketone	78-93-3	1.83e+00		1.83e+02	5.11e+02	7.58e+03 (13)	1.40e+04 (13)
Methyl isobutyl ketone	108-10-1	1.83e+00		1.83e+02	5.11e+02	1.37e+04	1.02e+05
Methyl methacrylate	80-62-6	2.92e+00		2.92e+02	8.18e+02	6.74e+02 (13)	6.63e+02 (13)
Methylene Chloride	75-09-2	5.00e-03 (9)		5.00e-01	5.00e-01	1.07e+01 (13)	1.38e+01 (13)
Naphthalene	91-20-3	1.46e+00		1.46e+02	4.09e+02	4.91e+03 (13)	7.72e+03 (13)

CONSTITUENT	CAS #	GU	(1-4)	GWP-Res (1,5)	GWP-Ind (1,6)	SAI-Res (1,7,10,11)	SAI-Ind (1,8,10,11)
Nickel	7440-02-0	1.00e-01 (9)		1.00e+01	1.00e+01	1.56e+03 (12)	2.04e+04 (12)
Nitrate	14797-55-8	1.00e+01 (9)		1.00e+03	1.00e+03	4.39e+05	NHNB (16)
Nitrite	14797-65-0	1.00e+00 (9)		1.00e+02	1.00e+02	2.74e+04	2.04e+05
Nitrobenzene	98-95-3	1.83e-02		1.83e+00	5.11e+00	6.48e+01 (13)	1.06e+02 (13)
Nitroso-methyl-ethyl-amine, n-	10595-95-6	3.87e-06		3.87e-04	1.30e-03	2.91e-02	2.60e-01
Nitrosodi-n-propylamine, n-	621-64-7	1.22e-05		1.22e-03	4.09e-03	9.15e-02	8.17e-01
Nitrosodiethylamine, n-	55-18-5	5.68e-07		5.68e-05	1.91e-04	4.27e-03	3.81e-02
Nitrosodimethylamine, n-	62-75-9	1.67e-06		1.67e-04	5.61e-04	1.26e-02	1.12e-01
Nitrosopyrrolidine, n-	930-55-2	4.06e-05		4.06e-03	1.36e-02	3.05e-01	2.72e+00
Pentachloronitrobenzene	82-68-8	3.28e-03		3.28e-01	1.10e+00	2.46e+01	2.20e+02
Pentachlorophenol	87-86-5	1.00e-03 (9)		1.00e-01	1.00e-01	5.34e+00	4.77e+01
Phenol	108-95-2	2.19e+01		2.19e+03	6.13e+03	1.65e+05	NHNB (16)
Phthalic anhydride	85-44-9	7.30e+01		7.30e+03	2.04e+04	5.49e+05	NHNB (16)
Polychlorinated biphenyls	1336-36-3	5.00e-04 (9)		5.00e-02	5.00e-02	1.00e+01 (15)	2.50e+01 (15)
Pronamide	23950-58-5	2.74e+00		2.74e+02	7.67e+02	2.06e+04	1.53e+05
Pyrene	129-00-0	1.10e+00		1.10e+02	3.10e+02	8.20e+03	6.10e+04

CONSTITUENT	CAS #	GW	(1-4)	GMP-Res	(1,5)	GMP-Ind	(1,6)	SAI-Res	(1,7, 10,11)	SAI-Ind	(1,8, 10,11)
Pyridine	110-86-1	3.65e-02		3.65e+00		1.02e+01		2.74e+02		2.04e+03	
Selenium	7782-49-2	5.00e-02 (9)		5.00e+00		5.00e+00		1.37e+03		1.02e+04	
Silver	7440-22-4	1.83e-01		1.83e+01		5.11e+01		1.37e+03		1.02e+04	
Strychnine	57-24-9	1.10e-02		1.10e+00		3.07e+00		8.23e+01		6.13e+02	
Styrene	100-42-5	1.00e-01 (9)		1.00e+01		1.00e+01		2.13e+01		1.97e+02	
Tetrachlorobenzene, 1,2,4,5-	95-94-3	1.10e-02		1.10e+00		3.07e+00		8.23e+01		6.13e+02	
Tetrachloroethane (1,1,1,2)	630-20-6	3.28e-02		3.28e+00		1.10e+01		4.59e+01 (13)		6.29e+01 (13)	
Tetrachloroethane (1,1,2,2)	79-34-5	4.26e-03		4.26e-01		1.43e+00		8.00e+00 (13)		1.17e+01 (13)	
Tetrachloroethylene	127-18-4	5.00e-03 (9)		5.00e-01		5.00e-01		7.93e+01 (13)		2.07e+02 (13)	
Tetrachlorophenol, 2,3,4,6-	58-90-2	1.10e+00		1.10e+02		3.07e+02		8.23e+03		6.13e+04	
Tetraethyl dithiopyrophosphate	3689-24-5	1.83e-02		1.83e+00		5.11e+00		1.37e+02		1.02e+03	
Toluene	108-88-3	1.00e+00 (9)		1.00e+02		1.00e+02		3.58e+03 (13)		3.63e+03 (13)	
Toxaphene	8001-35-2	3.00e-03 (9)		3.00e-01		3.00e-01		5.82e-01		5.20e+00	
TP Silvex, 2,4,5-	93-72-1	5.00e-02 (9)		5.00e+00		5.00e+00		2.20e+03		1.64e+04	
Trichlorobenzene (1,2,4)	120-82-1	7.00e-02 (9)		7.00e+00		7.00e+00		6.78e+02 (13)		8.28e+02 (13)	
Trichloroethane (1,1,1)	71-55-6	2.00e-01 (9)		2.00e+01		2.00e+01		9.63e+03 (13)		1.40e+04 (13)	

CONSTITUENT	CAS #	GW (1-4)	GMP-Res (1,5)	GMP-Ind (1,6)	SAI-Res (1,7, 10,11)	SAI-Ind (1,8, 10,11)
Trichloroethane (1,1,2)	79-00-5	5.00e-03 (9)	5.00e-01	5.00e-01	1.27e+01 (13)	1.62e+01 (13)
Trichloroethylene	79-01-6	5.00e-03 (9)	5.00e-01	5.00e-01	2.40e+00 (13)	2.85e+00 - (13)
Trichlorofluoromethane	75-69-4	1.10e+01	1.10e+03	3.07e+03	8.73e+00 (13)	8.36e+00 (13)
Trichlorophenol (2,4,5)	95-95-4	3.65e+00	3.65e+02	1.02e+03	8.08e+03 (13)	1.04e+04 (13)
Trichlorophenol, 2,4,6-	88-06-2	7.74e-03	7.74e-01	2.60e+00	5.82e+01	5.20e+02
Trichlorophenoxyacetic acid, 2,4,5-	93-76-5	3.65e-01	3.65e+01	1.02e+02	2.74e+03	2.04e+04
Trichloropropane, 1,1,2-	598-77-6	1.83e-01	1.83e+01	5.11e+01	1.37e+03	1.02e+04
Trichloropropane, 1,2,3-	96-18-4	2.19e-01	2.19e+01	6.13e+01	1.65e+03	1.23e+04
Trinitrobenzene, 1,3,5-	99-35-4	1.83e-03	1.83e-01	5.11e-01	1.37e+01	1.02e+02
Vinyl acetate	108-05-4	3.65e+01	3.65e+03	1.02e+04	2.74e+05	2.04e+06
Vinyl Chloride	75-01-4	2.00e-03 (9)	2.00e-01	2.00e-01	1.99e-02 (13)	2.41e-02 (13)
Xylene	1330-20-7	1.00e+01 (9)	1.00e+03	1.00e+03	5.47e+03 (13)	5.80e+03 (13)

(1) Concentrations for constituents are expressed in scientific notation. Examples 2.20E-00 = 2.2; 2.20E+02 = 220; and 2.20E-01 = 0.22.

(2) The development of final cleanup levels may involve other factors as described in this subchapter, such as cumulative health effects, that are not considered in this table.

(3) Groundwater concentrations are based on Maximum Contaminant Levels (MCLs) or the formula and parameters for residential use of groundwater which are contained in §335.567 of this title (relating to Appendix I). For non-residential exposure conditions, the groundwater concentrations are calculated using the procedures of §335.559(d) (2) or (3).

(4) For some constituents, the Practical Quantitation Limit (PQL) may be the appropriate Groundwater MSC as described in §335.555(d)(1) of this title. See 40 Code of Federal Regulations, Part 264 (Appendix IX) for a list of groundwater PQLs.

(5) Residential soil groundwater protection concentrations are based on a multiplication factor of 100 times the ground-water MSC.

(6) Industrial soil groundwater protection concentrations are based on a multiplication factor of 100 times the MCL or, when an MCL is not available, a factor of 100 times the groundwater concentration calculated using the formula and parameters which are contained in §335.559(d)(2) or (3) of this title.

(7) Residential soil concentrations (maximum) are calculated using the formula and parameters for residential land use which are contained in §335.567 of this title (relating to Appendix I). The person must also demonstrate that groundwater is protected and that no nuisance conditions exist (§335.559(a)-(h) of this title).

(8) Industrial soil concentrations (maximum) are calculated using the formula and parameters for industrial land use which are contained in §335.567 of this title (relating to Appendix I). The person must also demonstrate that groundwater is protected and that no nuisance conditions exist (§335.559(a)-(h) of this title).

(9) The final, proposed or listed Maximum Contaminant Level (MCL), from Section 141 of the Federal Safe Drinking Water Act. For lead, the Action Level for lead in drinking water is used as the MSC.

(10) All concentrations were calculated using data from the Integrated Risk Information System (IRIS) Chemical Files, or data from the Health Effects Assessment Summary Tables (HEAST), devel-

oped by the United States Environmental Protection Agency, Office of Research and Development and Office of Health and Environmental Assessment, Washington, D.C. 20460. The toxicity information, and the MSCs, will be updated as new information becomes available.

(11) In some cases, an oral Reference Dose (RFD) or an oral Slope Factor (SF) was substituted for the inhalation RFD or inhalation SF in calculating MSC. This MSC will be updated when this information becomes available.

(12) The MSCs calculated for this compound are based on noncarcinogenic effects. The following formula was used for calculating the soil MSCs: $MSC = [(oral\ RFD)(Body\ Weight)(ED)(365\ days/yr)] / [(EF)(ED)(IR)(CF)]$. For residential soils, the following exposure factors were used: BW = 15 Kg; ED = five years; EF = 350 days/year; IR = 200 mg/day. For industrial soils, the following exposure factors were used: BW = 70 Kg; ED = 25 years; EF = 250 days/year; IR = 100 mg/day. In both cases, the CF is 0.000001 kg/mg. When oral slope factors become available, these MSCs will be revised.

(13) As described in §335.559(e) of this title, the sum of concentrations of the volatile organic compounds in vapor phase in soil shall not exceed 1,000 ppm by weight or volume.

(14) The MSC for lead in soil is based on values calculated by the United States EPA using the Lead Uptake/Biokinetic Model, Version 0.4, which has been developed by the United States EPA Office of Health and Environmental Assessment.

(15) Soil MSCs for polychlorinated biphenyls are based upon the April 2, 1987 TSCA regulations, 40 Code of Federal Regulation, §761.125 (see 52 FR 10688).

(16) NHHB = Not Human Health Based. The SAI-Ind MSC for this compound exceeds 10e+6 ppm, which means it is not toxic to humans when exposed to soils under these assumptions. Persons must consider other criteria of §335.559 of this title (relating to Medium Specific Requirements and Adjustments for Risk Reduction Standards Number 2) to develop numeric cleanup values.

§335.569. Appendix III.
MODEL DEED CERTIFICATION LANGUAGE
STATE OF TEXAS
() COUNTY
INDUSTRIAL SOLID WASTE
CERTIFICATION OF REMEDIATION
KNOW ALL MEN BY THESE PRE-

SENTS THAT: Pursuant to the Rules of the Texas Water Commission pertaining to Industrial Solid Waste Management, this document is hereby filed in the Deed Records of _____ County, Texas in compliance with the recordation requirements of said rules:

I
(Company Name) has performed a remediation of the land described herein. A copy of the Notice of Registration (No.), including a description of the facility, is attached hereto and is made part of this filing. A list of the known waste constituents, including known concentrations (i.e., soil and ground water, if applicable), which have been left in place is attached hereto and is made part of this filing. Further information concerning this matter may be found by an examination of company records or in the Notice of Registration (No.) files, which are available for inspection upon request at the central office of the Texas Water Commission in Austin. The Texas Water Commission derives its authority to review the remediation of this tract of land from the Texas Solid Waste Disposal Act, §361.002, Texas Health and Safety Code, Chapter 361, which enables the Texas Water Commission to promulgate closure and remediation standards to safeguard the health, welfare and physical property of the people of the State and to protect the environment by controlling the management of solid waste. In addition, pursuant to the Texas Water Code, §5.012 and §5.013, Texas Water Code, Annotated, Chapter 5, the Texas Water Commission is given primary responsibility for implementing the laws of the State of Texas relating to water and shall adopt any rules necessary to carry out its powers and duties under the Texas Water Code. In accordance with this authority, the Texas Water Commission requires certain persons to provide certification and/or recordation in the real property records to notify the public of the conditions of the land and/or the occurrence of remediation. This deed certification is not a representation or warranty by the Texas Water Commission of the suitability of this land for any purpose, nor does it constitute any guarantee by the Texas Water Commission that the remediation standards specified in this certification have been met by (Company name).

II
Being a acre tract, more or less, out of the (Company Name)'s acre tract in the (Name) League (No.), Abstract (No.), recorded in Volume (No.), Page (No.) of the Deed of Records _____ County, Texas, said _____ acre tract being more particularly described as follows:
(Insert metes and bounds description here)
For Standard 2 cleanups: (Contaminants/contaminants and waste) deposited hereon have been remediated (to meet residential soil criteria/to meet non-residential

(i.e., industrial/commercial) soil criteria)), in accordance with a plan designed to meet the Texas Water Commission's requirements in 31 Texas Administrative Code, §335.555), which mandates that the remedy be designed to eliminate substantial present and future risk such that no post-closure care or engineering or institutional control measures are required to protect human health and the environment. Future land use is considered suitable for (residential, non-residential (i.e., industrial/commercial)) purposes in accordance with risk reduction standards applicable at the time of this filing. Future land use is intended to be (residential, non-residential).

For Standard 3 cleanups: (Contaminants/contaminants and waste) deposited

hereon have been remediated (to meet residential soil criteria/to meet non-residential (i.e., industrial/commercial) soil criteria) in accordance with a plan designed to meet the requirements of 31 Texas Administrative Code §335.561 (Risk Reduction Standard Number 3), which mandates that the remedy be designed to eliminate or reduce to the maximum extent practicable, substantial present or future risk. The remediation plan (does/does not) require continued post-closure care or engineering or institutional control measures. Future use of the property is considered appropriate for (describe) in accordance with risk reduction standards applicable at the time of this filing. Institutional or legal controls placed on the prop-

erty to ensure appropriate future use include (describe).

For both Standard 2 and 3 cleanups where the remedy is based upon non-residential soil criteria: The current or future owner must undertake actions as necessary to protect human health or the environment in accordance with the rules of the Texas Water Commission.

III

The owner of the site is (Company Name), a Texas corporation, and its address is (P.O. Box or Street), (City), Texas (Zip Code), where more specific information may be obtained from the (plant manager, owner).

EXECUTED this the _____ day of _____, 19__.

(Company Name)

a Texas corporation

(Name)

Plant Manager

STATE OF TEXAS

(_____) COUNTY

BEFORE ME, on this the _____ day of _____,
personally appeared (Name), (Plant Manager, Owner) of
(Company Name), a Texas corporation, known to me to be the person
and agent of said corporation whose name is subscribed to the
foregoing instrument, and he acknowledged to me that he executed
the same for the purposes and in the capacity therein expressed.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, this the _____ day
of _____, 19__.

Notary Public in and
for the State of Texas,
County of

My Commission Expires

(END OF APPENDIX III)

This agency hereby certifies that the rule as adopted has been reviewed by legal counsel and found to be a valid exercise of the agency's legal authority.

Issued in Austin, Texas, on June 7, 1993.

