

STATE WATER RESOURCES CONTROL BOARD
RESOLUTION NO. 96-079

ADOPTION OF
CONTAINMENT ZONE POLICY
AMENDMENT TO RESOLUTION NO. 92-49:
POLICIES AND PROCEDURES FOR INVESTIGATION AND
CLEANUP AND ABATEMENT OF DISCHARGES
UNDER WATER CODE SECTION 13304

WHEREAS:

1. California Water Code (WC) Section 13140 provides that the State Water Resources Control Board (SWRCB) may formulate and adopt State Policy for Water Quality Control.
2. Water Code Section 13240 provides that Water Quality Control Plans shall conform to any State Policy for Water Quality Control.
3. The SWRCB adopted Resolution No. 92-49 "Policies and Procedures for Cleanup and Abatement of Discharges Under Water Code Section 13304" on June 17, 1992. Resolution No. 92-49 was amended on April 21, 1994, and became effective upon approval by the Office of Administrative Law on July 8, 1994.
4. SWRCB Resolution No. 92-49 is being amended to establish conditions under which a Regional Water Quality Control Board (RWQCB) may establish containment zones (specific portions of ground water bearing units where water quality objectives cannot be reasonably achieved). The SWRCB prepared and circulated a draft of the proposed amendment on January 20, 1995. In addition, a draft environmental document ("functional equivalent document" (FED)) was made available for public review on January 20, 1995, in accordance with the provisions of the California Environmental Quality Act (CEQA). The SWRCB conducted a public hearing in Sacramento on March 23, 1995 to solicit comments regarding a draft of the proposed amendment to Resolution No. 92-49.
5. Based on comments received by the SWRCB, the amendment was restructured, revised, and circulated for a second public comment period on September 14, 1995. In addition, the FED was revised and expanded and made available for a second public comment period on September 14, 1995. A second public hearing was held in Sacramento on November 8, 1995, regarding the second draft of the proposed amendment.

6. Based on comments received by the SWRCB, the amendment was revised circulated for a third public comment period on June 3, 1996. The draft Final FED was revised and made available for public comment on June 7, 1996. An SWRCB Workshop was held on July 3, 1996 regarding the third draft of the proposed amendment.
7. The SWRCB has reviewed and considered all comments and testimony received regarding the amendment.
8. A draft Final FED was prepared responding to written and oral comments received during the second public participation process and presented to the SWRCB on June 6, 1996. An Appendix to the FED was prepared (including responses to comments received during the third public participation process and changes to the draft Final FED made due to changes in the policy) and provided to the SWRCB on August 7, 1996. The SWRCB considered the information contained in the Final FED (draft Final FED and Appendix) prior to approval of the amendment to Resolution No. 92-49.
9. According to Government Code Section 11353(b)(5), this amendment shall not become effective until its regulatory provisions have been approved by the California Office of Administrative Law in accordance with Government Code Section 11349.3(a).
10. The regulatory provisions of this amendment comply with the standards of necessity, authority, clarity, consistency, reference, and nonduplication set forth in Government Code Section 11349.1(a).
11. CEQA requires adoption of a program for monitoring implementation of mitigation measures that are adopted as part of the project approval. This requirement applies to mitigation that is included as a part of each individual containment zone designation. The Appendix to the containment zone policy provides for such a program. It states that the management plan will set forth "...mitigation measures, an implementation schedule for mitigation, and reporting requirements for compliance with mitigation measures." The adequacy of the mitigation monitoring plan will be reviewed during the public proceedings regarding adequacy of the management plan.
12. The SWRCB makes the following specific findings regarding its CEQA responsibilities:
 - A. The Final FED (which includes responses to all comments regarding the September 1995 and June 1996 drafts of the amendment and environmental document) has been completed in compliance with the California Environmental Quality

Act (Public Resources Code Sections 21000, et seq.), the CEQA Guidelines, and the procedures of the State of California for Certified Regulatory Programs (Public Resources Code Section 21080.5, CEQA Guidelines Section 15250 - 15253); the Final FED reflects the independent judgment of the SWRCB; and the SWRCB has reviewed and considered the Final FED prior to its decision to approve the amendment to Resolution No. 92-49.

- B. The Final FED identified potentially significant environmental effects from the proposed amendment and mitigation measures and provisions of the proposed amendment which would lessen or avoid each of those impacts, and with respect to each of those impacts and mitigations or policy provisions the SWRCB finds as follows:

1. Ground Water. The amendment acknowledges that some pollutants will remain within the containment zone for some period of time because it is unreasonable to cleanup to water quality objectives.

Mitigation measures incorporated into the amendment to reduce impacts to less than significant levels are: Where appropriate, discharger must provide for equivalent alternate water supplies, reimbursement for increased water treatment costs to affected users, and increased costs associated with well modifications. Additional mitigation measures may be proposed by the discharger including participating in regional ground water monitoring or contributing to ground water basin cleanup or management programs or research aimed at developing remedial technologies.

Implementation of these mitigation measures, as appropriate, for each individual containment zone designation will reduce these potentially significant impacts to less than significant levels.

The migration of polluted ground water to other areas of the subsurface could pose a significant adverse impact to ground water quality surrounding a containment zone. The proposed amendment provides that the discharger must contain pollutants within the area of the containment zone, and that containment zone designation will be revoked if water quality objectives are exceeded outside the containment zone as a result of migration of chemicals from inside the containment zone.

Application of these provisions of the policy at each individual containment zone designation site will reduce

this potentially significant impact to a less than significant level.

2. Surface Water (Including Wetlands). The migration of ground water pollutants to surface water outside the containment zone could pose a potentially significant adverse impact to surface water quality. The proposed amendment provides that the discharger must contain pollutants within the area of the containment zone, and that containment zone designation will be revoked if water quality objectives are exceeded outside the containment zone as a result of migration of chemicals from inside the containment zone.

Application of these provisions of the policy at each individual containment zone site will reduce this potentially significant impact to a less than significant level.

In some cases there is the potential that ground water pollutants could interface with surface waters overlying the containment zone. The proposed amendment provides that (1) a containment zone designation can not have significant adverse impacts on human health or the environment, and (2) mitigation must be provided for any significant adverse impacts.

