Part B

The Federal/State Relationship In Ground-Water Protection

Background

Since the adoption of the Agency's 1984 Ground-Water Protection Strategy, EPA has been providing technical and financial assistance under the Clean Water Act to build State capacity to protect ground water in a comprehensive manner. Further, EPA has been implementing several source-specific statutes that protect and cleanup ground water.

Over the last few years, States have made significant strides in developing and implementing ground-water protection strategies. Yet, both the States and EPA recognize that much remains to be done to ensure *comprehensive* protection of the nation's ground-water resource. State ground-water programs vary considerably from one State to another and are often a patchwork of Federal, State and local source control efforts, focusing on individual sources of contamination rather than the resource as a whole. Source control programs tend to focus on sources that present significant risks on a national basis, but may not represent the most important threats at the local level to either drinking water supplies (and, therefore, human health) or ground-water recharge to aquatic ecosystems. Many nonpoint and small, dispersed sources remain unaddressed and commercial, residential, and industrial development often occurs with no recognition of long-term impacts on the quality of ground water.

As a result of the work of the recent Agency Task Force, beginning in FY 1992, EPA will take a more strategic approach to actively assisting States in comprehensively protecting their ground-water resources. The Task Force identified the need for EPA to step up its efforts to coordinate more fully Agency programs and authorities at the EPA Regional and Headquarters levels, to help States build comprehensive, integrated programs that protect the ground-water resource, to provide a framework for coordinating multiple Federal programs and activities at the State and local level, and to make optimum use of EPA grant authorities to promote Federal and State program coordination.

The purpose of this report is to set in motion a more fully coordinated EPA effort based on existing Agency authorities. EPA recognizes that, because of the timing of this document, the Regions and States have already completed much of the planning and negotiations for ground-water activities to be carried out in FY 1992. To the maximum extent possible, however, EPA will work with the States to promote aggressive implementation in FY 1992 through vehicles such as Regional grant amendments and technical assistance.

This document consists of three main sections: the first section describes the broadly applicable principles of the Federal/State relationship; the second describes EPA's support of a new comprehensive approach which relies on State Ground-Water Protection Programs; and the third section lists possible elements of such State programs, which are based in large part on discussions held with members of the Administrator's State/EPA Operations Committee.

Principles Defining the Federal/State Relationship

In preparing this report, the Agency used "EPA's Ground-Water Protection Principles" as a starting point for defining the Federal/State relationship in ground-water protection (see Part A). The Agency

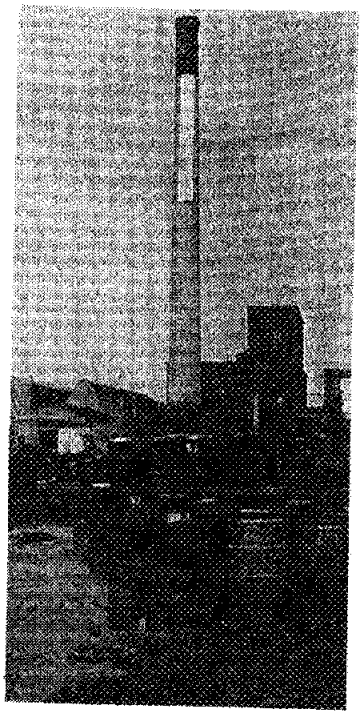
believes, however, that there are additional broadly-applicable principles of this relationship that need to be set forth as well. They include:

- **State Role is Critical:** The Agency believes that while EPA will continue its role in controlling major sources of contamination, the States should retain the primary responsibility for the management and protection of the ground-water resource and in addressing diffuse sources of pollution. Such management may require decisions about ground-water allocation and land use which are appropriately the province of State and local government. EPA should support States in developing ground-water protection programs that adequately protect the resource as well as the framework for State/EPA relations.

- **Resource-Based Efforts:** States and EPA should emphasize a resource-based approach to protection, in addition to the current source control programs. Under this approach, the total impact of all sources of contamination, as well as the unique hydrogeologic features of the resource, should be taken into account in developing and implementing protection programs. Further, in addition to protecting current drinking water supplies, States should designate ground waters for protection that are reasonably expected to be drinking water supplies, taking into account such factors as: remoteness, quality, cost of protection, future growth and population patterns, and the availability and cost of alternative water supplies.