TRD-9323981 Mary Ruth Holder
 Director, Legal Division
 Texas Water Commission

Effective date: July 28, 1993

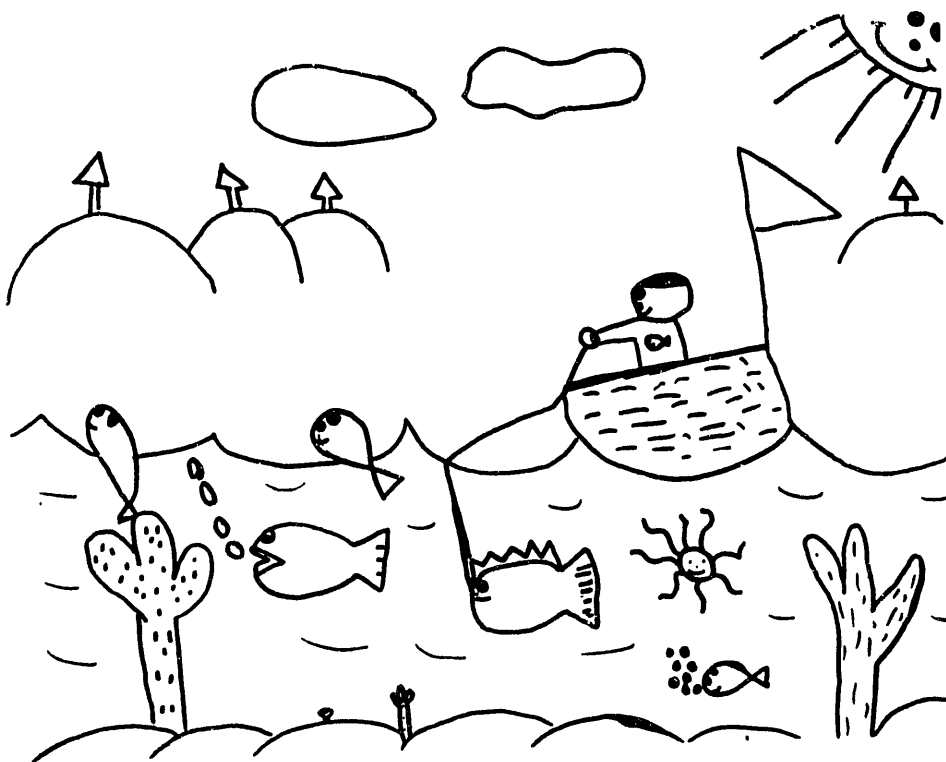
Proposal publication date: December 8, 1992

For further information, please call: (512)
908-6087

◆ ◆ ◆



Name: Nathan Holcomb
Grade: 2
School: Montgomery Elementary, Carrollton-Farmers Branch ISD



Name: Keisha Garcia
Grade: 2
School: Montgomery Elementary, Carrollton-Farmers Branch ISD



Name: Adriana Urbino
Grade: 6
School: Montgomery Elementary, Carrollton-Farmers Branch ISD



Name: Blanca Zavala
Grade: 6
School: Montgomery Elementary, Carrollton-Farmers Branch ISD

Open Meetings

Agencies with statewide jurisdiction must give at least seven days notice before an impending meeting. Institutions of higher education or political subdivisions covering all or part of four or more counties (regional agencies) must post notice at least 72 hours prior to a scheduled meeting time. Some notices may be received too late to be published before the meeting is held, but all notices are published in the *Texas Register*.

Emergency meetings and agendas. Any of the governmental entities named above must have notice of an emergency meeting, an emergency revision to an agenda, and the reason for such emergency posted for at least two hours before the meeting is convened. Emergency meeting notices filed by all governmental agencies will be published.

Posting of open meeting notices. All notices are posted on the bulletin board at the Office of the Secretary of State in lobby of 221 East 11th Street, Austin. These notices may contain more detailed agenda than what is published in the *Texas Register*.

Meeting Accessibility. Under the Americans with Disabilities Act, an individual with a disability must have an equal opportunity for effective communication and participation in public meetings. Upon request, agencies must provide auxiliary aids and services, such as interpreters for the deaf and hearing impaired, readers, large print or braille documents. In determining type of auxiliary aid or service, agencies must give primary consideration to the individual's request. Those requesting auxiliary aids or services should notify the contact person listed on the meeting summary several days prior to the meeting by mail, telephone, or RELAY Texas (1-800-735-2989).

Texas Air Control Board

Thursday, June 17, 1993, 10:30 a.m. The Regulation and Development Committee of the Texas Air Control Board will meet at the Camino Real Paso Del Norte Hotel, 101 South El Paso Street, El Paso. According to the complete agenda, the committee will consider and act on: to adopt revisions to Regulation I and the State Implementation Plan (SIP), concerning flare observation in response to Texas Chemical Council Petition for Rulemaking; adopt site-specific revisions to the SIP regarding Shell Oil Company, Harris County, and Lockheed Corporation, Tarrant County; adopt a revision to the SIP for control of lead emissions in Collin County including a Contingency Measure Board order; approval for public hearing on reasonable further progress SIP, Stage II SIP, and revisions to the General Rules, Regulation IV and V for Volatile Organic Compounds Emission Reductions and Contingency Measures in Ozone Nonattainment Areas; approval for public hearing on Emissions Inventories for SIP Development in the Ozone Nonattainment Areas; and approval for public hearing on SIP for Contingency Measures in the El Paso Carbon Monoxide Nonattainment Area.

Contact: Lane Hartsock, 12124 Park 35 Circle, Austin, Texas 78753, (512) 908-1451.

Filed: June 9, 1993, 1:48 p.m.

TRD-9324081

Thursday, June 17, 1993, 10:30 a.m. The Regulation and Development Committee of the Texas Air Control Board will meet at the Camino Real Paso Del Norte Hotel, 101 South El Paso Street, El Paso. According to the complete revised agenda, the committee will consider and possibly act to: adopt revisions to Regulation I and the State Im-

plementation Plan (SIP), concerning flare observation in response to Texas Chemical Council Petition for rulemaking; adopt Site-Specific Revisions to the SIP regarding Shell Oil Company, Harris County, and Lockheed Corporation, Tarrant County; adopt a revision to the SIP for control of lead emissions in Collin County including a Contingency Measure Board Order; approval for public hearing on reasonable further progress SIP, Stage II SIP, and revisions to the General Rules, Regulation IV and V for Volatile Organic Compounds Emission Reductions and Contingency Measures in Ozone Nonattainment Areas; approval for public hearing on emissions inventories for SIP Development in the Ozone Nonattainment Areas; approval for public hearing on SIP for Contingency Measures in the El Paso Carbon Monoxide Nonattainment Area.

Contact: Lane Hartsock, 12124 Park 35 Circle, Austin, Texas 78753, (512) 908-1451.

Filed: June 9, 1993, 3:26 p.m.

TRD-9324097

Friday, June 18, 1993, 8:00 a.m. The Monitoring and Research Committee of the Texas Air Control Board will meet at the Camino Real Paso Del Norte Hotel, 101 South El Paso Street, El Paso. According to the complete agenda, the committee will consider and possibly act: regarding approval of contracts and contracting procedures to carry out the Coastal Oxidant Assessment for Southeast Texas (COAST) project to support development of control strategies for ozone in the upper Texas gulf coast; and on procedures and policies for initiating and designing monitoring projects.

Contact: Lane Hartsock, 12124 Park 35 Circle, Austin, Texas 78753, (512) 908-1451.

Filed: June 9, 1993, 3:26 p.m.

TRD-9324096

Friday, June 18, 1993, 8:30 a.m. The Permits Oversight Committee of the Texas Air Control Board will meet at Camino Real Paso Del Norte Hotel, 101 South El Paso Street, El Paso. According to the complete agenda, the committee will consider and possibly act on report on technical training of Permit Engineers; and on developments and guidelines regarding modeling and effects evaluations for permit review.

Contact: Lane Hartsock, 12124 Park 35 Circle, Austin, Texas 78753, (512) 908-1451.

Filed: June 9, 1993, 1:48 p.m.

TRD-9324080

Friday, June 18, 1993, 8:30 a.m. The Permits Oversight Committee of the Texas Air Control Board will meet at the Camino Real Paso Del Norte Hotel, 101 South El Paso Street, El Paso. According to the complete revised agenda, the committee will consider and possibly act on report on technical training of Permit Engineers; and on developments and guidelines regarding modeling and effects evaluations for permit review.

Contact: Lane Hartsock, 12124 Park 35 Circle, Austin, Texas 78753, (512) 908-1451.

Filed: June 9, 1993, 3:26 p.m.

TRD-9324095

Friday, June 18, 1993, 9:00 a.m. The Budget and Finance Committee of the Texas Air Control Board will meet at the Camino Real Paso Del Norte Hotel, 101 South El Paso Street, El Paso. According to the complete agenda, the committee will consider and possibly act on: developments in the Texas Legislature including appropriations; approval of mid-year program review of the

City of Houston, Bureau of Air Quality Control, local program contract for fiscal year 1993 with the City of Houston Department of Health and Human Services; interagency contract with the Texas Transportation Institute to provide vehicle speed, vehicle registration, and international bridge traffic information from Ciudad Juarez; on the Coastal Oxidant Assessment for southeast Texas (COAST) project to support development of control strategies for Ozone in the upper Texas Coast, correction to Resolution Number 93-17 and approval of contracts and contracting procedures; and approval of guidelines for resolution of bidding disputes.

Contact: Lane Hartssock, 12124 Park 35 Circle, Austin, Texas 78753, (512) 908-1451.

Filed: June 9, 1993, 3:26 p.m.

TRD-9324094

Friday, June 18, 1993, 9:30 a.m. The Hearings Oversight Committee of the Texas Air Control Board will meet at the Camino Real Paso Del Norte Hotel, 101 South El Paso Street, El Paso. According to the complete agenda, the committee will consider and possibly act on withdrawal of applications involved in contested case hearings.

Contact: Lane Hartssock, 12124 Park 35 Circle, Austin, Texas 78753, (512) 908-1451.

Filed: June 9, 1993, 1:48 p.m.

TRD-9324082

Friday, June 18, 1993, 9:30 a.m. The Hearings Oversight Committee of the Texas Air Control Board will meet at the Camino Real Paso Del Norte Hotel, 101 South El Paso Street, El Paso. According to the complete revised agenda, the committee will consider and possibly act on withdrawal of applications involved in contested case hearings.

Contact: Lane Hartssock, 12124 Park 35 Circle, Austin, Texas 78753, (512) 908-1451.

Filed: June 9, 1993, 3:25 p.m.

TRD-9324093

Friday, June 18, 1993, 10:00 a.m. The Texas Air Control Board will meet at the Camino Real Paso Del Norte Hotel, 101 South El Paso Street, El Paso. According to the agenda summary, the board will call the meeting to order; consider and possibly act on approval of the minutes; hear public testimony; consider and possibly act on to: adopt revisions to Regulation I and State Implementation Plan (SIP); adopt site specific revisions to the SIP; adopt revisions to SIP for control of lead emissions in Collin County; approval for public hearing on reasonable further progress SIP, Stage II SIP, and revisions to General Rules, Regulation IV and V for Volatile Organic Compounds Emission reductions and Contingency Mea-

asures in Ozone Nonattainment areas; on emission inventories for SIP development in Ozone Nonattainment areas, on SIP for Contingency Measures in the El Paso Carbon Monoxide Nonattainment Area; on approval of correction to Resolution Number 93-17 and on contracts and contracting procedures to support development of control strategies for Ozone in the upper Texas Gulf Coast; approval of mid-year program review of City of Houston, Bureau of Air Quality Control, on local program contract with the City of Houston, Department of Health and Human Services; on interagency contract with the Texas Transportation Institute; on enforcement report and approval of Agreed Enforcement Orders; report on technical training of permit engineers, on developments and guidelines regarding modeling and effects evaluations for permit review; developments in the Texas Legislature including appropriations; report regarding contracting with underutilized businesses; withdrawal of applications involved in contested case hearings; report on activities of the El Paso/Juarez Air Quality Advisory Committee; meet in executive session to evaluate the performance of the executive director; consider and possibly act on: salary compression and employee bonuses; approval of Guidelines for resolution of bidding disputes; procedures and policies for initiating and designing monitoring projects; hear committee reports; discuss new business; and adjourn.

Contact: Lane Hartssock, 12124 Park 35 Circle, Austin, Texas 78753, (512) 908-1451.

Filed: June 9, 1993, 1:48 p.m.

TRD-9324098

Texas Animal Health Commission

Thursday, June 17, 1993, 3:00 p.m. The TAHC Finance Committee of the Texas Animal Health Commission will meet at 210 Barton Springs Road, Austin. According to the complete agenda, the committee will discuss appropriations 1994-1995; formation of a user fee committee and payment for market discrepancies.

Contact: Jo Anne Conner, 210 Barton Springs Road, Austin, Texas 78704, (512) 479-6697.

Filed: June 8, 1993, 3:02 p.m.

TRD-9324008

Friday, June 18, 1993, 9:00 a.m. The Texas Animal Health Commission will meet at 210 Barton Springs Road, Austin. According to the complete agenda summary, the commission will discuss approval of the minutes of previous meetings and actions of the executive director; hear report of the finance committee and on the field days in Las Cruces, New Mexico; update on

TB in Karnes County; discuss TB issues; rule-making process; hear status report on the Brucellosis Program; consideration for proposing amendments to the TB regulations; consideration for adopting amendments to the following regulations: Brucellosis, Scabies, and Swine; discuss formation of a user fee committee; set dates for public hearings on EIA and date for the next commission meeting; and hear public comments.

Contact: Jo Anne Conner, 210 Barton Springs Road, Austin, Texas 78704, (512) 479-6697

Filed: June 8, 1993, 3:02 p.m.

TRD-9324007

Friday, June 18, 1993, 9:00 a.m. The Texas Animal Health Commission will meet at 210 Barton Springs Road, Austin. According to the revised agenda summary, the commission will discuss agenda item nine amended to include Brucellosis, Fever Ticks and Tuberculosis.

Contact: Jo Anne Conner, P.O. Box 12966, Austin, Texas 78711, (512) 479-6697

Filed: June 8, 1993, 4:40 p.m.

TRD-9324023

The State Bar of Texas

Thursday, June 17, 1993, 8:30 a.m. The Board of Directors of the State Bar of Texas will meet at the Fort Worth/Tarrant County Convention Center, 1111 Houston Street, Rooms E-101-103, Fort Worth. According to the agenda summary, the board will call the meeting to order; take roll call; hear reports of chair of the board, president, presidnet-elect, Texas Young Lawyers Association President, executive director and general counsel; meet in executive session pursuant to Article 6252-17(2)(e): discuss litigation matters, personnel matters; hear reports from board committees: administrative advisory, audit and finance, client security fund subcommittee, general counsel advisory, legislative policy, nominating committee to select American Bar Association delegates; policy manual; reports from Bar Committees/Sections/Divisions, Texas Legal Protection Plan, Commission for Lawyer Discipline, Immediate Past President, Supreme Court liaison, Court of Criminal Appeals liaison, federal judicial liaison, judicial section liaison; make announcement of outstanding third year director; in-coming board: call to order; take roll call; give invocation; installation of officers; swearing in of president-elect; swearing in of new directors; reports of incoming chair, incoming president, Texas Young Lawyers Association president; remarks; and adjourn.

Contact: Pat Hiller, 1414 Colorado Street, Austin, Texas 78701, (512) 463-1451.

Filed: June 9, 1993, 4:13 p.m.

TRD-9324101

Thursday-Friday, June 17-18, 1993, 10:00 a.m. and 8:00 a.m. respectively. The Commission for Lawyer Discipline of the State Bar of Texas will meet at the Fort Worth/Tarrant County Convention Center, 1111 Houston Street, Room W-112, Fort Worth. According to the agenda summary, the commission will call the meeting to order; introduce visitors; discuss approval of minutes; discuss status reports; commission's compliance with State Bar Act, Disciplinary Rules, Orders of the Supreme Court; discuss Office of General Counsel; grievance committees; special counsel program; operations of commission; complaint forms; trial staff presentations; meet in executive session (pursuant to Article 6252-17(2)(e) and (g)); discuss pending litigation; matters before evidentiary panels; assignment of special counsel; personnel matters; discuss pending litigation; matters before evidentiary panels; special counsel assignments; allegations of conspiracy; future meetings; other appropriate matters; hear public comment; and adjourn.

Contact: Anne Dorris, P.O. Box 12487, Austin, Texas 78750, (512) 463-1481.

Filed: June 9, 1993, 4:13 p.m.

TRD-9324100

Texas Commission for the Blind

Thursday, June 17, 1993, noon. The Lubbock District Office of the Texas Commission for the Blind will meet at 1306 Ninth Street, George Mahon Library, Lubbock. According to the complete agenda, the commission will receive public input on agency programs and services; hear public comments and suggestions will be used to update the State Plan of the Texas Commission for the Blind. Persons unable to attend may send comments to the Public Information Office, 4800 North Lamar Boulevard, Suite 320, Austin, Texas 78756. Due to the possibility of last minute changes, please call to confirm meeting date and location at 1 (800) 252-5204. Persons with disabilities who have special communication or other needs who are planning to attend the forum should contact the Commission's Lubbock District Office, (806) 765-7999. Requests should be made as far in advance as possible.

Contact: Andrew A. Wier, 4800 North Lamar Boulevard, Austin, Texas 78756, (512) 459-2615.

Filed: June 8, 1993, 2:22 p.m.