Application of these provisions of the policy at each individual containment zone site will reduce this potentially significant impact to a less than significant level.

3. Human Health. Pollutants at levels above water quality objectives in ground water may pose adverse impacts to human health. The amendment provides that the discharger must propose and agree to implement a management plan to assess, cleanup, abate, manage, monitor, and mitigate any significant adverse impacts to human health. The amendment also prohibits designation of a containment zone if such designation would allow exposure levels of constituents of concern that could have an adverse impact on human health.

Application of these provisions of the policy at each individual containment zone site will reduce these potentially significant impacts to less than significant levels.

4. Biological Resources. Ground water pollutants may pose potentially significant impacts to biological receptors, especially when the ground water interfaces with surface water. The policy provides that the discharger must

propose and agree to implement a management plan to assess, cleanup, abate, manage, monitor, and mitigate any significant adverse impacts to the environment. The policy also prohibits designation of a containment zone if such designation would allow exposure levels of constituents of concern that could have an adverse impact on the environment.

Application of these provisions of the policy at each individual containment zone designation site will reduce these potentially significant impacts to less than significant levels.

5. Public Facilities and Utilities. Polluted ground water may pose the potential for adverse health impacts to workers at public facilities and utilities who must penetrate the subsurface for maintenance activities. The policy provides that the discharger must propose and agree to implement a management plan to assess, cleanup, abate, manage, monitor, and mitigate any significant adverse impacts to human health. The policy also prohibits designation of a containment zone if such designation would allow exposure levels of constituents of concern that could have an adverse impact on human health.

Application of these provisions of the policy at each containment zone site will reduce this potentially significant impact to a less than significant level.

Polluted ground water may have the potential to adversely affect local or regional water supplies. The amendment requires the discharger to provide reasonable mitigation measures to lessen or avoid any significant adverse environmental impacts.

Application of this provision of the policy at each containment zone site will reduce these potentially significant impacts to less than significant levels.

6. Taste and Odor. There may be potential for nuisance due to taste or odor from the residual pollutants remaining in the ground water in the containment zone. The amendment requires mitigation for any significant adverse impacts due to residual pollutants remaining in the containment zone.

Application of this provision of the policy at each individual containment zone site will reduce these potentially significant impacts to less than significant levels.

7. Land Use. Designation of a containment zone may allow a property owner to cease active remediation and put his property to active use such as construction of industrial or commercial facilities. If construction of a facility is able to proceed because of a designation of a containment zone, local governments and regulatory agencies are responsible for mitigating indirect impacts of land use in these communities.

With respect to these potentially significant impacts, appropriate changes, alterations, or mitigation are not within the responsibility and jurisdiction of the SWRCB or RWQCBs. Such changes, alterations, or mitigation should be adopted by other agencies.

8. Growth-Inducing Impacts. Designation of a containment zone may allow property to be redeveloped and thus create jobs and contribute to some growth in the community. This is not the regional growth that would have significant impacts to infrastructure, public services, and the environment that is envisioned in CEQA as a significant impact. However, avoiding or mitigating adverse impacts due to growth in the community falls within the jurisdiction of local governments and regulatory facilities when they are approving or amending general and specific plans and zoning maps and ordinances. The SWRCB and RWQCBs do not have the authority to mitigate such impacts.

With respect to potentially significant impacts due to growth, appropriate changes, alterations, or mitigation are not within the responsibility and jurisdiction of the SWRCB or RWQCBs. Such changes, alterations, or mitigation should be adopted by other agencies.

9. Secondary Impacts. Secondary impacts could occur from measures taken to comply with mitigation requirements for containment zone designation. Such measures could include construction of physical ground water barriers, hydrodynamic control systems, modification of water treatment facilities, or redevelopment of land overlying the containment zone.

It is too speculative to anticipate at this time what, if any, such projects would be proposed and what their impacts might be. These construction activities will be considered individually to determine whether CEQA review is required and are not addressed in the environmental document for the amendment.

- C. The Final FED concludes that with the implementation of feasible policy requirements and mitigation, that cumulative and long-term impacts are not foreseen. However, it is too speculative to make a determination that there will be no significant cumulative and long-term impacts.

Cumulative and Long-Term Impacts. It is not possible at this time to estimate the number of sites in California where dischargers will request and RWQCBs will grant containment zones. However, the following policy provisions and mitigation measures are required, where appropriate, for each containment zone designation.

- The RWQCB will determine whether water quality objectives can reasonably be achieved within a reasonable period considering what is economically and technologically feasible.
- Containment and storage vessels that cause water quality degradation must be removed, repaired, or closed; floating free product must be removed to the extent practicable; and other sources must be removed, isolated or managed.
- The discharger must take all actions necessary to prevent migration of pollutants beyond the boundaries of the containment zone in concentrations that exceed water quality objectives.
- The discharger must propose and agree to implement a management plan to assess, cleanup, abate, manage, monitor, and mitigate significant impacts to human health, water quality, and the environment.
- Containment zones will be no larger than necessary based on the facts of the individual designation. In no event shall the size of a containment zone or the cumulative effect of a containment zones cause a substantial decline in the overall yield, storage, or transport capacity of a ground water basin.
- The policy prohibits designation of a containment zone in a critical recharge area or if designation would be inconsistent with a local ground water management plan developed pursuant to Part 2.75 of Division 6 of the Water Code (commencing at Section 10750) or provisions of law or court order, judgment or decree.
- The RWQCB can designate a containment zone only after a 45-day public review period.
- Prior to designation of a containment zone the RWQCB must notify the California Department of Toxic Substances Control; the California Department of Health Services, Drinking Water Branch; the California Department of Fish and Game; the local health authority; the local water purveyor in the event ground water is used or planned to be used as a source of water supply; any local ground

water management agency; and the United States Environmental Protection Agency; and consider advice provided by these agencies regarding the designation.

-The containment zone designation will be revoked if the discharger(s) fails to fully implement the management plan or water quality objectives are exceeded outside the containment zone as a result of migration of chemicals from inside the containment zone.