TRD-9323998

Thursday, June 24, 1993, 6:30 a.m. The Austin District Office of the Texas Commission for the Blind will meet at 4800 North Lamar Boulevard, Criss Cole Rehabilitation Center, Austin. According to the complete agenda, the commission will receive public input on agency programs and services, hear public comments and suggestions will be used to update the State Plan of the Texas Commission for the Blind. Persons unable to attend may send comments to the Public Information Office, 4800 North Lamar Boulevard, Suite 320, Austin, Texas 78756. Due to the possibility of last minute changes, please call to confirm meeting date and location at 1 (800) 252-5204. Persons with disabilities who have special communication or other needs who are planning to attend the forum should contact the Commission's Austin District Office, (512) 459-2544. Requests should be made as far in advance as possible.

Contact: Andrew A. Wier, 4800 North Lamar Boulevard, Austin, Texas 78756, (512) 459-2615.

Filed: June 8, 1993, 2:22 p.m.

TRD-9323999

Wednesday, June 30, 1993, 9:00 a.m. The Dallas District Office of the Texas Commission for the Blind will meet at 2377 Stemmons Freeway, Dallas County Health and Human Services Complex, Eighth Floor Conference Room, Dallas. According to the complete agenda, the commission will receive public input on agency programs and services; hear public comments and suggestions will be used to update the State Plan of the Texas Commission for the Blind. Persons unable to attend may send comments to the Public Information Office, 4800 North Lamar Boulevard, Suite 320, Austin, Texas 78756. Due to the possibility of last minute changes, please call to confirm meeting date and location at 1 (800) 252-5204. Persons with disabilities who have special communication or other needs who are planning to attend the forum should contact the Commission's Dallas District Office, (214) 350-0500. Requests should be made as far in advance as possible.

Contact: Andrew A. Wier, 4800 North Lamar Boulevard, Austin, Texas 78756, (512) 459-2615.

Filed: June 8, 1993, 2:22 p.m.

TRD-9324000

Texas Bond Review Board

Thursday, June 17, 1993, 10:00 a.m. The Texas Bond Review Board will meet in Committee Room #5, Fifth Floor, Clements Building, 300 West 15th Street, Austin. According to the complete agenda, the board will call the meeting to order; consider proposed issues: Office of the Attorney General-lease purchase of mainframe com-

puter upgrade; Texas Department of Human services-lease purchase of computer equipment modification for Client Self-Support Eligibility Program; Texas Department of Protective and Regulatory Services-lease purchase of automated call distribution switch for Protective Services Abuse Hotline; Texas State University System-Combined Fee Revenue Refunding Bonds, Series 1993 for Sam Houston State University; Texas State University System-Utility System Revenue Refunding Bonds, Series 1993 for Southwest Texas State University; Texas State University System-Housing System Revenue Refunding Bonds, Series 1993 for Southwest Texas State University; Texas Public Finance Authority-General Obligation Bonds, Series 1993C for Texas Youth Commission; discuss other business; report on public school facilities funding program; and adjourn.

Contact: Jim Thomassen, 300 West 15th Street, Clements Building, Suite 409, Austin, Texas 78701, (512) 463-1741.

Filed: June 9, 1993, 2:58 p.m.

TRD-9324089

Texas Catastrophe Property Insurance Association

Tuesday, June 22, 1993, 8:30 a.m. The Board of Directors of the Texas Catastrophe Property Insurance Association will meet at the Corpus Christi Marriott Bayfront, 900 Shoreline Drive, Corpus Christi. According to the agenda summary, the board will call the meeting to order; reading of antitrust statement; discuss approval of the minutes of the meetings held on: March 3, 15, 16, 29, and April 5, 1993; recognize visitors; report of the chairman of the board; secretary-treasurer; manager; underwriting director; counsel; report from Insurance Information Institute; report of executive committee; underwriting committee; reinsurance committee; participation committee; long range planning committee; search committee; Texas Tech Wind Research; discuss frequency of board meetings; 1994 budget; any other business that may come before the board; and adjourn.

Contact: F. R. "Buddy" Rogers, 2801 South Interregional, Austin, Texas 78741, (512) 444-9612.

Filed: June 9, 1993, 10:01 a.m.

TRD-9324070

Credit Union Department

Wednesday, June 16, 1993, 10:00 a.m. The Credit Union Commission of the Credit Union Department will meet at the Credit Union Department Building, 914 East Anderson Lane, Austin. According to the complete agenda, the commission will invite

public input for future consideration; receive minutes of May 24, 1993 meeting; discuss communications; hear committee reports from the Texas Share Guaranty Credit Union Oversight, Task Force Advisory, and Commissioner Search Committees; and report on legislation; consider bids for loans offered for sale; petitions from the Texas Land Surveyor's Council for administrative rules; credit union audits conducted by non-CPAs; plans for disposing of the fixed assets of the credit union in liquidation; conduct an executive session to discuss credit unions and problem cases; consultation with legal counsel regarding contemplated legal action, existing litigation and administrative actions.

Contact: Harry L. Elliott, 914 East Anderson Lane, Austin, Texas 78752-1699, (512) 837-9236.

Filed: June 8, 1993, 1:26 p.m.

TRD-9323993

Texas Department of Criminal Justice

Friday, June 18, 1993, 10:00 a.m. The Texas Board of Criminal Justice, Subcommittee on Minority Relations of the Texas Department of Criminal Justice will meet at the TDCJ Austin Office, 816 Congress Avenue, Suite 500, Austin. According to the complete agenda, the parole division will hold a discussion; discuss agency purchasing procedures; construction and architect/engineer selection procedures; promotion and hiring procedures; and discuss other items.

Contact: Susan Power-McHenry, P.O. Box 13084, Austin, Texas 78711, (512) 475-3250.

Filed: June 9, 1993, 4:59 p.m.

TRD-9324105

Texas State Board of Dental Examiners

Thursday, June 17, 1993, 4:30 p.m. The Texas State Board of Dental Examiners will meet at the Baylor College of Dentistry-Deans Room, 3302 Gaston Avenue, Dallas. According to the complete agenda, the board will call the meeting to order; take roll call; discuss approval of sedation/analgesia permits; approval of settlement orders; consideration and final determination of proposal for decision in TSBDE vs. Lori Irish, DDS Number 504-92-514; proposal for decision in TSBDE vs. Lance Troegle, Number 92-476-0721M; consideration of TSBDE: motion for extension of time and objections to consideration of motions for rehearing in TSBDE vs. Tuffiash, Number

92-043-1004S; consideration of motions for rehearing in TSBDE vs. Dorsey, Number 91-0729-324K-D; election of officers; appointment of WREB representatives; appointment of credentials review committee; make announcements; and adjourn.

Contact: C. Thomas Camp, 333 Guadalupe, Tower 3, Suite 3800, Austin, Texas 78701, (512) 463-6400.

Filed: June 8, 1993, 4:38 p.m.

TRD-9324022

Texas Education Agency

Friday, June 25, 1993, 9:30 a.m. The Teachers' Professional Practices Commission of Texas of the Texas Education Agency will meet at 1701 North Congress Avenue, William B. Travis Building, Room 1-110, Austin. According to the complete agenda, the commission will call the meeting to order; consider adoption of the minutes of the January 25, 1993, meeting; consider jurisdictional appeals (Hodge versus Arnold, Rutherford versus Garcia, Rutherford versus Villareal); review hearing panels for docketed hearings; hear the director's report; review House Bill 2585; set the next meeting date; and adjourn.

Contact: Edward Vodicka, 1701 North Congress Avenue, Austin, Texas 78701, (512) 463-9337.

Filed: June 9, 1993, 9:44 a.m.

TRD-9324065

Tuesday, July 6, 1993, 9:00 a.m. The Advisory Committee for Budgeting, Accounting, and Auditing of the Texas Education Agency will meet at 1701 North Congress Avenue, Room 1-109, Austin. According to the complete agenda, the committee will discuss proposed change 28 to Bulletin 679, Financial Accounting Manual. These changes include those required by the changes the 73rd legislature made to school finance legislation; updates to rules and regulations of federal programs; and the implementation of account code changes for the 1993-1994 fiscal year that were approved in Change 27.

Contact: Tom Canby, Jr., 1701 North Congress Avenue, Room 5-113, Austin, Texas 78701, (512) 463-9095.

Filed: June 8, 1993, 12:08 p.m.

TRD-9323991

Texas Department of Insurance

Thursday, June 24, 1993, 9:00 a.m. The State Board of Insurance of the Texas Department of Insurance will meet in Room

100, William P. Hobby Building, 333 Guadalupe Street, Austin. According to the agenda summary, the board will discuss personnel; litigation; hear commissioner's orders; discuss solvency; hear staff reports; consider policy for legislative implementation; consider filings by Boston Old Colony Insurance Company, et al, Continental Lloyds Insurance Company; consider adoption of amendments to 28 TAC §5.4001 relating to TCPIA Plan of operation and a new formula and procedure for determining member company participation in the TCPIA (Texas Catastrophe Property Insurance Association); consider adoption of amendments to 28 TAC §3.5702 concerning new requirements for reporting data for experience data calls for credit life and accident and health insurance; consider adoption of 28 TAC §3.9001 and §3.9002 concerning a Joint Memorandum of Understanding between the Texas Department of Insurance, Texas Department of Banking and Texas Funeral Service Commission.

Contact: Angelia Johnson, 333 Guadalupe Street, Mail Code 113-2A, Austin, Texas 78701, (512) 463-6527.

Filed: June 9, 1993, 2:58 p.m.

TRD-9324088

Tuesday, July 13, 1993, 1:30 p.m. The State Board of Insurance of the Texas Department of Insurance will meet in Room 100, William P. Hobby Building, 333 Guadalupe Street, Austin. According to the complete agenda, the board will hold a public hearing under Docket Number 1980 to consider the appeal of Richard Hunter.

Contact: Angelia Johnson, 333 Guadalupe Street, Mail Code 113-2A, Austin, Texas 78701, (512) 463-6527.

Filed: June 9, 1993, 3:06 p.m.

TRD-9324090

Texas Board of Professional Land Surveying

Friday-Saturday, June 25-26, 1993, 9:00 a.m. The Texas Board of Professional Land Surveying will meet at 7701 North Lamar Boulevard, Suite 400, Austin. According to the complete agenda, the board will discuss approval of the minutes of the previous meeting; elect a vice-chairman; hear the presentation of complaints; hear committee reports; discuss correspondence; discuss old business; and consider new business. Persons with disabilities who plan to attend this meeting and who may need auxiliary aids or services such as interpreters for persons who are deaf or hearing impaired, readers, large print or braille, are requested to contact Sandy Smith at 452-9427 two work days prior to the meeting so that appropriate arrangements can be made.

Contact: Sandy Smith, 7701 North Lamar Boulevard, Suite 400, Austin, Texas 78752, (512) 452-9427.

Filed: June 9, 1993, 9:41 a.m.

TRD-9324064

Friday-Saturday, June 25-26, 1993, 9:00 a.m. The Texas Board of Professional Land Surveying will meet at 7701 North Lamar Boulevard, Suite 400, Austin. According to the complete revised agenda, the board will approve minutes of the previous meeting; and conduct interviews.

Contact: Sandy Smith, 7701 North Lamar Boulevard, Suite 400, Austin, Texas 78752, (512) 452-9427.

Filed: June 10, 1993, 9:53 a.m.

TRD-9324124

Texas State Board of Medical Examiners

Tuesday, June 15, 1993, 11:30 a.m. The Executive Committee of the Texas State Board of Medical Examiners held an emergency meeting at 1812 Centre Creek Drive, Suite 300, Austin. According to the agenda summary, the committee considered the temporary suspension of the license of G. L. Berry, D. O. (Executive session under authority of Article 6252-17, as related to Article 4495b, 2.07(b), 3.05(d), 4.05(d), 5.06(s)(1) and Opinion of Attorney General 1974, Number H-484). The emergency status was necessary as information had come to the attention of the agency and required prompt consideration.

Contact: Pat Wood, P.O. Box 149134, Austin, Texas 78714-9134, (512) 834-4502.

Filed: June 9, 1993, 3:06 p.m.

TRD-9324091

Public Utility Commission of Texas

Wednesday, June 16, 1993, 9:00 a.m. The Hearings Division of the Public Utility Commission of Texas will meet at 7800 Shoal Creek Boulevard, Suite 450, Austin. According to the complete revised agenda, the division will consider Docket Number 11904-application of South Plains Electric Cooperative, Inc. for expedited authority to change rates pursuant to Public Utility Commission Substantive Rule 23.23(c) and Docket Number 9981, motion for rehearing-petition of general counsel to inquire into the reasonableness of the rates and services of Central Telephone Company of Texas.

Contact: John M. Renfrow, 7800 Shoal Creek Boulevard, Austin, Texas 78757, (512) 458-0100.

Filed: June 8, 1993, 2:48 p.m.

TRD-9324001

Railroad Commission of Texas

Monday, June 14, 1993, 9:30 a.m. The Railroad Commission of Texas met in the First Floor Conference Room 1-111, 1701 North Congress Avenue, Austin. According to the complete emergency revised agenda, the commission considered a motion for rehearing for Docket Number 03-0200751 for John Wetjen Company, Loomis Unit (16231), Well Number One, Giddings (Austin Chalk-3) Field, Fayette County. The emergency status was necessary as of the regular deadline, the Hearings Examiner in this docket had not received notice of a motion for rehearing. After the posting deadline, the Hearings Examiner received such notice. Action on the motion for rehearing is required at the next regularly scheduled meeting, June 14, 1993, before the motion for rehearing is overruled by law.

Contact: Jim McDougal, P.O. Box 12967, Austin, Texas 78701, (512) 463-6924.

Filed: June 8, 1993, 3:12 p.m.

TRD-9324009

Texas Real Estate Commission

Saturday, June 19, 1993, 9:00 a.m. The Real Estate Inspector Committee of the Texas Real Estate Commission will meet at 1101 Camino La Costa, TREC Headquarters, Room 235, Second Floor, Austin. According to the complete agenda, the committee will call the meeting to order; discuss approval of the minutes of February 27, 1993, meeting; hear reports from TREC staff; subcommittee reports; discuss possible rule changes related to House Bill 991 and other legislation concerning real estate inspectors; 22 TAC §535.222 concerning inspection standards; set date and place of next meeting; and adjourn. For ADA assistance, call Nancy Guevremont at (512) 465-3923 at least two days prior to meeting.

Contact: Mark A. Moseley, P.O. Box 12188, Austin, Texas 78711-2188, (512) 465-3900.

Filed: June 9, 1993, 10:50 a.m.

TRD-9324073

Saturday, June 19, 1993, 3:00 p.m. The Examination and Education Subcommittee of the Real Estate Inspector Committee of the Texas Real Estate Commission will meet at 1101 Camino La Costa, TREC Headquarters, Room 235, Second Floor,

Austin. According to the complete agenda, the committee will call the meeting to order; possibly meet in executive session to discuss examination materials pursuant to Attorney General Opinion H-484; discuss and possibly make recommendations concerning examinations, education requirements or courses; and adjourn. For ADA assistance, call Nancy Guevremont at (512) 465-3923 at least two days prior to meeting.

Contact: Mark A. Moseley, P.O. Box 12188, Austin, Texas 78711-2188, (512) 465-3900.

Filed: June 9, 1993, 10:50 a.m.

TRD-9324074

School Land Board

Tuesday, June 15, 1993, 10:00 a.m. The School Land Board will meet at the General Land Office, Stephen F. Austin Building, 1700 North Congress Avenue, Room 831, Austin. According to the emergency revised agenda summary, the board will discuss partial termination of CE 930020, Galveston Bay, Galveston County. The emergency status is necessary due to urgent public necessity to preserve the peace. Situation has deteriorated to point Marina owner has obtained TRO to maintain status quo and to protect property and marina users.

Contact: Linda K. Fisher, 1700 North Congress Avenue, Room 836, Austin, Texas 78701, (512) 463-5016.

Filed: June 9, 1993, 1:52 p.m.

TRD-9324083

Texas Department of Transportation

Thursday, June 17, 1993, 9:00 a.m. The Motor Vehicle Board of the Texas Department of Transportation will meet at 125 East 11th Street (DeWitt C. Greer Building, Big Hearing Room), Austin. According to the agenda summary, the board will call the meeting to order; take roll call; discuss approval of the minutes of the Motor Vehicle Board meeting on April 22, 1993; consider proposed agreed order; argument on proposal for decision; agreed orders; orders of dismissal; argument on proposal for decision; other: consideration of proposed rule; review of litigation status report; review of consumer complaint recap report; and adjourn.

Contact: Russell Harding, 815 Brazos Street, #300, Austin, Texas 78701, (512) 476-3587.

Filed: June 9, 1993, 8:59 a.m.