D. Having reviewed and considered the information in the Final FED, the SWRCB finds the following regarding alternatives to the project:

1. No Action. Under this alternative, the existing framework for regulating ground water cleanup levels is unchanged. This framework consists of RWQCBs making cleanup-level decisions based on 1) site-specific characteristics, 2) applicable state and federal statutes and regulations, 3) applicable beneficial uses and water quality objectives from RWQCB basin plans, 4) SWRCB policies found in Resolutions No. 68-16 and No. 92-49, and 5) relevant standards, criteria, and advisories adopted by other state and federal agencies and organizations. In some cases, practical limitations arising from hydrogeologic factors, pollutant-related factors, remediation system inadequacies, and costs severely restrict remediation efforts. These limitations are discussed in detail in Section 3.3 of the FED. The existing framework does not provide procedures or criteria for the case where water quality objectives cannot be reasonably achieved. Consequently, the "no action" alternative is infeasible.
2. De-Designation of Beneficial Uses. Under this alternative Resolution No. 92-49 would be amended to establish a policy whereby beneficial use designations in areas of polluted ground water would be de-designated if it could be shown that cleanup to water quality objectives is unreasonable. This alternative has the following problems:
 - (a) Containment zones will be established on a case-by-case basis and will be limited in areal extent. However, de-designation of beneficial uses can only be accomplished through amendments to Basin Plans. Such amendments are accomplished through rule-making proceedings. As such, the quasi-legislative process is unsuitable for case-by-case decisions.

- (b) Designation and de-designation of beneficial uses ordinarily takes place on an aquifer or sub-aquifer basis. To require a Basin Plan amendment for each containment zone, many of which may be less than an acre in areal extent, is not appropriate or practicable.
- (c) To require amendment of a Basin Plan every time a containment zone is established is overly cumbersome. The notice requirements are greater than what is necessary. The process is very time consuming and would require more use of limited staff time. In addition, such amendments may have to be approved by the Office of Administrative Law, an agency that is set up to deal only with rule-making proceedings.
- (d) If beneficial uses are de-designated, then the relevant water quality objective would no longer apply. Such a de-designation would then limit future RWQCB authority over that water body. The RWQCB would not be required to protect the water body from future degradation relative to the de-designated beneficial use from other sources.

This alternative is infeasible for the above-listed reasons.

- 3. Relaxation of Water Quality Objectives. Water quality objectives are numerical or narrative limits of water quality constituents or characteristics established for the protection of, designated beneficial uses and for the prevention of nuisance. Water quality objectives can only be changed through an amendment to a RWQCB Basin Plan.

This alternative is infeasible for the same reasons in the Alternative 2 - De-Designation of Beneficial Uses.

- 4. Establish Alternate Points of Compliance. Under this alternative, a procedure would be established to address cases where compliance with water quality objectives can not be achieved throughout the body of ground water. This approach would informally de-designate the beneficial use of ground water upgradient of the alternative point of compliance.

This alternative is infeasible because it would be inconsistent with Porter-Cologne and it is unworkable because it would require a Basin Plan amendment and, therefore, suffers from the same drawbacks as Alternatives 2 and 3. In addition, this alternative

conveys the impression that water quality objectives are being met when in fact they cannot be reasonably met.

E. There are no feasible alternatives or additional feasible mitigation measures available to the SWRCB which would substantially lessen any potentially significant adverse environmental impacts.

F. The SWRCB believes that this policy contains feasible mitigation measures that will substantially lessen or avoid significant impacts. To the extent that it can be argued that such impacts remain, the SWRCB issues the following statement of overriding considerations to address any unforeseen cumulative or long-term impacts that may potentially occur from designation of containment zones.

- The policy will establish a process and criteria for RWQCBs to address those sites where water quality objectives set forth in RWQCB Basin Plans cannot be reasonably achieved.
- Establishment of this policy sets out requirements for protection of human health, water quality, and the environment at sites where it is unreasonable to cleanup to water quality objectives.
- Establishment of this policy sets out requirements for public notice and participation, and consultation with expert agencies regarding the management and mitigation of sites where it is unreasonable to cleanup to water quality objectives.

The SWRCB has incorporated feasible requirements and mitigation into the policy which significantly reduce any potential cumulative and long-term impacts, and significant cumulative and long-term impacts are not foreseen. In fact, the provisions necessary to achieve containment zone status (e.g., source removal, containment, consultation with local water and ground water management agencies, and mitigation) may have beneficial cumulative and long-term impacts. In balancing the benefits of the policy against the potential for some undetermined cumulative or long-term impacts, the SWRCB determines that overriding economic benefits of the project outweigh any significant effects on the environment (which are not expected to occur), and the potential for effects is, therefore, acceptable.

G. During the public comment period regarding the amendment, some interested parties recommended the incorporation of

risk assessment procedures into Resolution No. 92-49. The issue of risk based corrective action was not addressed in the FED for this amendment, nor were the issues raised regarding the use of risk resolved.

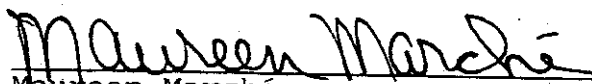
THEREFORE BE IT RESOLVED THAT

THE STATE WATER RESOURCES CONTROL BOARD:

1. Approves the environmental document for the amendment to Resolution No. 92-49 and the mitigation monitoring program.
2. Adopts the attached amendment to Resolution No. 92-49.
3. Directs the Containment Zone Review Committee established pursuant to Section III.H.11. of the amendment to review the implementation of this policy and the incorporation of risk assessment into this policy and provide recommendations to the SWRCB by May 1, 1997, on any further adjustments to the policy.
4. Expands the Containment Zone Review Committee to include other public officials and private individuals as determined by the State Board.

CERTIFICATION

The undersigned Administrative Assistant to the Board, does hereby certify that the foregoing is a full, true, and correct copy of a resolution duly and regularly adopted at a meeting of the State Water Resources Control Board held on October 2, 1996.



Maureen Marché

Administrative Assistant to the Board

STATE WATER RESOURCES CONTROL BOARD
RESOLUTION NO. 92-49
(As Amended on April 21, 1994 and October 2, 1996)

POLICIES AND PROCEDURES
FOR INVESTIGATION AND
CLEANUP AND ABATEMENT OF
DISCHARGES UNDER
WATER CODE SECTION 13304

WHEREAS:

1. California Water Code (WC) Section 13001 provides that it is the intent of the Legislature that the State Water Resources Control Board (State Water Board) and each Regional Water Quality Control Board (Regional Water Board) shall be the principal state agencies with primary responsibility for the coordination and control of water quality. The State and Regional Water Boards shall conform to and implement the policies of the Porter-Cologne Water Quality Control Act (Division 7, commencing with WC Section 13000) and shall coordinate their respective activities so as to achieve a unified and effective water quality control program in the state;
2. WC Section 13140 provides that the State Water Board shall formulate and adopt State Policy for Water Quality Control;
3. WC Section 13240 provides that Water Quality Control Plans shall conform to any State Policy for Water Quality Control;
4. WC Section 13304 requires that any person who has discharged or discharges waste into waters of the state in violation of any waste discharge requirement or other order or prohibition issued by a Regional Water Board or the State Water Board, or who has caused or permitted, causes or permits, or threatens to cause or permit any waste to be discharged or deposited where it is, or probably will be, discharged into the waters of the state and creates, or threatens to create, a condition of pollution or nuisance may be required to clean up the discharge and abate the effects thereof. This section authorizes Regional Water Boards to require complete cleanup of all waste discharged and restoration of affected water to background conditions (i.e., the water quality that existed before the discharge). The term waste discharge requirements includes those which implement the National Pollutant Discharge Elimination System;
5. WC Section 13307 provides that the State Water Board shall establish policies and procedures that its representatives and the representatives of the Regional Water Boards shall follow for the oversight of investigations and cleanup and abatement activities resulting from discharges of hazardous substances, including:
 - a. The procedures the State Water Board and the Regional Water Boards will follow in making decisions as to when a person may be required to undertake an investigation to determine if an unauthorized hazardous substance discharge has occurred;
 - b. Policies for carrying out a phased, step-by-step investigation to determine the nature and extent of possible soil and ground water contamination or pollution at a site;
 - c. Procedures for identifying and utilizing the most cost-effective methods for detecting contamination or pollution and cleaning up or abating the effects of contamination or pollution;
 - d. Policies for determining reasonable schedules for investigation and cleanup, abatement, or other remedial action at a site. The policies shall recognize the danger to public health and the waters of the state posed by an unauthorized discharge and the need to mitigate those dangers while at the same time taking into account, to the extent possible, the resources, both financial and technical, available to the person responsible for the discharge;
6. "Waters of the state" include both ground water and surface water;
7. Regardless of the type of discharge, procedures and policies applicable to investigations, and cleanup and abatement activities are similar. It is in the best interest of the people of the state for the State Water Board to provide consistent guidance for Regional Water Boards to apply to investigation, and cleanup and abatement;
8. WC Section 13260 requires any person discharging or proposing to discharge waste that could affect waters of the state, or proposing to change the character, location, or volume of a discharge to file a report with and receive requirements from the Regional Water Board;
9. WC Section 13267 provides that the Regional Water Board may require dischargers, past dischargers, or suspected dischargers to furnish those technical or monitoring reports as the Regional Water Board may specify, provided that the burden, including costs, of these reports, shall

- bear a reasonable relationship to the need for the reports and the benefits to be obtained from the reports;
10. WC Section 13300 states that the Regional Water Board may require a discharger to submit a time schedule of specific actions the discharger shall take in order to correct or prevent a violation of requirements prescribed by the Regional Water Board or the State Water Board;
 11. California Health and Safety Code (HSC) Section 25356.1 requires the Department of Toxic Substances Control (DTSC) or, if appropriate, the Regional Water Board to prepare or approve remedial action plans for sites where hazardous substances were released to the environment if the sites have been listed pursuant to HSC Section 25356 (state "Superfund" priority list for cleanup of sites);
 12. Coordination with the U.S. Environmental Protection Agency (USEPA), state agencies within the California Environmental Protection Agency (Cal/EPA) (e.g., DTSC, Air Resources Control Board), air pollution control districts, local environmental health agencies, and other responsible federal, state, and local agencies: (1) promotes effective protection of water quality, human health, and the environment and (2) is in the best interest of the people of the state. The principles of coordination are embodied in many statutes, regulations, and interagency memoranda of understanding (MOU) or agreement which affect the State and Regional Water Boards and these agencies;
 13. In order to clean up and abate the effects of a discharge or threat of a discharge, a discharger may be required to perform an investigation to define the nature and extent of the discharge or threatened discharge and to develop appropriate cleanup and abatement measures;
 14. Investigations that were not properly planned have resulted in increases in overall costs and, in some cases, environmental damage. Overall costs have increased when original corrective actions were later found to have had no positive effect or to have exacerbated the pollution. Environmental damage may increase when a poorly conceived investigation or cleanup and abatement program allows pollutants to spread to previously unaffected waters of the state;
 15. A phased approach to site investigation should facilitate adequate delineation of the nature and extent of the pollution, and may reduce overall costs and environmental damage, because: (1) investigations inherently build on information previously gained; (2) often data are dependent on seasonal and other temporal variations; and (3) adverse consequences of greater cost or increased environmental damage can result from improperly planned investigations and the lack of consultation and coordination with the Regional Water Board. However, there are circumstances under which a phased, iterative approach may not be necessary to protect water quality, and there are other circumstances under which phases may need to be compressed or combined to expedite cleanup and abatement;
 16. Preparation of written workplans prior to initiation of significant elements or phases of investigation, and cleanup and abatement generally saves Regional Water Board and discharger resources. Results are superior, and the overall cost-effectiveness is enhanced;
 17. Discharger reliance on qualified professionals promotes proper planning, implementation, and long-term cost-effectiveness of investigation, and cleanup and abatement activities. Professionals should be qualified, licensed where applicable, and competent and proficient in the fields pertinent to the required activities. California Business and Professions Code Sections 6735, 7835, and 7835.1 require that engineering and geologic evaluations and judgements be performed by or under the direction of registered professionals;
 18. WC Section 13360 prohibits the Regional Water Boards from specifying, but not from suggesting, methods that a discharger may use to achieve compliance with requirements or orders. It is the responsibility of the discharger to propose methods for Regional Water Board review and concurrence to achieve compliance with requirements or orders;
 19. The USEPA, California state agencies, the American Society for Testing and Materials, and similar organizations have developed or identified methods successful in particular applications. Reliance on established, appropriate methods can reduce costs of investigation, and cleanup and abatement;
 20. The basis for Regional Water Board decisions regarding investigation, and cleanup and abatement includes: (1) site-specific characteristics; (2) applicable state and federal statutes and regulations; (3) applicable water quality control plans adopted by the State Water Board and Regional Water Boards, including beneficial uses, water quality objectives, and implementation plans; (4) State Water Board and Regional Water Board policies, including State Water Board Resolutions No. 68-16 (Statement of Policy with Respect to Maintaining High Quality of Waters in California) and No. 88-63 (Sources of Drinking Water); and