TRD-9324026

Texas Turnpike Authority

Thursday, June 17, 1993, 10:00 a.m. The Board of Directors of the Texas Turnpike Authority will meet at the Quality Hotel Bayfront, 601 North Water, Corpus Christi. According to the agenda summary, the board will discuss approval of the minutes of board retreat and minutes of prior board and committee meetings; with respect to the Dallas North Tollway project, contract awards, change orders and supplemental agreements, transfer of capital from the Tollway Capital Improvement Fund, acquisition of right-of-way and construction progress report; payment of HSCB refinancing consultants' fees; meet in executive session; utilization of historically underutilized businesses; discuss legislative matters; TTA Consultant selection process; legal counsel for TTA; hear reports on future projects; reports from committee chairmen and other board members and the executive director's report.

Contact: Harry Kabler, P.O. Box 190369, Dallas, Texas 75219, (214) 522-6200.

Filed: June 9, 1993, 3:10 p.m.

TRD-9324092

Texas Water Commission

Wednesday, June 30, 1993, 9:00 a.m. The Texas Water Commission will meet at the Stephen F. Austin Building, Room 118, 1700 North Congress Avenue, Austin. According to the agenda summary, the commission will hold a hearing on Wunderlich Ready Mix, Inc.'s application for a water permit to divert and use nine acre-feet of water for a three year period from Barons Creek, tributary of the Pedernales, tributary of the Colorado River, Colorado River Basin, for mining purposes (wash sand) and municipal purposes in Gillespie County. Application Number TA-7061.

Contact: Arlette Capehart, P.O. Box 13087, Austin, Texas 78711, (512) 475-2347.

Filed: June 10, 1993, 9:27 a.m.

TRD-9324114

Wednesday, June 30, 1993, 9:00 a.m. The Texas Water Commission will meet at the Stephen F. Austin Building, Room 118, 1700 North Congress Avenue, Austin. According to the agenda summary, the commission will hold a hearing on Application Number TA-7071 for a water permit to divert and use one acre-foot of water for a three year period from two diversion points: Mission River, tributary of Mission Bay; and Aransas River, tributaries of Copano Bay, tributary of the Aransas Bay, tributary of the Gulf of Mexico, San Antonio-Nueces Coastal Basin, for industrial purposes (road maintenance) in Refugio County.

Contact: Arlette Capehart, P.O. Box 13087, Austin, Texas 78711, (512) 475-2347.

Filed: June 10, 1993, 9:27 a.m.

TRD-9324115

Friday, July 9, 1993, 10:00 a.m. The Office of Hearings Examiners of the Texas Water Commission will meet at the Stephen F. Austin Building, Rooms 1149A and B, 1700 North Congress Avenue, Austin. According to the agenda summary, the commission will hold a hearing on Southwestern Water Corporation and Live Oak Water System's water and sewer rate increases effective May 8, 1993 for their service areas located in Travis and Williamson Counties. Docket Number 9999-R.

Contact: Carol Wood, P.O. Box 13087, Austin, Texas 78711, (512) 463-7875.

Filed: June 10, 1993, 9:26 a.m.

TRD-9324113

Texas Water Development Board

Wednesday, June 16, 1993, 2:00 p.m. The Texas Water Development Board will meet at the Stephen F. Austin Building, Room 118, 1700 North Congress Avenue, Austin. According to the complete agenda, the board will consider issues relating to the Economically Distressed Areas Program.

Contact: Craig D. Pedersen, P.O. Box 13231, Austin, Texas 78711, (512) 463-7847.

Filed: June 8, 1993, 4:12 p.m.

TRD-9324011

Wednesday, June 16, 1993, 3:00 p.m. The Policy and Finance Committee of the Texas Water Development Board will meet at the Stephen F. Austin Building, Room 513F, 1700 North Congress Avenue, Austin. According to the complete agenda, the committee will consider approval of the minutes of the May 19, 1993 meeting; authorizing the executive administrator to negotiate a contract for a loan in an amount not to exceed \$100,000 with the San Antonio River Authority for the Northern Study Area of the south-central portion of the Trans-Texas Water Program; financing options on EDAP projects including North Alamo Water Supply Corporation; City of Alton and City Del Rio EDAP project applications; briefing on present and future EDAP projects; consider necessary authorizations to proceed with Interim Finance Program Asset Sale and any alternatives in connection therewith; and may consider items on the agenda of the June 17, 1993 board meeting. Additional non-committee board members may be present to deliberate but will not vote in the committee meeting.

Contact: Craig D. Pedersen, P.O. Box 13231, Austin, Texas 78711, (512) 463-7847.

Filed: June 8, 1993, 4:12 p.m.

TRD-9324012

Thursday, June 17, 1993, 9:00 a.m. The Texas Water Development Board will meet at the Stephen F. Austin Building, 1700 North Congress Avenue, Room 118, Austin. According to the agenda summary, the board will consider: approval of the minutes; financial, executive and committee reports; agency minority hiring practices; extensions to Lake Jackson and Lovelady; change to condition for NW Grayson WCID #1; financial assistance for Lumberton Municipal Utility District, City of Penitas, Terrell County WCID #1 and Tornillo WSC; agreements and contracts to prepare a State Drought Management Plan, to evaluate additional water resources in the Lower Rio Grande Valley, and to participate in the Trans-Texas Water Program studies, rule changes for disbursement of funds, and interim finance program asset sale and alternatives.

Contact: Craig D. Pedersen, P.O. Box 13231, Austin, Texas 78711, (512) 463-7847.

Filed: June 9, 1993, 2:03 p.m.

TRD-9324087

Texas Water Resources Finance Authority

Thursday, June 17, 1993, 9:00 a.m. The Texas Water Resources Finance Authority will meet at the Stephen F. Austin Building, 1700 North Congress Avenue, Room 118, Austin. According to the complete agenda, the authority will consider approval of the minutes of the meetings of April 15, 1993, April 27, 1993, and May 20, 1993; and consider necessary authorizations to proceed with Interim Finance Program Asset Sale and any alternatives in connection therewith.

Contact: Craig D. Pedersen, P.O. Box 13231, Austin, Texas 78711, (512) 463-7847.

Filed: June 9, 1993, 2:03 p.m.

TRD-9324086

Regional Meetings

Meetings Filed June 8, 1993

The Appraisal District of Jones County Board of Directors will meet at the District's Office, 1137 East Court Plaza, Anson, June 17, 1993, at 8:30 a.m. Information may be obtained from Susan Holloway.

1137 East Court Plaza, Anson, Texas 79501, (915) 823-2422. TRD-9323996.

The Central Counties Center for Mental Health Mental Retardation Services Board of Trustees will meet at 304 South 22nd Street, Temple, June 15-16, 1993, at 5:00 p.m. Information may be obtained from Eldon Tietje, 304 South 22nd Street, Temple, Texas 76501, (817) 778-4841, Ext. 301. TRD-9323992.

The Education Service Center, Region VI ESC Board of Directors will meet at the Briarcrest Country Club, Bryan, June 17, 1993, at 5:00 p.m. Information may be obtained from Bobby Roberts, 3332 Montgomery Road, Huntsville, Texas 77340, (409) 295-9161 TRD-9323995.

The Gillespie Central Appraisal District Board of Review will meet at the Gillespie County Courthouse, County Courtroom, Fredericksburg, June 16, 1993, at 10:00 a.m. Information may be obtained from Mary Lou Smith, P.O. Box 429, Fredericksburg, Texas 78624, (210) 997-9807. TRD-9323997.

The Trinity River Authority of Texas Utility Services Committee will meet at 5300 South Collins, Arlington, June 15, 1993, at 10:00 a.m. Information may be obtained from James L. Murphy, 5300 South Collins, Arlington, Texas 76018, (817) 467-4343. TRD-9323990.

The Tyler County Appraisal District Appraisal Review Board will meet at 806 West Bluff, Woodville, June 15, 1993, at 9:30 a.m. Information may be obtained from Linda Lewis, P.O. Drawer 9, Woodville, Texas 75979, (409) 283-3736. TRD-9323994.

◆ ◆ ◆ Meetings Filed June 9, 1993

The Austin Travis County Mental Health Mental Retardation Center Board of Trustees, Personnel Committee will meet at 1430 Collier Street, Board Room, Austin, June 16, 1993, at 6:00 p.m. Information may be obtained from Sharon Taylor, P.O. Box 3548, Austin, Texas 78764, (512) 440-4031. TRD-9324077.

The Cass County Appraisal District Board of Directors met at the Cass County Appraisal District Office, 502 North Main Street, Linden, June 14, 1993, at 7:00 p.m. Information may be obtained from Janelle Clements, P.O. Box 1150, Linden, Texas 75563, (903) 756-7545. TRD-9324078.

The Cass County Appraisal District Appraisal Review Board will meet at the Cass County Appraisal District Office, 502 North Main Street, Linden, June 15, 1993, at 9:00 a.m. Information may be obtained from Janelle Clements, P.O. Box 1150, Linden, Texas 75563, (903) 756-7545. TRD-9324079.

The Dallas Central Appraisal District Board of Directors held an emergency meeting at 2949 North Stemmons Freeway, Dallas, June 10, 1993, at 9:00 a.m. The emergency status was necessary as to refinance the note on the DCAD office facility, the board had to take action 30 days prior to the next payment of July 12, 1993. A vacancy existed on the Appraisal Review Board and the protest appeals process as outlined by the Property Tax Code warranted a full membership of the ARB to hear and determine property owner protests. Information may be obtained from Rick L. Kuehler, 2949 North Stemmons Freeway, Dallas, Texas 75247, (214) 631-0520. TRD-9324075.

The Education Service Center, Region 20 Board of Directors will meet at 1314 Hines Avenue, San Antonio, June 23, 1993, at 2:00 p.m. Information may be obtained from Dr. Judy M. Castleberry, 1314 Hines Avenue, San Antonio, Texas 78208, (210) 299-2471. TRD-9324076.

The Houston-Galveston Area Council Project Review Committee will meet at 3555 Timmons Lane, Conference Room A, Second Floor, Houston, June 15, 1993, at 9:30 a.m. Information may be obtained from R. Ballas, P.O. Box 22777, Houston, Texas 77227-2777, (713) 627-3200. TRD-9324085.

The Houston Galveston Area Council H-GAC Board of Directors will meet at 3555 Timmons Lane, Conference Room A, Second Floor, Houston, June 15, 1993, at 10:00 a.m. Information may be obtained from Cynthia Marquez, P.O. Box 22777, Houston, Texas 77227, (713) 627-3200. TRD-9324084.

The Kendall Appraisal District Board of Directors met at the Appraisal District Offices, Conference Room, 121 South Main Street, Boerne, June 14, 1993, at 5:00 p.m. Information may be obtained from J. P. Davis, P.O. Box 788, Boerne, Texas 78006, (210) 249-8012. TRD-9324024.

The Kendall Appraisal District Board of Directors Notice of Budget Hearing met at the Appraisal Offices, 121 South Main Street, Boerne, June 14, 1993, at 5:00 p.m. Information may be obtained from J. P. Davis, P.O. Box 788, Boerne, Texas 78006, (210) 249-8012. TRD-9324025.

The Middle Rio Grande Development Council Executive Committee will meet at the Holiday Inn, 920 East Main Street, Uvalde, June 15, 1993, at noon. Information may be obtained from Michael Patterson, P.O. Box 1199, Carrizo Springs, Texas 78834, (210) 876-3533. TRD-9324106.

The North Central Texas Council of Governments Regional Transportation Council will meet at Centerpoint Two, 616 Six Flags Drive, Suite 200, Arlington, June 17,

1993, at 9:00 a.m. Information may be obtained from Michael Morris, P.O. Box 5888, Arlington, Texas 76005-5888, (817) 640-3300. TRD-9324107.

The Texas Rural Communities, Inc. Board of Directors met at the Tanglewood Resort, P.O. Box 265, Pottsboro, June 12, 1993, at 1:00 p.m. Information may be obtained from Leslie Janca, 1016 LaPosada Drive, Suite 200, Austin, Texas 78752, (512) 458-1016. TRD-9324071.

The Trinity River Authority of Texas Administration Committee will meet at 5300 South Collins, Arlington, June 16, 1993, at 10:30 a.m. Information may be obtained from James L. Murphy, 5300 South Collins, Arlington, Texas 76018, (817) 467-4343. TRD-9324072.

◆ ◆ ◆ Meetings Filed June 10, 1993

The Brown County Appraisal District Board of Directors will meet at 403 Fisk Avenue, Brownwood, June 14, 1993, at 7:00 p.m. Information may be obtained from Doran Lemke, 403 Fisk Avenue, Brownwood, Texas 76801, (915) 643-5676. TRD-932411.

The Brown County Appraisal District Appraisal Review Board will meet at 403 Fisk Avenue, Brownwood, June 15, 1993, at 8:00 a.m. Information may be obtained from Doran Lemke, 403 Fisk Avenue, Brownwood, Texas 76801, (915) 643-5676. TRD-9324112.

The Central Appraisal District of Nolan County Board of Review will meet at the Nolan County Courthouse, Third Floor, Sweetwater, June 15-16, 1993, at 9:30 a.m. Information may be obtained from Steven G. Beck, P.O. Box 1256, Sweetwater, Texas 79556, (915) 235-8421. TRD-9324117.

The Comal Appraisal District Appraisal Review Board met at 430 West Mill Street, New Braunfels, June 14, 1993, at 9:00 a.m. Information may be obtained from Lynn Rodgers, P.O. Box 311222, New Braunfels, Texas 78131-1222, (512) 625-8597. TRD-9324118.

The Dewitt County Appraisal District Board of Directors will meet at the Dewitt County Appraisal District Office, 103 Bailey Street, Cuero, June 15, 1993, at 7:30 p.m. Information may be obtained from John Haliburton, P.O. Box 4, Cuero, Texas 77954, (512) 275-5753. TRD-9324119.

The Education Service Center, Region II Board of Directors will meet at 209 North Water Street, Board Room, Corpus Christi, June 15, 1993, at 6:30 p.m. Information may be obtained from Dr. Ernest Zomora, 209 North Water Street, Corpus Christi, Texas 78401, (512) 883-9288, Ext. 2200. TRD-9324126.

The Guadalupe-Blanco River Authority Board of Directors will meet at 933 East Court Street, Seguin, June 17, 1993, at 10:00 a.m. Information may be obtained from John H. Specht, P.O. Box 271, Seguin, Texas 78156-0271, (210) 379-5822. TRD-9324109.

The Hansford Appraisal District Appraisal Review Board will meet at 709 West Seventh Street, Spearman, June 17, 1993, at 9:00 a.m. Information may be obtained from Lovida Giblin, P.O. Box 519, Spearman, Texas 79081, (806) 659-5575. TRD-9324121.

The Harris County Appraisal District Board of Directors will meet at 2800 North Loop West, Eighth Floor, Houston, June 16, 1993, at 9:30 a. m. Information may be obtained from Margie Hilliard, P.O. Box 920975, Houston, Texas 77292, (713) 957-5291. TRD-9324125.

The Martin County Appraisal District Board of Directors will meet at 308 North St. Peter, Appraisal Office, Stanton, June 15, 1993, at 7:00 p.m. Information may be obtained from Elaine Stanley, P.O. Box 1349, Stanton, Texas 79782, (915) 756-2823. TRD-9324120.

The Mills County Appraisal District will meet at the Mills County Courthouse, Jury Room, Goldthwaite, June 17, 1993, at 6:30 p.m. Information may be obtained from Cynthia Partin, P.O. Box 565, Goldthwaite, Texas 76844, (915) 648-2253. TRD-9324122.

The Scurry County Appraisal District Board of Directors will meet at 2612 College Avenue, Snyder, June 15, 1993, at 8:00 a.m. Information may be obtained from L. R. Peveler, 2612 College Avenue, Snyder, Texas 79549, (915) 573-8549. TRD-9324123.



In Addition

The *Texas Register* is required by statute to publish certain documents, including applications to purchase control of state banks, notices of rate ceilings, changes in interest rate and applications to install remote service units, and consultant proposal requests and awards.

To aid agencies in communicating information quickly and effectively, other information of general interest to the public is published as space allows.

Texas Air Control Board Notice of Opportunity to Comment on Administrative Actions

Notice of Opportunity to Comment on Settlement Agreements of Administrative Enforcement Actions.

The Texas Air Control Board (TACB) Staff is providing an opportunity for written public comment on the listed Agreed Board Orders (ABO's) pursuant to the Texas Clean Air Act, §382.096, Health and Safety Code, Chapter 382. The Act, §382.096, requires that the TACB may not approve these ABO's unless the public has been provided an opportunity to submit written comments. Section 382.096 requires that notice of the proposed orders and of the opportunity to comment must be published in the *Texas Register* no later than the thirtieth day before the date on which the public comment period closes, which in this case is July 15, 1993. Section 382.096 also requires that the TACB promptly consider any written comments received and that the TACB may withhold approval of an ABO if a comment indicates the proposed ABO is inappropriate, improper, inadequate or inconsistent with the requirements of the Texas Clean Air Act. Additional notice is not required if changes to an ABO are made in response to written comments.