- (5) relevant standards, criteria, and advisories adopted by other state and federal agencies;
21. Discharges subject to WC Section 13304 may include discharges of waste to land; such discharges may cause, or threaten to cause, conditions of soil or water pollution or nuisance that are analogous to conditions associated with migration of waste or fluid from a waste management unit;
 22. The State Water Board has adopted regulations governing discharges of waste to land (California Code of Regulations (CCR), Title 23, Division 3, Chapter 15);
 23. State Water Board regulations governing site investigation and corrective action at underground storage tank unauthorized release sites are found in 23 CCR Division 3, Chapter 16, in particular Article 11 commencing with Section 2720;
 24. It is the responsibility of the Regional Water Board to make decisions regarding cleanup and abatement goals and objectives for the protection of water quality and the beneficial uses of waters of the state within each Region;
 25. Cleanup and abatement alternatives that entail discharge of residual wastes to waters of the state, discharges to regulated waste management units, or leaving wastes in place, create additional regulatory constraints and long-term liability, which must be considered in any evaluation of cost-effectiveness;
 26. It is not the intent of the State or Regional Water Boards to allow dischargers, whose actions have caused, permitted, or threaten to cause or permit conditions of pollution, to avoid responsibilities for cleanup. However, in some cases, attainment of applicable water quality objectives for ground water cannot reasonably be achieved. In these cases, the State Water Board determines that establishment of a containment zone is appropriate and consistent with the maximum benefit to the people of the State if applicable requirements contained in the Policy are satisfied. The establishment of a containment zone does not limit or supersede obligations or liabilities that may arise under other laws;
 27. The Porter-Cologne Water Quality Control Act allows Regional Water Boards to impose more stringent requirements on discharges of waste than any statewide requirements promulgated by the State Water Board (e.g., in this Policy) or than water quality objectives established in statewide or regional water quality control plans as needed to protect water quality and to reflect regional and site-specific conditions; and

28. Pursuant to Section 13320 of the Water Code, aggrieved persons may petition the State Water Board to review any decisions made under this policy.

THEREFORE BE IT RESOLVED:

These policies and procedures apply to all investigations, and cleanup and abatement activities, for all types of discharges subject to Section 13304 of the WC.

- I. The Regional Water Board shall apply the following procedures in determining whether a person shall be required to investigate a discharge under WC Section 13267, or to clean up waste and abate the effects of a discharge or a threat of a discharge under WC Section 13304. The Regional Water Board shall:
 - A. Use any relevant evidence, whether direct or circumstantial, including, but not limited to, evidence in the following categories:
 1. Documentation of historical or current activities, waste characteristics, chemical use, storage or disposal information, as documented by public records, responses to questionnaires, or other sources of information;
 2. Site characteristics and location in relation to other potential sources of a discharge;
 3. Hydrologic and hydrogeologic information, such as differences in upgradient and downgradient water quality;
 4. Industry-wide operational practices that historically have led to discharges, such as leakage of pollutants from wastewater collection and conveyance systems, sumps, storage tanks, landfills, and clarifiers;
 5. Evidence of poor management of materials or wastes, such as improper storage practices or inability to reconcile inventories;
 6. Lack of documentation of responsible management of materials or wastes, such as lack of manifests or lack of documentation of proper disposal;
 7. Physical evidence, such as analytical data, soil or pavement staining, distressed vegetation, or unusual odor or appearance;
 8. Reports and complaints;

9. Other agencies' records of possible or known discharge; and
 10. Refusal or failure to respond to Regional Water Board inquiries;
- B. Make a reasonable effort to identify the dischargers associated with the discharge. It is not necessary to identify all dischargers for the Regional Water Board to proceed with requirements for a discharger to investigate and clean up;
- C. Require one or more persons identified as a discharger associated with a discharge or threatened discharge subject to WC Section 13304 to undertake an investigation, based on findings of I.A and I.B above;
- D. Notify appropriate federal, state, and local agencies regarding discharges subject to WC Section 13304 and coordinate with these agencies on investigation, and cleanup and abatement activities.
- II. The Regional Water Board shall apply the following policies in overseeing: (a) investigations to determine the nature and horizontal and vertical extent of a discharge and (b) appropriate cleanup and abatement measures.
- A. The Regional Water Board shall:
1. Require the discharger to conduct investigation, and cleanup and abatement, in a progressive sequence ordinarily consisting of the following phases, provided that the sequence shall be adjusted to accommodate site-specific circumstances, if necessary:
 - a. Preliminary site assessment (to confirm the discharge and the identity of the dischargers; to identify affected or threatened waters of the state and their beneficial uses; and to develop preliminary information on the nature, and vertical and horizontal extent, of the discharge);
 - b. Soil and water investigation (to determine the source, nature and extent of the discharge with sufficient detail to provide the basis for decisions regarding subsequent cleanup and abatement actions, if any are determined by the Regional Water Board to be necessary);
 - c. Proposal and selection of cleanup and abatement action (to evaluate feasible and effective cleanup and abatement actions, and to develop preferred cleanup and abatement alternatives);
 - d. Implementation of cleanup and abatement action (to implement the selected alternative, and to monitor in order to verify progress);
 - e. Monitoring (to confirm short- and long-term effectiveness of cleanup and abatement);
2. Consider, where necessary to protect water quality, approval of plans for investigation, or cleanup and abatement, that proceed concurrently rather than sequentially, provided that overall cleanup and abatement goals and objectives are not compromised, under the following conditions:
- a. Emergency situations involving acute pollution or contamination affecting present uses of waters of the state;
 - b. Imminent threat of pollution;
 - c. Protracted investigations resulting in unreasonable delay of cleanup and abatement; or
 - d. Discharges of limited extent which can be effectively investigated and cleaned up within a short time;
3. Require the discharger to extend the investigation, and cleanup and abatement, to any location affected by the discharge or threatened discharge;
 4. Where necessary to protect water quality, name other persons as dischargers, to the extent permitted by law;
 5. Require the discharger to submit written workplans for elements and phases of the investigation, and cleanup and abatement, whenever practicable;
 6. Review and concur with adequate workplans prior to initiation of investigations, to the extent practicable. The Regional Water Board may give verbal concurrence for investigations to proceed, with written follow-up. An adequate workplan should include or reference, at least, a comprehensive description of proposed investigative, cleanup, and abatement activities, a sampling and analysis plan, a quality assurance project plan, a health and safety plan, and a commitment to implement the workplan;

7. Require the discharger to submit reports on results of all phases of investigations, and cleanup and abatement actions, regardless of degree of oversight by the Regional Water Board;
 8. Require the discharger to provide documentation that plans and reports are prepared by professionals qualified to prepare such reports, and that each component of investigative and cleanup and abatement actions is conducted under the direction of appropriately qualified professionals. A statement of qualifications of the responsible lead professionals shall be included in all plans and reports submitted by the discharger;
 9. Prescribe cleanup levels which are consistent with appropriate levels set by the Regional Water Board for analogous discharges that involve similar wastes, site characteristics, and water quality considerations;
- B. The Regional Water Board may identify investigative and cleanup and abatement activities that the discharger could undertake without Regional Water Board oversight, provided that these investigations and cleanup and abatement activities shall be consistent with the policies and procedures established herein.
- III. The Regional Water Board shall implement the following procedures to ensure that dischargers shall have the opportunity to select cost-effective methods for detecting discharges or threatened discharges and methods for cleaning up or abating the effects thereof. The Regional Water Board shall:
- A. Concur with any investigative and cleanup and abatement proposal which the discharger demonstrates and the Regional Water Board finds to have a substantial likelihood to achieve compliance, within a reasonable time frame, with cleanup goals and objectives that implement the applicable Water Quality Control Plans and Policies adopted by the State Water Board and Regional Water Boards, and which implement permanent cleanup and abatement solutions which do not require ongoing maintenance, wherever feasible;
 - B. Consider whether the burden, including costs, of reports required of the discharger during the investigation and cleanup and abatement of a discharge bears a reasonable relationship to the need for the reports and the benefits to be obtained from the reports;
- C. Require the discharger to consider the effectiveness, feasibility, and relative costs of applicable alternative methods for investigation, and cleanup and abatement. Such comparison may rely on previous analysis of analogous sites, and shall include supporting rationale for the selected methods;
 - D. Ensure that the discharger is aware of and considers techniques which provide a cost-effective basis for initial assessment of a discharge.
 1. The following techniques may be applicable:
 - a. Use of available current and historical photographs and site records to focus investigative activities on locations and wastes or materials handled at the site;
 - b. Soil gas surveys;
 - c. Shallow geophysical surveys;
 - d. Remote sensing techniques;
 2. The above techniques are in addition to the standard site assessment techniques, which include:
 - a. Inventory and sampling and analysis of materials or wastes;
 - b. Sampling and analysis of surface water;
 - c. Sampling and analysis of sediment and aquatic biota;
 - d. Sampling and analysis of ground water;
 - e. Sampling and analysis of soil and soil pore moisture;
 - f. Hydrogeologic investigation;
 - E. Ensure that the discharger is aware of and considers the following cleanup and abatement methods or combinations thereof, to the extent that they may be applicable to the discharge or threat thereof:
 1. Source removal and/or isolation;
 2. In-place treatment of soil or water:
 - a. Bioremediation;
 - b. Aeration;
 - c. Fixation;
 3. Excavation or extraction of soil, water, or gas for on-site or off-site treatment by the following techniques:
 - a. Bioremediation;

- b. Thermal destruction;
 - c. Aeration;
 - d. Sorption;
 - e. Precipitation, flocculation, and sedimentation;
 - f. Filtration;
 - g. Fixation;
 - h. Evaporation;
4. Excavation or extraction of soil, water, or gas for appropriate recycling, re-use, or disposal;
- F. Require actions for cleanup and abatement to:
- 1. Conform to the provisions of Resolution No. 68-16 of the State Water Board, and the Water Quality Control Plans of the State and Regional Water Boards, provided that under no circumstances shall these provisions be interpreted to require cleanup and abatement which achieves water quality conditions that are better than background conditions;
 - 2. Implement the provisions of Chapter 15 that are applicable to cleanup and abatement, as follows:
 - a. If cleanup and abatement involves corrective action at a waste management unit regulated by waste discharge requirements issued under Chapter 15, the Regional Water Board shall implement the provisions of that chapter;
 - b. If cleanup and abatement involves removal of waste from the immediate place of release and discharge of the waste to land for treatment, storage, or disposal, the Regional Water Board shall regulate the discharge of the waste through waste discharge requirements issued under Chapter 15, provided that the Regional Water Board may waive waste discharge requirements under WC Section 13269 if the waiver is not against the public interest (e.g., if the discharge is for short-term treatment or storage, and if the temporary waste management unit is equipped with features that will ensure full and complete containment of the waste for the treatment or storage period); and
 - c. If cleanup and abatement involves actions other than removal of the waste, such as containment of waste in soil or ground water by physical or hydrological barriers to migration (natural or engineered), or in-situ treatment (e.g., chemical or thermal fixation, or bioremediation), the Regional Water Board shall apply the applicable provisions of Chapter 15, to the extent that it is technologically and economically feasible to do so; and
3. Implement the applicable provisions of Chapter 16 for investigations and cleanup and abatement of discharges of hazardous substances from underground storage tanks; and
- G. Ensure that dischargers are required to clean up and abate the effects of discharges in a manner that promotes attainment of either background water quality, or the best water quality which is reasonable if background levels of water quality cannot be restored, considering all demands being made and to be made on those waters and the total values involved, beneficial and detrimental, economic and social, tangible and intangible; in approving any alternative cleanup levels less stringent than background, apply Section 2550.4 of Chapter 15, or, for cleanup and abatement associated with underground storage tanks, apply Section 2725 of Chapter 16, provided that the Regional Water Board considers the conditions set forth in Section 2550.4 of Chapter 15 in setting alternative cleanup levels pursuant to Section 2725 of Chapter 16; any such alternative cleanup level shall:
- 1. Be consistent with maximum benefit to the people of the state;
 - 2. Not unreasonably affect present and anticipated beneficial use of such water; and
 - 3. Not result in water quality less than that prescribed in the Water Quality Control Plans and Policies adopted by the State and Regional Water Boards; and
- H. Consider the designation of containment zones notwithstanding any other provision of this or other policies or regulations which require cleanup to water quality objectives. A containment zone is defined as a specific portion of a water bearing unit where the Regional Water Board finds, pursuant to Section III.H. of this policy, it is unreasonable to remediate to the level that achieves water quality objectives. The discharger is required to take all actions necessary to prevent the