A copy of each of the proposed ABO's is available for public inspection at both the TACB's Central Office, located at 12124 Park 35 Circle, Austin, Texas 78753, (512) 908-1000 and at the applicable Regional Office listed below. Written comments about these ABO's should be sent to the Staff Attorney designated for each ABO at the TACB's Central Office in Austin, and must be received by 5:00 p.m. on July 15, 1993. Written comments may also be sent by facsimile machine to the Staff Attorney at (512) 908-1850. The TACB Staff Attorneys are available to discuss the ABO's and/or the comment procedure at the listed phone numbers; however, §382.096 provides that comments on the ABO's should be submitted to the TACB in writing.

Company: 2400 Fountainview, Location: Houston, Harris County, Type of Facility: a building, Rule Violated: TACB Rule 101.20(2) and 40 Code of Federal Regulations, §§61.145, 61.146(b)(1), and 61.147(e)(1), failure to give proper notification of intention to demolish and removal of asbestos, Penalty: \$10,000, Staff Attorney: Rod Johnson, (512) 908-1854, Regional Office: 5555 West Loop, Suite 300, Bellaire, Texas 77401, (713) 666-4964.

Company: Aerospace Technologies, Incorporated, Location: Fort Worth, Tarrant County, Type of Facility: aircraft parts manufacturing plant, Rule Violated: TACB Rule 115.421(a)(9)(A)(ii), operating a surface coating process without required emission controls, Penalty: \$10,500, Staff Attorney: Walter Ehresman, (512) 908-1843, Regional Office: 6421 Camp Bowie Boulevard, Suite 312, Fort Worth, Texas 76116, (817) 732-5531, (817) 732-5532.

Company: Asarco, Incorporated, Location: El Paso, El Paso County, Type of Facility: copper smelter plant, Rule Violated: TACB Board Order Number 81-6, exceeding the one-hour ambient sulfur dioxide concentration of .5 ppm required by Board Order Number 81-6; TACB Rule 112.14 (formerly 112.16), causing or allowing emissions of SO₂ in excess of 650 ppm (six-hour average), Penalty: \$24,000, Staff Attorney: Walter Ehresman, (512) 908-1843, Regional Office: 1200 Golden Key Circle, Suite 369, El Paso, Texas 79925, (915) 591-8128, (915) 594-8129.

Company: B & F Maintenance Services, Inc., Location: Houston, Harris County, Type of Facility: asbestos abatement project, Rule Violated: TACB Rule 101.20(2) and 40 Code of Federal Regulations, §61.145(b), failure to provide proper notification for to asbestos removal project, Penalty: \$0.00 (Small Business Minor Source Policy), Staff Attorney: Peter Gregg, (512) 908-1857, Regional Office: 5555 West Loop, Suite 300, Bellaire, Texas 77401, (713) 666-4964.

Company: Behr of America, Incorporated, Location: Fort Worth, Tarrant County, Type of Facility: automotive air conditioning unit manufacturing plant, Rule Violated: TACB Rule 116.1, unauthorized modification of a Freon TF vapor degreaser, Penalty: \$500, Staff Attorney: Peter Gregg, (512) 908-1857, Regional Office: 6421 Camp Bowie Boulevard, Suite 312, Fort Worth, Texas 76116, (817) 732-5531, (817) 732-5532.

Company: Christie Gas Corporation, Location: Desdemona, Eastland County, Type of Facility: natural gas processing plant, Rule Violated: TACB Rule 116.1, unauthorized construction and operation of a 3177 Waukesha 400 h.p. compressor engine; TACB Rule 101.20(1) and Agreed Board Order Number 90-01(g), which require compliance with Federal New Source Performance Standards NSPS (failing to submit six semiannual reports in a timely manner), Penalty: \$7,000, Staff Attorney: Walter Ehresman, (512) 908-1843, Regional Office: Commerce Plaza Office Building, 1290 South Willis, Suite 205, Abilene, Texas 79605, (915) 698-9674.

Company: City of Bryar, Location: Bryan, Brazos County, Type of Facility: asbestos abatement project, Rule Violated: TACB Rule 101.20(2) and 40 Code of Federal Regulations, §61.145(b), failure to provide proper notification for asbestos removal project, Penalty: \$0.00 (Small Business Minor Source Policy), Staff Attorney: Peter Gregg, (512) 908-1857, Regional Office: 500 Lake Air Drive, Suite 1, Waco, Texas 76710, (817) 772-9240, (817) 772-9241.

Company: DIRA VII, Incorporated doing business as Silver Star Cleaners, Location: Hurst, Tarrant County, Type of Facility: dry cleaning facility, Rule Violated: TACB Rule 115.521, failure to vent dryer exhaust through a properly functioning control device, Penalty: \$500, Staff Attorney: Peter Gregg, (512) 908-1857, Regional Office:

6421 Camp Bowie Boulevard, Suite 312, Fort Worth, Texas 76116, (817) 732-5531 (817) 732-5532.

Company: Don's Auto Sales, Location: Rosenberg, Fort Bend County, Type of Facility: motor vehicle sales operation, Rule Violated: TACB Rule 114.1(c), offering for sale in the state of Texas motor vehicles with missing or inoperable emission control systems or devices with which the motor vehicle was originally equipped, Penalty: \$500, Staff Attorney: Peter Gregg, (512) 908-1857, Regional Office: 5555 West Loop, Suite 300, Bellaire, Texas 77401, (713) 666-4964.

Company: E & B, Incorporated (A Wholly Owned Subsidiary of Densimix, Incorporated), Location: project site in Houston, Harris County, Type of Facility: a demolition project, Rule Violated: TACB Rule 101.20(2) and 40 Code of Federal Regulations, §61.145(a) and (b), failure to provide required notification, and failure to conduct required survey, Penalty: \$2,000, Staff Attorney: Walter Ehresman, (512) 908-1843, Regional Office: 5555 West Loop, Suite 300, Bellaire, Texas 77401, (713) 666-4964.

Company: Lubrizol Petroleum Chemicals Company, Location: Deer Park, Harris County, Type of Facility: petrochemical plant, Rule Violated: TACB Rule 115.126(a)(2)(B) and (C), failing to maintain records for process streams exempted from controls; TACB Rule 115.334(1)(B), failing to conduct fugitive emission monitoring of pipeline valves two inches or smaller; TACB Rule 116.4, failing to comply with Special Provision Number 3 of TACB Permit Number R-1871, Penalty: \$31,400, Staff Attorney: Bill Zeis, (512) 908-1844, Regional Office: 5555 West Loop, Suite 300, Bellaire, Texas 77401, (713) 666-4964.

Company: Mayco, Incorporated, Location: Farmers Branch, Dallas County, Type of Facility: wooden pallet manufacturing plant, Rule Violated: TACB Rule 101.4, nuisance level emissions, Penalty: \$2,000, Staff Attorney: Walter Ehresman, (512) 908-1843, Regional Office: 6421 Camp Bowie Boulevard, Suite 312, Fort Worth, Texas 76116, (817) 732-5531, (817) 732-5532.

Company: Nationwide Recycling, Location: Houston, Harris County, Type of Facility: demolition project, Rule Violated: TACB Rule 101.20(2), and 40 Code of Federal Regulations, Part 61.145(a) and (b), failure to provide notification prior to asbestos removal, and failure to conduct required survey, Penalty: \$0.00 (Small Business Minor Source Policy), Staff Attorney: Walter Ehresman, (512) 908-1843, Regional Office: 5555 West Loop, Suite 300, Bellaire, Texas 77401, (713) 666-4964.

Company: Packless Metal Hose, Inc. doing business as Packless Industries, Location: Waco, McLennan County, Type of Facility: refrigeration component manufacturing plant, Rule Violated: TACB Rule 116.1, unauthorized construction and operation of a naphtha storage tank and vat used for metal cleaning, a naphtha/Protexco tank and vat used to inhibit rust, and a chrome plating process, Penalty: \$750, Staff Attorney: Peter Gregg, (512) 908-1857, Regional Office: 500 Lake Air Drive, Suite 1, Waco, Texas 76710, (817) 772-9240, (817) 772-9241.

Company: Robert May Feedlot, Location: Campbellton, Atascosa County, Type of Facility: cattle feedlot, Rule Violated: TACB Rule 116.1, unauthorized construction and operation of a cattle feedlot, Penalty: \$0.00 (Small Business Minor Source Policy), Staff Attorney: Walter Ehresman, (512) 908-1843, Regional Office: 4335 Piedras West, Suite 101, San Antonio, Texas 78228, (210) 734-7981, (210) 734-7982.

Company: Solvay Polymers, Incorporated, Location: Deer Park, Harris County, Type of Facility: polyethylene and polypropylene manufacturing plant, Rule Violated: TACB Rule 116.1, unauthorized modification of six grandfathered polyethylene units; TACB Rule 116.5 and Agreed Board Order Number 91-07(p), exceeding volatile organic compound emission levels and production limits represented in TACB permit application, Penalty: \$120,650, Staff Attorney: Walter Ehresman, (512) 908-1843, Regional Office: 5555 West Loop, Suite 300, Bellaire, Texas 77401, (713) 666-4964.

Issued in Austin, Texas, on June 9, 1993.

TRD-9324068

Lane Hartssock
Deputy Director, Air Quality Planning
Texas Air Control Board

Filed: June 9, 1993

Texas Bond Review Board

Bi-Weekly Report on the 1993 Allocation of the State Ceiling on Certain Private Activity Bonds

The information that follows is a report of the allocation activity for the period of May 22, 1993 through June 4, 1993. Since Congress did not act by March 1, 1993, to extend the provisions of the tax code which allow Mortgage Bonds and Small Issue Bonds to qualify for tax-exempt financing, the amount of state ceiling remaining for those purposes has been proportionately redistributed to the other categories, pursuant to Texas Civil Statutes, Article 5190.9a, §2(e). Currently, there are three categories within the allocation program.

Total amount of state ceiling remaining unreserved for the \$239,513,792 subceiling for state-voted issues under the Act as of June 4, 1993—\$129,513,792.

Total amount of state ceiling remaining unreserved for the \$68,428,035 subceiling for residential rental project issues under the Act as of June 4, 1993—\$60,428,035.

Total amount of state ceiling remaining unreserved for the \$574,858,173 subceiling for all other bonds requiring an allocation under the Act as of June 4, 1993—\$0.

Total amount of the \$882,800,000 state ceiling remaining unreserved as of June 4, 1993—\$189,941,827.

Following is a comprehensive listing of applications which have received a reservation date pursuant to the Act from May 22, 1993 through June 4, 1993:

<u>ISSUER</u>	<u>USER</u>	<u>DESCRIPTION</u>	<u>AMOUNT</u>
1) Abilene Higher Ed. Authority	Eligible Borrowers	Student Loans	\$19,978,173

Following is a comprehensive listing of applications which have issued and delivered the bonds and received a Certificate of Allocation pursuant to the Act from May 22, 1993 through June 4, 1993:

<u>ISSUER</u>	<u>USER</u>	<u>DESCRIPTION</u>	<u>AMOUNT</u>
1) Brazos River Harb & Nav. District	Dow Chemical Co.	Sewage Facilities	\$50,000,000
2) West Side Calhoun County	Union Carbide	Sewage & Solid Waste Disposal Facilities	\$20,080,000
3) Gulf Coast Waste Disposal Auth.	Amoco Corp.	Pollution Control Facilities	\$50,000,000
4) Greater East Texas Higher Ed. Auth.	Eligible Borrowers	Student Loans	\$50,000,000

Following is a comprehensive listing of applications which were either withdrawn or canceled pursuant to the Act from May 22, 1993 through June 4, 1993:

<u>ISSUER</u>	<u>USER</u>	<u>DESCRIPTION</u>	<u>AMOUNT RELEASED</u>
1) San Antonio HFC	MAGI, Inc. Hutchins Palms Apts	Residential Rental	\$ 1,750,000
2) San Antonio HFC	MAGI, Inc. Gillette Square Apts	Residential Rental	\$ 1,750,000
3) Southeast Texas HFC	MAGI, Inc. Park Hollow Apts	Residential Rental	\$ 3,715,000

Following is a comprehensive listing of applications which released a portion of their reservation pursuant to the Act from May 22, 1993 through June 4, 1993:

<u>ISSUER</u>	<u>USER</u>	<u>DESCRIPTION</u>	<u>AMOUNT RELEASED</u>
1) West Side Calhoun County	Union Carbide	Sewage & Solid Waste Disposal Facilities	\$ 4,920,000

Issued in Austin, Texas, on June 7, 1993.

TRD-9323978

Jim Thomassen
Executive Director
Texas Bond Review Board

Filed: June 7, 1993

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Texas Department of Commerce
Request for Proposals

On April 15, 1993 Governor Richards asked the Texas Department of Commerce (Commerce) to take the lead on developing and implementing a Texas Manufacturing Assistance Center (TMAC) Network. Governor Richards directed Commerce to take full advantage of existing federal, state, and local resources to support Texas manufacturing as well as the opportunities available in the upcoming federal defense transition competition, also known as the Technology Reinvestment Project (TRP).

In accordance with this request, Commerce announces a Request for Proposal (RFP) to solicit responses to select a number of organizations to partner with Commerce in submitting a coordinated set of proposals to the TRP for the purpose of establishing a TMAC network. Commerce is soliciting proposals for regional TMACs, regional TMAC planning and development grants, statewide TMAC services, and TMAC measurement and evaluation services. The proposals are solicited to help Commerce effectively implement a manufacturing assistance infrastructure and to maximize the probability of leveraging federal funds. Selected respondents are expected to work with Commerce to prepare a coordinated TMAC proposal to the TRP before the federal competition deadline of July 23, 1993. Respondents are expected to be familiar with the TRP Program Information Package and the Request for Proposal modifications printed in the Commerce Business Daily on May 14, 1993. Copies of the PIP and the RFP updates can be obtained by calling 1-800-DUAL-USE Monday-Friday from 8:00 a.m. to 7:00 p.m., Eastern Daylight Savings Time.

A TMAC network will consist of regionally based, industry-driven TMACs, supported by statewide technology access services, linked electronically, and coordinated by Commerce. A fully-functioning TMAC network will improve Texas manufacturing competitiveness, create and retain high-skill, high-wage jobs, and facilitate technology adoption by Texas businesses.

Detailed information regarding the project format is set forth in the Request for Proposal Instructions which will

be available on June 10, 1993, at the following location: Texas Department of Commerce, Office of Advanced Technology, 410 East Fifth Street, Suite B2, Austin, Texas 78701.

The deadline for receipt of proposals in response to this request will be Friday, June 25, 1993 at 5:00 p.m. (Central Standard Time). Proposals submitted by telegraph or facsimile will not be accepted. Responses received after this deadline will not be considered. Commerce is under no obligation to execute a resulting contract, provide funds, or endorse any proposal submitted in response to this RFP. Commerce intends to use responses as a basis for further negotiation of participation in a coordinated set of proposals to fund a TMAC Network. Commerce will base its choice on demonstrated competence, qualifications, plans to provide value-added benefit to Texas manufacturers, compatibility with TMAC objectives, and probability of improving TMAC proposal success in the TRP competition.

This RFP does not commit Commerce to pay any costs incurred prior to execution of a contract. Issuance of this material in no way obligates Commerce to award a contract or to pay any costs incurred in the preparation of a response. Commerce specifically reserves the right to vary all provisions set forth any time prior to execution of a contract where Commerce deems it to be in the best interest of the State of Texas.

For further information regarding this notice or to obtain copies of the RFP Instructions, please contact: Joanne Vliet, Texas Department of Commerce, Office of Advanced Technology, 410 East Fifth Street, Austin, Texas 78701, (512) 320-9561 (voice), (512) 320-9698 (TDD), (512) 320-9544 (fax).

Issued in Austin, Texas, on June 8, 1993.

TRD-9323988

Michael Regan
Chief Administrative Officer
Texas Department of Commerce

Filed: June 8, 1993

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Office of Consumer Credit
Commissioner

Notice of Rate Ceilings

The Consumer Credit Commissioner of Texas has ascertained the following rate ceilings by use of the formulas and methods described in Texas Civil Statutes, Title 79, Article 1.04, as amended (Texas Civil Statutes, Article 5069-1.04).

Types of Rate Ceilings

	<u>Effective Period</u> <u>(Dates are Inclusive)</u>	<u>Consumer (1)/Agricultural/</u> <u>Commercial (2) thru \$250,000</u>	<u>Commercial(2)</u> <u>over \$250,000</u>
Indicated (Weekly) Rate - Art. 1.04(a)(1)	06/14/93-06/20/93	18.00%	18.00%

(1) Credit for personal, family or household use. (2) Credit for business, commercial, investment or other similar purpose.

Issued in Austin, Texas, on June 7, 1993.

TRD-8324063

Al Endsley
Consumer Credit Commissioner

Filed: June 9, 1993

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**Texas Economic Development
Corporation**
**Request for Proposals-International Trade
Curriculum**

Overview. The Texas Economic Development Corporation (TEDC) is soliciting proposals for the development and production of an international trade curriculum. The curriculum is to be developed around existing international resource materials. The objective of the curriculum is to provide new-to-export companies and business assistance counselors with a step-by-step approach to developing a marketing plan and learning about available trade resources.

The target audiences for the curriculum are small businesses and small business assistance counselors. The objective is to develop a curriculum that provides a systematic approach to assisting a company prepare to export. The curriculum is to be approximately 24 hours in length and developed around existing materials: Export Now, Basic Guide to Exporting, Global Texas, and the National Trade Database. The curriculum will be presented as a level two curriculum targeted at businesses and counselors with a strong understanding of export basics. Once delivered, the products of the curriculum will be an international marketing plan and practical knowledge of international market research, available market research resources, and international trade resources in general.

Deliverables. Vendor will deliver to the Texas Economic Development Corporation one camera-ready copy and 100 copies of the final curriculum. The curriculum will include: Table of Contents; Introduction and Overview; Contents; and Appendix.

The due date for delivery of these products will be 75 calendar days from the start date of the contract. Vendor will be responsible for the design and production of the curriculum's contents including layout design and any necessary typesetting. The curriculum will not be considered complete until the vendor provides a detailed presentation of the curriculum to the TEDC development team. Time must be allocated for modifying the curriculum based on feedback from the development team. These changes must fall within the 75 calendar days allowed for the project.

Instructions. For further information regarding this notice

or to obtain a copy of the complete Request for Proposal (RFP), please contact: Texas Economic Development Corporation, in care of Texas Department of Commerce, Attention: Tom Linehan, P.O. Box 12728, Austin, Texas 78711, Phone: (512) 320-9609, Fax: (512) 320-9500, TDD: (512) 320-9698.

The deadline for the receipt of proposals in response to this request will be July 7, 1993, at 5:00 p.m. (CST).

The TEDC is under no obligation to execute a resulting contract, provide funds, or endorse any proposal submitted in response to this RFP. The TEDC intends to use responses as a basis for further negotiation. The TEDC will base its selection on, among other things, demonstrated competence and qualifications of the proposer. This RFP does not commit the TEDC to pay any costs incurred prior to execution of a contract. The issuance of this RFP in no way obligates the TEDC to award a contract or to pay any costs incurred in the preparation of a response.

Issued in Austin, Texas, on June 9, 1993.

TRD-9324041

Vanessa Gilmore
President
Texas Economic Development Corporation

Filed: June 9, 1993

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Texas Education Agency
Request for Application #701-93-014

RFA #701-93-014. This request for applications is filed in accordance with the Texas Education Code, §16.152 and §21.114.

Eligible Applicants. The Texas Education Agency (TEA) is requesting applications (RFA #701-93-014) from individual campuses within public school districts, public school districts or regional educational service centers (ESC) in cooperation with school districts for the development of an integrated program of education and support services for students who are pregnant or who are parents. A cooperative of school districts must have a single fiscal agent. An ESC may serve as a fiscal agent only for a cooperative. An ESC may apply as a fiscal agent of a cooperative, whereby 100% of the funds must flow through to member districts. The fiscal agent must maintain all financial and personnel records required by the agency for the cooperative in accordance with TEA Financial Accounting Manual Bulletin 679.

Description. The purpose of this program is to reduce the number of students who drop out of school due to pregnancy or parenthood and to recover young parents who are younger than 21 on the first day of September to the educational system. In addition, the program is designed to help the students achieve academically and work toward graduation; to develop job-related skills and training; to

access available community resources; to become knowledgeable in child development, parenting, and home management; and to become productive citizens.

Dates of Project. The program will begin September 1, 1993, and end on August 31, 1994. Funds may be available to continue during the 1994-1995 school year, contingent upon legislative compliance and program effectiveness.

Project Amount. The project will receive funding of not more than \$100,000. Project funds must be matched on a dollar for dollar basis. Matching funds may come from any source including the district's compensatory education allocation.

Selection Criteria. Applicants will be reviewed to determine the capability of the applicant to implement the following required components: instruction in skills and knowledge for parenting, job readiness training, counseling, child care, transportation of students and their children, and assistance in obtaining services from government agencies or community service organizations. All required components of the request for applications must be addressed for the application to be considered for funding. The TEA reserves the right to select from the highest ranking applications the ones that best address the needs of the pregnant and/or parenting students and that best implement the required components of the program. Special consideration will be given to districts that describe the greatest need.

Technical Assistance Workshop. A technical assistance workshop will be held at the Texas Education Agency, William B. Travis Building, Room 1-110 on Monday, July 19, 1993, from 9:00 a.m. until noon. Interested applicants are encouraged to bring a copy of the request for applications to the workshop.

Requesting the Application. A copy of the complete request for applications (RFA #701-93-014) may be obtained by writing the: Document Control Center, Texas Education Agency, Room 6-108, William B. Travis Building, 1701 North Congress Avenue, Austin, Texas 78701-1494, or by calling (512) 463-9304. Please refer to RFA #701-93-014 in your request.

Further Information. For clarifying information about this request, contact Bill Nance or Karen Alarcon, Pregnancy, Education, and Parenting Program, (512) 463-9501.

Deadline for Receipt of Application. The deadline for submitting an application is 5:00 p.m., Friday, August 6, 1993.

Issued in Austin, Texas, on June 7, 1993.

TRD-9324067 Lionel R. Meno
Commissioner of Education
Texas Education Agency

Filed: June 9, 1993

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Request for Application #701-93-021

RFP #701-93-021. This request for proposal is filed in accordance with Texas Education Code, §14.043.

Eligible Proposers. The Texas Education Agency (TEA) is requesting proposals (RFP #701-93-021) from local education agencies, education service centers, other non-profit organizations, institutions of higher education, pri-

vate companies, individuals, and/or a consortium of these groups for the development of a T-STAR users information and training center.

Description. The T-STAR users information and training center will provide annual services to help regional education service centers and public school staff use T-STAR telecommunications technology effectively.

Dates of Project. The T-STAR users information and training center will be established and maintained by contract during the 1993-1994 school year. Based on the satisfactory completion of the terms and conditions of the contract, it may be renewed on an annual basis. Proposers should plan for a starting date of no earlier than September 13, 1993, and an ending date of August 31, 1994.

Project Amount. The project will receive funding in an amount to be determined by the quality of the proposal submitted and through negotiations with the Agency for the 1993-1994 school year. Funding for continuation of the project in subsequent years will be subject to general budget authority by the commissioner of education and satisfactory completion of 1993-1994 terms.

Selection Criteria. Proposals will be approved based on the ability of each proposer to carry out all requirements contained in the request for proposals. Special consideration will be given to proposals that are jointly sponsored and supported by agencies within the Texas public education community, such as institutions of higher education, regional education service centers, public television stations, education associations, and public schools and private businesses as participating partners, especially those businesses with a recent history of public school support through technology.

Requesting the Proposal. A copy of the complete request for proposals (RFP #701-93-021) may be obtained by writing or calling the: Document Control Center, Room 6-108, Texas Education Agency, William B. Travis Building, 1701 North Congress Avenue, Austin, Texas 78701, (512) 463-9304. Please refer to RFP #701-93-021 in your request.

Further Information. For clarifying information about this request, contact Mary Lou Akers, Division of Technology Services, Texas Education Agency, (512) 475-3635.

Deadline for Receipt of Proposals. Proposals must be received in the Document Control Center of the Texas Education Agency by 5:00 p.m., Monday, August 2, 1993, in order to be considered.

Issued in Austin, Texas, on June 4, 1993.

TRD-9324066 Lionel R. Meno
Commissioner of Education
Texas Education Agency

Filed: June 9, 1993

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**Texas Employment Commission
Request for Proposals**

This packet, made available on June 15, 1993, is designed to assist eligible applicant organizations in applying to the Texas Employment Commission (TEC) for Dependent Care Development Grant (DCDG) Program funds.

Authorization of Funding. The funds are authorized by Public Law 98-558, the Human Services Reauthorization

Act of 1984, as amended by Public Law 101-105, the Augustus F. Hawkins Human Services Reauthorization Act of 1990. The funds are administered by the United States Department of Health and Human Services (U.S. Dept. H&HS).

Scope of Work. Proposals to be considered for funding under this request will be those that relate to providing technical assistance to local contract recipients of Dependent Care Development Grant (DCDG) funds and School Child Care Services (SCCS) funds for planning, development, establishment, operation, expansion, or improvement of: Dependent Care Information/Resource and Referral or School-Age Child Care Services or both.

A proposal addressing the dependent care information/resource and referral component shall describe a strategy to assess needs and to provide technical assistance for all local DCDG Information/Resource and Referral Contractors in the state. The proposal shall identify possible areas of technical assistance and propose strategies for delivery of services, including development and dissemination of an informational publication relating to information/resource and referral. A proposal may include other activities related to education, information and/or expansion of the information/resource and referral market. Note that "Dependent" is defined as: an individual who has not attained the age of 17 years; an individual who has attained the age of 55 years; or a person with a developmental disability. For an elaboration of this definition or that of other key words relative to this RFP packet, please refer to the April 28, 1986 Federal Register, Page 15862, included in this RFP packet as Appendix A.

A proposal addressing the school-age child care services component shall describe a strategy to assess needs and to provide technical assistance for local DCDG and SCCS School Age Child Care Contractors in the State. The proposal shall identify possible areas of technical assistance and shall propose strategies for delivery of services, including development and dissemination of an informational publication related to school-age child care. A proposal may include other activities related to education, information, and/or expansion of the school-age child care market. Note that a school-age child is defined as a child aged four through thirteen. See the April 28, 1986 Federal Register, Page 15862 for the definition of school-age child from five to thirteen. See House Bill 72 of the 68th Texas Legislature for information regarding the inclusion of four year old child eligible for free public education in this definition of school-age child.

A proposal may address both Information/Resource and Referral and School Age Child Care Services components (See above descriptions).

Please Note. In order to facilitate the planning and development of Technical Assistance proposals, TEC intends to provide information about proposed DCDG and SCCS 1993-1994 local contractor activities and locations. Selection and notification of local applications for DCDG and SCCS funds for either I/R&R or School-Age Child Care will occur no later than June 30, 1993. A tentative listing of selected applications, planned projects, and proposed geographic locations of activities will be available by June 30, 1993.

Budget Information. The total funding available for state-wide technical assistance is approximately \$175,000. The maximum request for federal funds shall not exceed \$87,500 for a technical assistance proposal.

Each proposal must include a 25% matching share from the applicant organization. The minimum matching share shall not be less than 25% of the combined total of federal and match funds. To calculate the minimum amount of matching funds required for this grant, divide the total federal funds requested in the proposal by three. For a proposal requesting the maximum funding of \$87,500, the minimum match required is \$29,167.

Department's prior written approval for purchase or lease of equipment with acquisition cost of \$5,000 and more per unit is required. Approval of a completed proposal or contract budget does not constitute prior approval. Title to items with an acquisition cost of \$1,000 or more shall be retained by the Texas Employment Commission.

Examples of allowable and non-allowable costs are outlined below.

Allowable costs may include meeting/conference room expenses; staff travel directly associated with grant purposes; salary/fringe benefit costs for assigned project staff; pro-rated telephone costs; printing/reproduction costs; pro-rated rental/purchase costs for visual aids or other office equipment; program advertising; auditing costs; indirect costs (if in accordance with the approved contract budget); purchase of equipment, supplies, and/or materials related to approved contract proposal.

Non-allowable costs may include construction costs; renovation costs; matching for federal funds; lobbying costs; food/entertainment costs; and/or consultant costs for grant proposal development.

Federal funds made available under the DCDG Act will be used to supplement and increase the level of state, local and other non-federal funds that would, in the absence of such federal funds, be made available for the programs and activities for which funds are provided and will in no event supplant such state, local, and other non-federal funds.

Length of Contract The contract period will be 12 months beginning October 1, 1993, or as soon thereafter as contracts can be executed.

Applicants already receiving funding from the DCDG Program will be required to conclude their current contracts before beginning a new contract using these funds. Consequently, 1993-1994 DCDG contract time periods will be condensed for these applicants.

All 1993-1994 DCDG contracts must follow the federal fiscal year, and end no later than September 30, 1994.

Agency Contact. Any questions or clarification requests pertaining to the contents of the RFP packet are to be directed to Carol McDaniel at (512) 502-3772.

Application Information.

Due Date. The deadline for receipt and consideration of a DCDG Technical Assistance proposal is the close of business (5:00 p.m.) Monday, July 12, 1993. In order to be eligible, mailed proposals must include a legible United States Postal Service postmark. Metered mail is not acceptable unless it also includes an acceptable United States Postal Service postmark.

Applications delivered by any other type of mail services or hand delivered must arrive at TEC at the specified date and time. Applications may be mailed or delivered in person or by special delivery to the following address:

Texas Work and Family Clearinghouse, Texas Employment Commission, 3520 Executive Center Drive, Suite 209, Attention: Carol McDaniel, (512) 502-3770.

Notification and Negotiation Process. The Texas Employment Commission anticipates completing the selection and notification process by not later than Friday, July 16, 1993. Any negotiations deemed necessary by TEC will be conducted prior to the first day of the contract period. TEC reserves the right to vary all provisions of this RFP prior to execution of a contract and to execute amendments to contracts when the TEC deems such variances and/or amendments are in the best interest of the State of Texas.

Eligible Applicants. Eligible applicant organizations for these funds include public and private entities. Applications from minority-owned businesses and women-owned businesses are encouraged.

Eligible applicant organizations may submit a proposal to provide technical assistance to either local Dependent Care Information/Resource and Referral Contractors or to School Age Child Care Services Contractors; or the organization may submit a proposal to provide technical assistance to both local Dependent Care Information/Resource and Referral Contractors and to School Age Child Care Services Contractors.

All applicants selected must meet the Certification of Eligibility requirements prior to contract execution. See Section II of this packet, TEC Contracting Policies Information.

Format for Submission. Proposals must be typed-double spaced-on standard 8-1/2 inches by 11 inches paper, and have consecutively numbered pages. The Title Page should be attached to the front of the proposal, followed by the Table of Contents. All pages should be numbered.

Proposals shall be limited to ten pages in length, excluding all Exhibits and Assurances. Proposals which exceed the page limitations will be disqualified. Proposals should not be elaborately bound but should be clipped at the top with binder clips.

An original and two copies of each application must be submitted. Copies can exclude Certification of Eligibility Documents, Assurances, and Documentation For Non-Profits.

See Section II of this packet, Proposal Components.

Assurances. Any eligible organization applying for and accepting DCDG funds shall: assure that funds allotted under Section 670B shall be used in accordance with the requirements of the Dependent Care Development Grant Act, Public Law 98-588, as amended by Public Law 101-501; assure that fiscal control and fund accounting exists as may be necessary to assure the proper disbursement of and accounting for federal funds received under the Act; assure that audits of this program shall be conducted in accordance with the provisions of the 45 Code of Federal Regulations, Part 74.62. Audits shall be conducted annually by independent auditors based on generally accepted government auditing standards. Results shall be submitted to the Texas Employment Commission; assure compliance with reporting requirements as required by the United States Department of Health and Human Services and TEC.

Review and Rating of Proposals. No review of a proposal will be initiated unless all applicant information and documentation specified in this RFP is submitted. The

information in the Program Narrative and the Performance Statement will be used to rate the proposals. Proposals accepted and eligible for review will be rated on the following criteria: proposal organization and content according to RFP packet instructions; applicant's Program Narrative and information provided about the background, significance, specific aims and key personnel of the proposed program; detailed activity timeline and method of measurement outlined in the Performance Statement; budgeting, accounting, and financial reporting capabilities; experience at interagency coordination and collaboration; and evaluation method to determine program and client service effectiveness.

Please Note. Special consideration will be given to proposals that plan for collaboration among two or more agencies or organizations and that provide regionally-based services. Special consideration may also be given to proposals for planning, developing, establishing, expanding or improving projects in a geographic area not adequately targeted or funded. Past performance of previous DCDG contractors will be carefully reviewed.

Issued in Austin, Texas, on June 9, 1993.

TRD-9324053

C. Ed. Davis
Deputy Administrator for Legal Affairs
Texas Employment Commission

Filed: June 9, 1993

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Texas Department of Housing and Community Affairs

Request for Proposals

The Texas Department of Housing and Community Affairs (TDHCA) announces a Request for Proposals (RFP) for Disclosure Counsel.