migration of pollutants beyond the boundaries of the containment zone in concentrations which exceed water quality objectives. The discharger must verify containment with an approved monitoring program and must provide reasonable mitigation measures to compensate for any significant adverse environmental impacts attributable to the discharge. Examples of sites which may qualify for containment zone designation include, but are not limited to, sites where either strong sorption of pollutants on soils, pollutant entrapment (e.g. dense non-aqueous phase liquids [DNAPLS]), or complex geology due to heterogeneity or fractures indicate that cleanup to applicable water quality objectives cannot reasonably be achieved. In establishing a containment zone, the following procedures, conditions, and restrictions must be met:

1. The Regional Water Board shall determine whether water quality objectives can reasonably be achieved within a reasonable period by considering what is technologically and economically feasible and shall take into account environmental characteristics of the hydrogeologic unit under consideration and the degree of impact of any remaining pollutants pursuant to Section III.H.3. The Regional Water Board shall evaluate information provided by the discharger and any other information available to it:
 - a. Technological feasibility is determined by assessing available technologies, which have been shown to be effective under similar hydrogeologic conditions in reducing the concentration of the constituents of concern. Bench-scale or pilot-scale studies may be necessary to make this feasibility assessment;
 - b. Economic feasibility is an objective balancing of the incremental benefit of attaining further reductions in the concentrations of constituents of concern as compared with the incremental cost of achieving those reductions. The evaluation of economic feasibility will include consideration of current, planned, or future land use, social, and economic impacts to the surrounding community including property owners other than the discharger. Economic feasibility, in this Policy, does not refer to the discharger's ability to finance cleanup. Availability of financial resources should be considered in the establishment of reasonable compliance schedules;

c. The Regional Water Board may make determinations of technological or economic infeasibility after a discharger either implements a cleanup program pursuant to III.G, which cannot reasonably attain cleanup objectives, or demonstrates that it is unreasonable to cleanup to water quality objectives, and may make determinations on the basis of projection, modeling, or other analysis of site-specific data without necessarily requiring that remedial measures be first constructed or installed and operated and their performance reviewed over time unless such projection, modeling, or other analysis is insufficient or inadequate to make such determinations:

2. The following conditions shall be met for all containment zone designations:
 - a. The discharger or a group of dischargers is responsible for submitting an application for designation of a containment zone. Where the application does not have sufficient information for the Regional Water Board to make the requisite findings, the Regional Water Board shall request the discharger(s) to develop and submit the necessary information. Information requirements are listed in the Appendix to this section;
 - b. Containment and storage vessels that have caused, are causing, or are likely to cause ground water degradation must be removed or repaired, or closed in accordance with applicable regulations. Floating free product must be removed to the extent practicable. If necessary, as determined by the Regional Water Board, to prevent further water quality degradation, other sources (e.g., soils, nonfloating free product) must be either removed, isolated, or managed. The significance and approach to be taken regarding these sources must be addressed in the management plan developed under H.2.d.;
 - c. Where reasonable, removal of pollutant mass from ground water within the containment zone may be required, if it will significantly reduce the concentration of pollutants within the containment zone, the volume of the

containment zone, or the level of maintenance required for containment. The degree of removal which may be required will be determined by the Regional Water Board in the process of evaluating the proposal for designation of a containment zone. The determination of the extent of mass removal required will include consideration of the incremental cost of mass removal, the incremental benefit of mass removal, and the availability of funds to implement the provisions in the management plan for as long as water quality objectives are exceeded within the containment zone;

- d. The discharger or a group of dischargers must propose and agree to implement a management plan to assess, cleanup, abate, manage, monitor, and mitigate the remaining significant human health, water quality, and environmental impacts to the satisfaction of the Regional Water Board. Impacts will be evaluated in accordance with Section III.H.3. The management plan may include management measures, such as land use controls¹, engineering controls², and agreements with other landowners or agreements with the landlord or lessor where the discharger is a tenant or lessee.³ The contents of the management plan shall be dependent upon the specific characteristics of the proposed containment zone and must include a requirement that the Regional Water Board be notified of any transfer of affected property to a new owner(s);
- e. The proposed management plan must provide reasonable mitigation measures to substantially lessen or avoid any significant adverse environmental impacts attributable to the discharge. At a minimum, the plan must provide for control of pollutants within the containment zone such that water quality objectives are not exceeded outside the containment zone as a result of the discharge. The plan must also provide, if appropriate, for equivalent alternative water supplies, reimbursement for increased water treatment costs to affected users, and increased costs associated with well modifications. Additional mitigation measures may be proposed by the discharger based on the specific characteristics of the proposed containment zone. Such measures must assist in water quality improvement efforts within the ground

water basin and may include participating in regional ground water monitoring, contributing to ground water basin cleanup or management programs, or contributing to research projects which are publicly accessible (i.e., not protected by patents and licenses) and aimed at developing remedial technologies that would be used in the ground water basin. Proposals for off-site cleanup projects may be considered by the Regional Water Board as a mitigation measure under the following criteria:

1. Off-site cleanup projects must be located in the same ground water basin as the proposed containment zone, and
2. Implementation of an off-site project must result in an improvement in the basin's water quality or protect the basin's water quality from pollution, and
3. Off-site projects must include source removal or other elements for which water quality benefits or water quality protection can be easily demonstrated, and
4. Off-site projects may be proposed independently by the discharger or taken from projects identified as acceptable by the Regional Water Board through a clearinghouse process, or
5. In lieu of choosing to finance a specific off-site project, the discharger may contribute moneys to the SWRCB's Cleanup and Abatement Account (Account) or other funding source. Use of such contributions to the Account or other source will be limited to cleanup projects or water quality protection projects for the basin in which the containment zone is designated. Contributions are not to exceed ten percent of the savings in continued active remediation that discharger will accrue over a ten-year period due to designation of a containment zone (less any additional costs of containment zone designation during this period, e.g.,

additional monitoring requirements, Regional Water Board application costs, etc.). Contributions of less than ten percent must be accompanied by a detailed justification as to why a lesser contribution would provide adequate mitigation.

Except where prohibited by Federal law, Federal agencies may be required, based on specific site conditions, to implement mitigation measures;

- f. The proposed management plan must include a detailed description of the proposed monitoring program, including the location and construction of monitoring points, a list of proposed monitoring parameters, a detailed description of sampling protocols, the monitoring frequency, and the reporting requirements and frequency. The monitoring points must be at or as close as reasonable to the boundary of the containment zone so as to clearly demonstrate containment such that water quality objectives outside the containment zone are not violated as the result of the discharge. Specific monitoring points must be defined on a case-by-case basis by determining what is necessary to demonstrate containment, horizontally and vertically. All technical or monitoring program requirements and requirements for access shall be designated pursuant to WC Section 13267. The monitoring program may be modified with the approval of the Regional Water Board's Executive Officer based on an evaluation of monitoring data;
- g. The management plan must include a detailed description of the method to be used by the discharger to evaluate monitoring data and a specific protocol for actions to be taken in response to evidence that water quality objectives have been exceeded outside the containment zone as a result of the migration of pollutants from within the containment zone;
3. In order for a containment zone to be designated, it shall be limited in vertical and lateral extent; as protective as reasonably possible of human health and safety and the environment; and should not result in violation of water quality objectives outside the containment zone. The following

factors must be considered by the Regional Water Board in making such findings:

- a. The size of a containment zone shall be no larger than necessary based on the facts of the individual designation. In no event shall the size of a containment zone or the cumulative effect of containment zones cause a substantial decline in the overall yield, storage, or transport capacity of a ground water basin;
- b. Evaluation of potentially significant impacts to water quality, human health, and the environment, shall take into consideration the following, as applicable to the specific factual situation:
1. The physical and chemical characteristics of the discharge, including its potential for migration;
 2. The hydrogeological characteristics of the site and surrounding land;
 3. The quantity of ground water and surface water and the direction of ground water flow;
 4. The proximity and withdrawal rates of ground water users;
 5. The patterns of rainfall in the region and the proximity of the site to surface waters;
 6. The present and probable future uses of ground water and surface water in the area;
 7. The existing quality of ground water and surface water, including other sources of pollution and their cumulative impact on water quality;
 8. The potential for health impacts caused by human exposure to waste constituents;
 9. The potential damage to wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents;
 10. The persistence and permanence of any potential adverse effects;
 11. Exposure to human or other biological receptors from the aggregate of hazardous constituents in the environment;

12. The potential for the pollutants to attenuate or degrade and the nature of the breakdown products; and
13. Potential adverse effects on approved local development plans, including plans approved by redevelopment agencies or the California Coastal Commission.
- c. No provision of this Policy shall be interpreted to allow exposure levels of constituents of concern that could have a significant adverse effect on human health or the environment;
- d. A containment zone shall not be designated in a critical recharge area. A critical recharge area is an artificial recharge area or an area determined by the Regional Water Board to be a critical recharge area after the consultation process required by Section III.H.9. Further, a containment zone shall not be designated if it would be inconsistent with a local ground water management plan developed pursuant to Part 2.75 of Division 6 of the WC (commencing at Section 10750) or other provisions of law or court order, judgment or decree;
4. After designation, no further action to reduce pollutant levels, beyond that which is specified in the management plan, will be required within a containment zone unless the Regional Water Board finds that the discharger(s) has failed to fully implement the required management plan or that violation of water quality objectives has occurred beyond the containment zone, as a result of migration of chemicals from inside the containment zone. If the required tasks contained in the approved management plan are not implemented, or appropriate access is not granted by the discharger to the Regional Water Board for purposes of compliance inspection, or violation of water quality objectives occurs outside the containment zone and that violation is attributable to the discharge in the containment zone, the Regional Water Board, after 45 days public notice, shall promptly revoke the zone's containment status and shall take appropriate enforcement action against the discharger;
5. The designation of a containment zone shall be accomplished through the adoption of a cleanup and abatement order as authorized by WC Section 13304. The Regional Water Board shall make a finding of fact with regard to each of the conditions which serve as a prerequisite for containment zone designation in the cleanup and abatement order. All applicable criteria of Section III.H. must be met as a prerequisite to designation. The Regional Water Board may reject an application for designation of a containment zone for failure to meet any applicable criteria without having to make findings with regard to each prerequisite. Such orders shall be adopted by the Regional Water Boards themselves and not issued by the Executive Officers of the Regional Water Boards. These orders shall ensure compliance with all procedures, conditions, and restrictions set forth in Section III.H. As authorized by WC Section 13308, time schedules issued as part of the establishment of a containment zone may prescribe a civil penalty which shall become due if compliance is not achieved in accordance with that time schedule;
6. A containment zone shall be implemented only with the written agreement of all fee interest owners of the parcel(s) of property containing the containment zone. Exceptions may be allowed by the Regional Water Board where opposition is found to be unreasonable. In such cases, the Regional Water Board may use the authority of WC Section 13267 to assure access to property overlying the containment zone;
7. Local agencies which are supervising cleanup under contract with the State Water Board or by agreement with the Regional Water Board pursuant to provisions of the Underground Storage Tank Program may propose containment zones for consideration by the Regional Water Board. The local agency will forward its files and proposal to the Regional Water Board for consideration. Regional Water Boards shall use the same procedures, processes, public notice, and criteria that are noted elsewhere in this policy. Approval of Technical Impracticability Waivers by the Department of Toxic Substances Control or