Purpose. The Texas Department of Housing and Community Affairs, a public and official governmental agency of the state, was created pursuant to Texas Civil Statutes, Article 4413(501), (the Act), effective September 1, 1991. TDHCA is the successor agency to the Texas Housing Agency and the Texas Department of Community Affairs, both of which were abolished by the Act and their functions and obligations transferred to TDHCA. One of the purposes of TDHCA is to provide assistance to persons and families of low and very low income and families of moderate income to obtain decent, safe, and sanitary housing. Pursuant to the Act, TDHCA may issue bonds, notes, or other obligations to finance or refinance residential housing and multi-family developments and to refund bonds previously issued by THA, TDHCA, or certain other quasi-governmental issuers.

Organization. TDHCA is governed by an executive director, who is appointed by the Governor upon the advice and consent of the Texas Senate, and by a nine-member board of directors. The members of the board of directors are also appointed by the Governor upon the advice and consent of the Texas Senate for staggered six-year terms. The board is responsible for authorizing the issuance of all bonds of TDHCA and all other acts in connection therewith specified in the Act. The executive director, as administrator and head of TDHCA, is responsible for the overall administration of TDHCA and its programs and for employing its staff of approximately 191.

Major Bond Programs.

First Time Homebuyer Program. The First Time Homebuyer Program channels low interest mortgage money through participating Texas lenders to eligible families who are purchasing their first home or who have not owned a home in the past three years. The program is able to offer interest rates approximately 1.0% to 1.5% below market rate through the sale of tax-exempt mortgage revenue bonds. The lower interest rate reduces the monthly mortgage payment and helps qualifying persons and families who otherwise would not have had the opportunity to purchase a home. Since 1979, the program has financed 23,112 mortgages worth \$1.2 million.

Multi-Family Bond Program. The Multi-Family Bond Program finances below market loans to non-profit and for-profit developers of apartment projects that agree to set aside at least 20% of a project's units for rental to low income persons and families. In addition, at least 20% of a project's units for rental to low income persons and families. In addition, at least 5.0% must be rented to persons with special needs. The Department funds the loans through the sale of tax-exempt and taxable mortgage revenue bonds. Since 1982, this program financed more than \$308 million in loans to developers for the construction of more than 8,431 rental units.

Down Payment Assistance Program. Some potential homebuyers may qualify for a mortgage loan and may be able to afford a monthly mortgage payment but may not be able to save up the equity for a down payment on a home. The Down Payment Assistance Program will help low income families overcome that obstacle. The program offers an interest-free loan of up to \$1,500 to be used towards the down payment and certain closing costs on a home purchased through TDHCA's First Time Homebuyer Program. The loan does not have to be paid back until the home is sold or the original mortgage is paid.

TDHCA hopes to make approximately 700 loans from \$1 million that has been allocated for this program. Funds for this program come from arbitrage funds.

Home Improvement Loan Program. The Home Improvement Loan Program provides interest-free loans of up to \$15,000 to low and very low income homeowners for the purpose of substantially improving or protecting the livability of their residences. Terms of the loans are: loans between \$1,500 and \$5,000 have ten-year terms; loans more than \$5,000 and up to \$10,000 have 15-year terms; and loans more than \$10,000 have 20-year terms. Funds for this program come from arbitrage funds.

Home Construction and Acquisition Loan Program. The Home Construction and Acquisition Loan Program provides interest-free loans up to \$25,000 to the low and very low income families for the purpose of constructing and acquiring a residence. Each loan will have a term of 20 years and must be secured by a lien on the residence. To be eligible, the potential homeowner must not have owned another home in the past three years (except in targeted areas); have reasonable credit risk and sufficient income to afford monthly payments. Funds for this program come from arbitrage funds.

Scope of Services-Nature of Services Required. TDHCA anticipates the need for legal services in connection with the issuance of bonds at any time and from time to time during the term of the contract at the request of

TDHCA. Disclosure counsel is expected to assign those attorneys and professionals employed by the firm who are best suited to appropriately respond to such requests. The firm will provide services of disclosure counsel which includes the preparation of all Official Statements of the Department in connection with bond issues being sold into the public market.

Terms of Agreement. Upon approval of the Attorney General of Texas, TDHCA will execute an agreement with disclosure counsel for at least a one year term with optional extensions as required and as approved by the Attorney General based on performance. However, TDHCA will retain the right to terminate the contract for any reason and at any time upon the payment of fees and expenses then earned.

RFP Instructions

Proposal Form and Format Five copies of the proposal are requested and should be sent by registered mail or delivered in person to Anne O. Paddock, Acting General Counsel, Texas Department of Housing and Community Affairs, 811 Barton Springs Road, Suite 500, Austin, Texas 78704, no later than the deadline for submission of proposals specified below. The proposals must include each question or request for information, as specified herein, followed by the narrative answer as in the standard format for interrogatories; limited to one side of a single 8-1/2 inches by 11 inches page. Supplemental information such as Annual Reports or other background material, if any, must be restricted to Appendices following the responses. The pages of the proposal should be numbered sequentially with the name of the firm on each page. The proposal should be submitted in a loose leaf binder.

Deadline for Submission The deadline for submission in response to this Request for Proposal is 5:00 p.m. on July 1, 1993. No proposal will be accepted after the deadline.

General Information. TDHCA reserves the right to accept or reject any (or all) proposals submitted. The information contained in this proposal request is intended to serve only as a general description of the services desired by TDHCA, and TDHCA intends to use responses as a basis for further negotiation of specific project details with offerors. This request does not commit TDHCA to pay for any costs incurred prior to the execution of a contract and is subject to availability of funds. Issuance of this request for proposal in no way obligates TDHCA to award a contract or to pay any costs incurred in the preparation of a response.

Release of Information. Information submitted relative to this request for proposal shall not be released by TDHCA during the proposed evaluation process or prior to contract award. All information submitted to and retained by TDHCA becomes public record and subject to disclosure under the Texas Open Records Act, unless an exception under such Act is applicable.

Proprietary Information. If a firm does not desire proprietary information in the proposal to be disclosed under the Texas Open Records Act or otherwise, it is required to clearly identify (and segregate, if possible) all proprietary information in the proposal, which identification shall be submitted concurrently with the proposal. If such information is requested under the Texas Open Records Act, the firm will be notified and given an opportunity to present its position to the Texas Attorney General, who shall make the final determination. If the firm fails to clearly identify proprietary information, it agrees, by the submission of a

proposal, that those sections shall be deemed non-proprietary and made available upon public request after the contract is awarded.

Requested Information. The following shall be provided: a general description of your law firm, including historical background, number and location of firm offices, number of attorneys, and major areas of practice; a general description of your firm's practice in the field of public finance, including the size and scope of the practice, the number of attorneys active in the practice and other resources of the firm relevant to the practice; a complete list of bond issues for which your firm has acted as disclosure (underwriter) or bond counsel during the past five years; indicate, for each of the five years, the number and aggregate dollar amount of bond issues for which your firm acted as disclosure or bond counsel. Indicate subtotals for each of the following categories: state general obligation bonds, local general obligation bonds, state revenue bonds, and local revenue bonds; a description of your firm's practice in the field of housing finance, the number of attorneys active in the practice and other resources of the firm relevant to the practice; a listing of each single-family and multi-family housing bond issue handled by your firm as disclosure or bond counsel during the past ten years. For each bond issue, indicate the name of the issuer, the size of the bond issue, the senior banker, and provide a capsule description of the type of transaction (e.g., nature of credit enhancement, tender option provisions or other unusual features); describe five innovative finance transactions in which your firm played a significant role, including at least three housing transactions; identify the individuals who will be assigned to the TDHCA account if your firm is selected as disclosure counsel. Provide information regarding the background and experience of each individual, in particular their housing finance experience, if any, and designate the percentage of work for which each individual will be responsible; five public finance client references, preferably including state agency clients; describe in detail the services that your firm normally provides as disclosure counsel for a transaction and other matters not directly related to bond transactions in which your firm anticipates its services may be necessary. Explain the reasons why and the extent to which additional involvement may be necessary; discuss briefly your firm's views as to the major problems to be faced by the TDHCA during the next three years. Discuss the possible role of disclosure counsel in helping to find solutions to those problems; a copy of the firm's affirmative action policy and information concerning the firm's employment of female, black, Hispanic and other ethnic minority attorneys, law clerks, paralegals and non-legal personnel. Describe the firm's degree of achievement of the affirmative action goals in the past 12 months and provide an employee profile showing the number and percentage of male, female, and minority employees by category; compensation. Clearly specify the firm's proposed method of charging for legal services provided. If an hourly basis is anticipated, describe the fee schedule in detail. If the firm proposes to bill costs of incidental expenses associated with its representation, the proposal should clearly state the detailed nature of such incidental expenses and their estimated costs. All fees and expenses for work performed will be billed directly to and collected from the Department's senior bond underwriting firm(s). Please indicate minimum charges on any of the fees. Invoices presented for payment must be itemized and contain detail of specific expenses. Reimbursement for time spent traveling will be negotiated during pre-selection interviews with

TDHCA. All proposals must include a statement that they are valid for the duration of the contract.

Review. In accordance with law, TDHCA will make its selection based upon its perception of the need for disclosure counsel, the demonstrated competence, experience, knowledge and qualifications, on the reasonableness of the proposed fee for the services, and on the efficacy of its affirmative action policy and practices. By this Request for Proposal, however, TDHCA has not committed itself to employ disclosure counsel for any or all of the previously-described matters, nor does the suggested scope of services or term of agreement require that disclosure counsel be employed for any of those purposes. TDHCA reserves the right to make those decisions after receipt of responses, and TDHCA's decision on these matters is final.

TDHCA reserves the right to negotiate all elements which comprise the proposal of the firm(s) to ensure that the best possible consideration be afforded to all concerned. TDHCA reserves the right to reject any and all proposals and to resolicit in such an event. TDHCA permits proposals utilizing joint ventures of any two or more firms, if appropriate.

TDHCA will not contract with any firm in which an attorney employed therein represents clients before the agency or who has, during a six-month period preceding the commencement of the contract and a six-month period following termination of the contract, represented clients before the agency.

Additional Information. For additional information concerning the requirements of this request for proposals, please contact Anne O. Paddock, Acting General Counsel, at (512) 475-3916. Communication with any member of the board of directors, the executive director, or TDHCA staff other than Ms. Paddock, concerning any matter relating to this request for proposals is grounds for immediate disqualification.

Issued in Austin, Texas, on June 7, 1993.

TRD-9323373 Henry Flores
Executive Director
Texas Department of Housing and
Community Affairs

Filed: June 7, 1993

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Texas Department of Human Services
Public Notice of Closed Solicitation

Pursuant to Title 2, Chapters 22 and 32, of the Human Resources Code and 40 TAC §19.2004, in the September 11, 1990, issue of the *Texas Register* (15 TexReg 5315), the Texas Department of Human Services (TDHS) is closing the solicitation for new Medicaid beds in Bailey County, County Number 009, which appeared in the November 13, 1992, issue of the *Texas Register* (17 TexReg 8069). The solicitation is being closed effective the date of this public notice.

Issued in Austin, Texas, on June 9, 1993.

TRD-9324037 Nancy Murphy
Section Manager, Policy and Document
Support
Texas Department of Human Services

Filed: June 9, 1993

Commission on Jail Standards Consultant Proposal Request

Pursuant to Texas Civil Statutes, Article 6252-11C, the Commission on Jail Standards invites proposals for consulting services to provide internal auditing services.

The selected accounting firm or individual(s) will perform internal auditing services meeting the requirements of the Texas Internal Auditing Act. The selected consultant shall report directly to the Texas Commission on Jail Standards, Executive Director, and Audit Committee and be free of any operational or management responsibilities. Detailed specifications are contained in the Consultant Proposal Request available May 31, 1993, from the Texas Commission on Jail Standards, Second Floor, Suite 200, 611 South Congress, Austin, between the hours of 8:30 a.m. and 4:30 p.m., Monday-Friday. For detailed information, contact Howard Allen, Staff Services Officer, (512) 463-5505.

Responses will be accepted only if actually received in writing in the Texas Commission on Jail Standards office no later than June 30, 1993, no later than 5 p.m., Central Daylight Time on this date. All proposals must be submitted with one original and five copies. The Texas Commission on Jail Standards reserves the right to reject any or all proposals.

All proposals submitted by the deadline will be reviewed by the Executive Director and Audit Committee, which consists of three Commissioners. The Audit Committee may request interviews with the top-rated proposers. Based on proposer's response, approach, experience, and reasonableness of fee, the Audit Committee will develop a recommendation regarding the firm or individual most qualified to provide services. Final approval of the consultant selection will be given by a majority vote of the Commission.

Issued in Austin, Texas, on June 8, 1993.

TRD-9324005 Rhonda C. Long
Planner
Commission on Jail Standards

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Filed: June 8, 1993

Texas Low-Level Radioactive Waste Disposal Authority

Request for Qualification and Experience Statements for Radioactive Analysis of Environmental Samples

Description of the Authority. The Texas Low-Level Radioactive Waste Disposal Authority, hereafter referred to as the Authority, was established by the 67th Legislature to assure safe and effective disposal of the state's low-level radioactive waste. The Authority operates under provisions the Texas Health and Safety Code, Chapter 402. The Authority is governed by a board of directors composed of a medical doctor, a health physicist, an attorney, a geologist, and two members from the general public. Board members are appointed by the governor and confirmed by the Texas Senate to staggered six-year terms. Responsibility for general administration is delegated to the general manager. The Authority is specifically charged with responsibility of site selection, site characterization,

design, construction, operation, maintenance, decommissioning, and financing of a low-level radioactive waste disposal facility.

Low-Level radioactive waste is defined as any radioactive material that has a half-life of 35 years or less or that has less than ten nanocuries per gram of transuranics, and may include radioactive material not excluded by this definition with a half-life of more than 35 years if special disposal criteria are established. Low-Level waste does not include irradiated reactor fuel and high-level radioactive waste as defined by Title 10, Code of Federal Regulations.

Description of this Request. The Authority is seeking analytical laboratory services to analyze environmental samples for their radioactive content.

The Authority desires to receive proposals from qualified laboratories who would be able to provide these services.

Specific Requirements. The laboratory will be required to provide the following services: perform gross alpha and gross beta analysis for total suspended solids, and a composite gamma scan quarterly for air particulate samples; perform gross alpha, gross beta, H-3, and C-14, analysis and a gamma scan for water, mammal, and vegetation samples; perform a gamma scan for soil and sediment samples; firms short-listed shall be required to submit a copy of their quality assurance manual to the Authority as part of their proposal.

The contract awarded under this solicitation will be for the period beginning September 1, 1993, through August 31, 1995, and will be subject to renewal by agreement of both parties.

Description of Qualification and Experience Statement Format. Proposals should be structured in the following manner: cover page, narrative, organizational structure, qualifications and experience, fee structure, and appendices as necessary.

The cover page should include the RFP title; the RFP number (RFP-93-1); name and address of proposer(s); name, address, and telephone number of person(s) to be contacted; and the signature of the proposer's authorized representative(s).

The narrative section should include a brief description of the firm, its general financial condition, management structure, and overall capabilities. The quality assurance program should be described in this section along with the qualifications and experience of the quality assurance manager.

The qualifications and experience section should limit discussion to experience related to analytical laboratory work. This section should only discuss the experience and qualifications of key personnel. A complete listing of unrelated projects is neither requested nor desired.

The fee structure section should detail current cost for the analyses in the specific requirements previously outlined, and describe typical turn-around times (including emergency response capabilities) for these types of analyses.

Review and Selection Process. Proposals will be evaluated by Authority staff based upon technical qualifications, experience, and fee schedule.

This request will result in a contract for services; consequently, awards will not be made on a cost competitive basis but will be made on the merit of the proposal when considering all evaluation criteria.

Project Administration. The Authority will assign a project manager for this contract.

Identification of Confidential and Proprietary Information. All proposals are subject to the Texas Open Records Act and will become public records on receipt by the Authority. Proposer(s) are advised to exclude confidential or proprietary information, if at all possible. If any material contained in the statements is deemed to be confidential or proprietary, the proposer should clearly indicate this on the cover page and on the page where the confidential or proprietary information is located.

Deadline and Address for Proposal Submission. In order to be considered for evaluation, six copies of each proposal packet must be received at the Authority's office no later than 5:00 p.m., Central Daylight Time, Monday, July 12, 1993, at Suite 300, 7701 North Lamar Boulevard, Austin, Texas 78752.

Schedule for Review and Contract Award. The review of the proposals should be complete by July 20, 1993, at which time the short listed firms will be contacted. Interviews with the short listed firms may be scheduled during the first week in August.

Contact Persons and Additional Information. Questions and requests for additional information may be directed to Bill Bryant, Susan Jablonski, or Bob Avant, at (512) 451-5292 (FAX (512) 451-5296).

Issued in Austin, Texas, on June 8, 1993.

TRD-9324003 Lee H. Mathews
Deputy General Manager and General
Counsel
Texas Low-Level Radioactive Waste
Disposal Authority

Filed: June 8, 1993

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Request for Qualification and Experience Statements to Supply and Analyze Thermoluminescent Dosimetry (TLD)

Description of the Authority. The Texas Low-Level Radioactive Waste Disposal Authority, hereafter referred to as the Authority, was established by the 67th Legislature to assure safe and effective disposal of the state's low-level radioactive waste. The Authority operates under provisions the Texas Health and Safety Code, Chapter 402. The Authority is governed by a board of directors composed of a medical doctor, a health physicist, an attorney, a geologist, and two members from the general public. Board members are appointed by the governor and confirmed by the Texas Senate to staggered six-year terms. Responsibility for general administration is delegated to the general manager. The Authority is specifically charged with responsibility of site selection, site characterization, design, construction, operation, maintenance, decommissioning, and financing of a low-level radioactive waste disposal facility.

Low-Level radioactive waste is defined as any radioactive material that has a half-life of 35 years or less or that has less than ten nanocuries per gram of transuranics, and may include radioactive material not excluded by this definition with a half-life of more than 35 years if special disposal criteria are established. Low-Level waste does not include irradiated reactor fuel and high-level radioactive waste as defined by Title 10, Code of Federal Regulations.

Description of this Request. The Authority is seeking dosimetry laboratory services to furnish and analyze TLDs (thermoluminescent dosimeters).

The Authority desires to receive proposals from qualified laboratories who would be able to provide these services.

Specific Requirements. The laboratory will be required to provide the following services: supply 40 are monitoring TLDs quarterly; produce TLD analysis report quarterly.

The contract awarded under this request will be for the period beginning September 1, 1993, through August 31, 1995, and will be subject to renewal by agreement of both parties.

Description of Qualification and Experience Statement Format. Proposals should be structured in the following manner: cover page, narrative, organizational structure, qualifications and experience, fee structure, and appendices as necessary.

The cover page should include the RFP title; the RFP number (RFP-93-2); name and address of proposer(s); name, address, and telephone number of person(s) to be contacted; and the signature of the proposer's authorized representative(s).

The narrative section should include a brief description of the proposer, its general financial condition, management structure, and overall capabilities. The quality assurance program should be described in this section along with the qualifications and experience of the quality assurance manager.

The qualifications and experience section should limit discussion to experience related to personnel or environmental dosimetry work. This section should only discuss the experience and qualifications of key personnel. A complete listing of unrelated projects is neither requested nor desired.

The fee structure section should detail current cost for the analyses in the specific requirements previously outlined, and describe typical turn-around times (including emergency response capabilities) for these types of analyses.

Review and Selection Process. Proposals will be evaluated by Authority staff based upon technical qualifications, experience, and fee schedule.

This request will result in a contract for services; consequently, awards will not be made on a cost competitive basis but will be made on the merit of the proposal when considering all evaluation criteria.

Project Administration. The Authority will assign a project manager for this contract.

Identification of Confidential and Proprietary Information. All proposals are subject to the Texas Open Records Act and will become public records on receipt by the Authority. Proposer(s) are advised to exclude confidential or proprietary information if at all possible. If any material contained in the statements is deemed to be confidential or proprietary, the proposer should clearly indicate this on the cover page and on the page where the confidential or proprietary information is located.

Deadline and Address for Proposal Submission. In order to be considered for evaluation, six copies of each proposal packet must be received at the Authority's office no later than 5:00 p.m., Central Daylight Time, Monday, July 12, 1993, at Suite 300, 7701 North Lamar Boulevard, Austin, Texas 78752.

Schedule for Review and Contract Award. The review of the proposals should be complete by July 20, 1993, at which time the short listed firms will be contacted. Interviews with the short listed firms may be scheduled during the first week in August.

Contact Persons and Additional Information. Questions and requests for additional information may be directed to Bill Bryant, Susan Jablonski, or Bob Avant, at (512) 451-5292 (FAX (512) 451-5296).

Issued in Austin, Texas, on June 8, 1993.

TRD-9324002 Lee H. Mathews
Deputy General Manager and General
Counsel
Texas Low-Level Radioactive Waste
Disposal Authority

Filed: June 8, 1993

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Texas State Soil and Water Conservation Board

Agricultural/Silvicultural Nonpoint Source Management Program for the State of Texas

Request for Comments. The Texas State Soil and Water Conservation Board is soliciting comments on the draft of the revised Agricultural/Silvicultural Nonpoint Source Pollution Management Program for the State of Texas.

The document describes the program attributes that are required by the Clean Water Act, §319. Best management practices (BMPs) are defined and described. Programs available to impact nonpoint source pollution are identified by responsible agency and the agency's role is explained. A description of sources of assistance and funding is included.

The management program is presented in detail and includes the statewide program, a continuing assessment, and regional and watershed programs to address site specific water quality concerns. It incorporates the requirements of Senate Bill 503 as passed by the 73rd Legislature into the State's Agricultural/Silvicultural Nonpoint Source Pollution Management Program.

The Board desires comments from interested agencies and individuals. To receive a complete copy of the document call 1 (800) 792-3485 or (817) 773-2250. Written request may be sent to: Texas State Soil and Water Conservation Board, P.O. Box 658, Temple, Texas 76503-0658.

Deadline for receiving comments is July 16, 1993, or 30 days after publication of this notice, whichever is latest.

Issued in Austin, Texas, on June 7, 1993.

TRD-9323926 Robert G. Buckley
Executive Director
Texas State Soil and Water Conservation
Board

Filed: June 7, 1993

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Texas Water Commission Enforcement Orders

Pursuant to the Texas Water Code, which states that if the commission finds that a violation has occurred and a civil

penalty is assessed, the commission shall file notice of its decision in the *Texas Register* not later than the 10th day after the date on which the decision is adopted, the following information is submitted.

An enforcement order was issued to the City of Bridge City (Permit Number 10051-01) on May 28, 1993, assessing \$37,600 in administrative penalties with \$18,800 deferred and foregone pending compliance.

Information concerning any aspect of this order may be obtained by contacting Bonnie Rubey, Staff Attorney, Texas Water Commission, P.O. Box 13087, Austin, Texas 78711-3087, (512) 463-9123.

Issued in Austin, Texas, on June 7, 1993.

TRD-9323959 Gloria A. Vasquez
Chief Clerk
Texas Water Commission

Filed: June 7, 1993

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Pursuant to the Texas Water Code, which states that if the commission finds that a violation has occurred and a civil penalty is assessed, the commission shall file notice of its decision in the *Texas Register* not later than the 10th day after the date on which the decision is adopted, the following information is submitted.

An enforcement order was issued to Ralph Gabrielsen (Permit Number 12710-01) on May 28, 1993, assessing \$4,800 in administrative penalties.

Information concerning any aspect of this order may be obtained by contacting Robert Martinez, Staff Attorney, Texas Water Commission, P.O. Box 13087, Austin, Texas 78711-3087, (512) 463-8098.

Issued in Austin, Texas, on June 7, 1993.

TRD-9323960 Gloria A. Vasquez
Chief Clerk
Texas Water Commission

Filed: June 7, 1993

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Pursuant to the Texas Water Code, which states that if the commission finds that a violation has occurred and a civil penalty is assessed, the commission shall file notice of its decision in the *Texas Register* not later than the 10th day after the date on which the decision is adopted, the following information is submitted.

An enforcement order was issued to the City of Harker Heights (Permit Number 10153-01) on May 28, 1993, assessing \$16,000 in administrative penalties with \$8,000 waived pending compliance. Stipulated penalties were also imposed.

Information concerning any aspect of this order may be obtained by contacting Kerrie Qualtrough, Staff Attorney, Texas Water Commission, P.O. Box 13087, Austin, Texas 78711-3087, (512) 463-7898.

Issued in Austin, Texas, on June 7, 1993.

TRD-9323961 Gloria A. Vasquez
Chief Clerk
Texas Water Commission

Filed: June 7, 1993

Pursuant to the Texas Water Code, which states that if the commission finds that a violation has occurred and a civil penalty is assessed, the commission shall file notice of its decision in the *Texas Register* not later than the 10th day after the date on which the decision is adopted, the following information is submitted.

An enforcement order was issued to the Lyondell Petrochemical Company (Solid Waste Registration Number 30030) on May 28, 1993, assessing \$39,280 in administrative penalties with \$3,930 deferred and foregone pending compliance.

Information concerning any aspect of this order may be obtained by contacting Bill Ballard, Staff Attorney, Texas Water Commission, P.O. Box 13087, Austin, Texas 78711-3087, (512) 463-8009.

Issued in Austin, Texas, on June 7, 1993.

TRD-9323962 Gloria A. Vasquez
 Chief Clerk
 Texas Water Commission

Filed: June 7, 1993



Pursuant to the Texas Water Code, which states that if the commission finds that a violation has occurred and a civil penalty is assessed, the commission shall file notice of its decision in the *Texas Register* not later than the 10th day after the date on which the decision is adopted, the following information is submitted.

An enforcement order was issued to David K. Moore doing business as DKM Enterprises (Permit Number 03011) on May 28, 1993, assessing \$15,680 in administrative penalties with \$5,680 deferred pending compliance.

Information concerning any aspect of this order may be obtained by contacting Robert Martinez, Staff Attorney, Texas Water Commission, P.O. Box 13087, Austin, Texas 78711-3087, (512) 463-8098.

Issued in Austin, Texas, on June 7, 1993.

TRD-9323963 Gloria A. Vasquez
 Chief Clerk
 Texas Water Commission

Filed: June 7, 1993



Pursuant to the Texas Water Code, which states that if the commission finds that a violation has occurred and a civil penalty is assessed, the commission shall file notice of its decision in the *Texas Register* not later than the 10th day after the date on which the decision is adopted, the following information is submitted.

An enforcement order was issued to the Play Ball, Incorporated (No Permit) on May 28, 1993, assessing \$8,000 in administrative penalties. Stipulated penalties were also imposed.

Information concerning any aspect of this order may be obtained by contacting Vic Ramirez, Staff Attorney, Texas

Water Commission, P.O. Box 13087, Austin, Texas 78711-3087, (512) 463-8090.

Issued in Austin, Texas, on June 7, 1993.

TRD-9323964 Gloria A. Vasquez
 Chief Clerk
 Texas Water Commission

Filed: June 7, 1993



Pursuant to the Texas Water Code, which states that if the commission finds that a violation has occurred and a civil penalty is assessed, the commission shall file notice of its decision in the *Texas Register* not later than the 10th day after the date on which the decision is adopted, the following information is submitted.

An enforcement order was issued to the Tower Oak Bend Water Supply Corporation (Permit Number 11986-01) on May 28, 1993, assessing \$8,000 in administrative penalties. Stipulated penalties were also imposed.

Information concerning any aspect of this order may be obtained by contacting Robert Martinez, Staff Attorney, Texas Water Commission, P.O. Box 13087, Austin, Texas 78711-3087, (512) 463-8098.

Issued in Austin, Texas, on June 7, 1993.

TRD-9323965 Gloria A. Vasquez
 Chief Clerk
 Texas Water Commission

Filed: June 7, 1993



Pursuant to the Texas Water Code, which states that if the commission finds that a violation has occurred and a civil penalty is assessed, the commission shall file notice of its decision in the *Texas Register* not later than the 10th day after the date on which the decision is adopted, the following information is submitted.

An enforcement order was issued to the Town of Woodloch (Permit Numbers 11580-01 and 11580-02) on June 4, 1993, assessing \$8,700 in administrative penalties

Information concerning any aspect of this order may be obtained by contacting Vic Ramirez, Staff Attorney, Texas Water Commission, P.O. Box 13087, Austin, Texas 78711-3087, (512) 463-8090.

Issued in Austin, Texas, on June 7, 1993.

TRD-9323966 Gloria A. Vasquez
 Chief Clerk
 Texas Water Commission

Filed: June 7, 1993



Notice of Application For Waste Disposal Permit

Notice is given by the Texas Water Commission of public notices of waste disposal permit applications issued during the period of May 31-June 4, 1993.

No public hearing will be held on these applications unless an affected person has requested a public hearing. Any such request for a public hearing shall be in writing and contain the name, mailing address, and phone number of the person making the request; and a brief description of how the requester, or persons represented by the requester, would be adversely affected by the granting of the application. If the commission determines that the request sets out an issue which is relevant to the waste discharge permit decision, or that a public hearing would serve the public interest, the commission shall conduct a public hearing, after the issuance of proper and timely notice of the hearing. If no sufficient request for hearing is received within 30 days of the date of publication of notice concerning the applications, the permit will be submitted to the commission for final decision on the application.

Information concerning any aspect of these applications may be obtained by contacting the Texas Water Commission, P.O. Box 13087, Austin, Texas 78711, (512) 463-7906.

Listed are the name of the applicant and the city in which the facility is located, type of facility, location of the facility, permit number, and type of application—new permit, amendment, or renewal.

City of Angus; wastewater treatment facilities; adjacent to Interstate Highway 45 approximately 2,000 feet north of its intersection with FM Road 739 in the north central portion of the City of Angus in Navarro County; renewal, 11864-01.

The Carbide/Graphite Group, Inc.; a petroleum needle coke production and calcining facility; between State Highway 185 and the Victoria Barge Canal, south of the intersection of State Highways 185 and 35, near the City of Seadrift, Calhoun County, renewal; 02586.

Central Power and Light Company; Lon C. Hill Power Station; on the north side of FM Road 1694 (3501 Callicoatte Road) approximately one mile southwest of the FM Road 1694/State Highway 9 intersection in the City of Corpus Christi, Nueces County, renewal; 02155.

Chemical Waste Management, Inc.; an inactive Class II nonhazardous industrial solid waste management facility; just south of State Highway 73 and approximately one mile southwest of the State Highway 73-Taylor Bayou Crossing in Jefferson County; renewal; 02409.

The Cinco Municipal Utility District Number One, wastewater treatment facilities; approximately 3.25 miles east and 2.0 miles north of the intersection of FM Road 723 and FM Road 1093 in Fort Bend County, amendment; 13558-01.

Del E. Webb Development Company, L.P.; wastewater treatment facility and irrigation site; approximately 2,000 feet west and 10,000 north of the intersection of State Highway 71 and FM Road 2322, and the disposal area lies within an area bounded by State Highway 71, Haynie Flat Road and the Pedernales River in Travis County, new; 13650-01.

Diamondhead Water Supply Corporation; wastewater treatment facilities; approximately 1.0 mile north of the intersection of State Highway 105 and McCaleb Road and approximately 1.25 miles northwest of the Lake Conroe Dam in Montgomery County, amendment; 11478-01.

Gary Stephen Perdue doing business as Jackson Hill Marina; wastewater treatment facilities; approximately 500 feet southwest of FM Road 2851, 1.3 miles northwest of the intersection of State Highway 147 and FM Road 2851, four miles southwest of the City of Broadus in San Augustine County, renewal; 11111-01.

City of Houston; the Beltway Wastewater Treatment Facilities; approximately 1,700 feet north of Bellaire Boulevard and 3,400 feet west of Roark Road in the City of Houston in Harris County, amendment; 10495-111.

Knox Oil of Texas, Inc.; wastewater treatment facilities; on the northeast corner of the intersection of Interstate Highway 10 and FM Road 1458 in the City of San Felipe in Austin County, amendment; 13381-01.

T H Agriculture and Nutrition Company, Inc., a groundwater treatment system for site remediation of a former agricultural chemical formulation facility; at 201 East Tarrant Street which is bounded on the east by Buttery Creek; on the north by Tarrant Street; on the south by Grayson Street; and on the west by the Austin and Northwestern Railroad Spur in the City of Llano, Llano County, new; 03529.

City of Tyler; the Westside Wastewater Treatment Facilities; approximately 20,000 feet west-northwest of the intersection of State Highway Loop 323 and U. S. Highway 69, approximately seven miles northwest of the Smith County Courthouse in Smith County, renewal; 10653-01.

Hull Fresh Water Supply District; wastewater treatment facilities; on East Sabine Avenue, approximately 0.75 miles northeast of the intersection of State Highway 770 and the Missouri Pacific Railroad in Hull, Liberty County, minor amendment, 13544-01.

Texas A&M University Power Plant; the Texas A&M Central Utilities Power Plant; between Asbury and Ireland Streets at the Ross Street intersection on the A&M main campus in the City of College Station, Brazos County; minor amendment; 02836.

Neil Viss; the dairy; on the east side of FM Road 219 approximately five miles south of the intersection of FM Road 219 and County Road 1702 southeast of the City of Dublin in Erath County, minor amendment; 02950.

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Gloria A. Vasquez
Chief Clerk
Texas Water Commission

Filed: June 7, 1993



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