- **Emphasis on Prevention and Sustainability:** In general, the Federal/State relationship should be structured so that ground-water protection efforts are enhanced and coordinated.

- **Scientific and Economic Research:** EPA should continue to conduct scientific and economic research on various aspects of ground-water protection, and provide standard setting information to the States. This includes developing maximum contaminant levels/maximum contaminant level goals which relate to health concerns, water quality criteria which relate to ecological concerns, risk assessment information, fate and transport data, and information on the economic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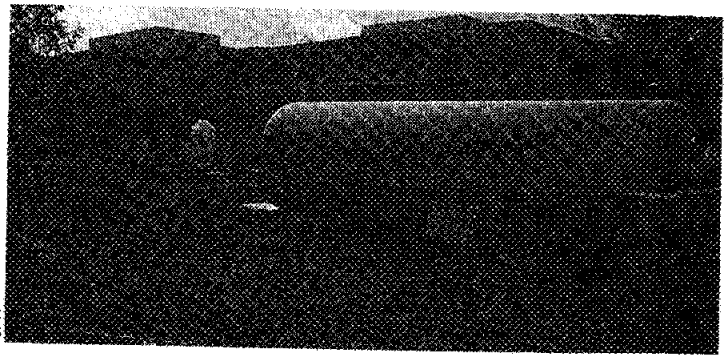
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values and tradeoffs involved in protection activities.

• **Federal Consistency:** EPA should strive for consistency among Federal agencies and programs with ground-water protection responsibilities. For example, the Agency intends to work with the U.S. Department of Agriculture (USDA) to develop a joint strategy for addressing issues affecting the agriculture community through the ongoing USDA/EPA Work Group on Water Quality. Further, mechanisms should be established or better utilized for coordinating with Department of Interior (DOI), Department of Energy (DOE), National Oceanic and Atmospheric Administration (NOAA), Department of Defense (DOD), and other Federal agencies with ground-water responsibilities.

• **The Roles of Federal and State Government in Regulating Specific Sources of Contamination Should be Based on the Following Factors:**

1. In general, State and local governments should play the prominent *regulatory* role. This is especially appropriate when: a) the activities of concern are numerous (e.g., 23 million septic tanks) or highly localized (e.g., vary in impact and number from State to State) and nationally present a low to medium risk potential; b) when land-use management is a principal protection approach; and, c) when technologies currently exist or are easily developed to address the problem. Further, State and local governments should play the primary role in the *implementation* of Federally-mandated ground-water protection regulations.

2. EPA should take a prominent *regulatory* role as currently authorized by law when: a) there is a need to establish regulatory consistency (e.g., to limit adverse impacts on interstate commerce); b) when the scope of the effort requires national resources (e.g., research, regulations addressing technically complex environmental problems); c) when State-by-State efforts would create unwarranted and inefficient duplication (e.g., bans, research); and, d) when national security is involved (e.g., the disposal of radioactive waste).

• **Differential Protection:** In implementing EPA programs, the Agency should continue its policy of taking into account the use, value, and vulnerability of the resource as well as other social and economic values in decisions affecting ground water. This is necessary to achieve EPA's overall ground-water policy goal of preventing adverse effects to human health and the environment and protecting the environmental integrity of the nation's ground-water resources.

• **Voluntary Approaches:** EPA should encourage States to pursue voluntary, nonregulatory approaches to protecting the resource. For example, the Agency is currently working with USDA under the President's Water Quality Initiative to involve States in fostering effective prevention approaches with the agriculture sector.

State Ground-Water Programs That Provide Comprehensive Protection:

EPA intends to promote the development and implementation of State Ground-Water Protection Programs (SGWPP) designed to provide comprehensive protection of the resource and the framework to coordinate programs and activities under Federal, State and local statutes and

ordinances. A core premise is recognition of the primary State role in designing and implementing programs to protect the resource consistent with distinctive local needs and conditions. This generally means that EPA will provide broad national guidance and use financial incentives to promote action. The Agency recognizes that protecting the ground water is a unique and complex environmental issue that requires a new, non-traditional approach. Clearly, a nationally prescriptive program is not appropriate; risk taking and innovation are to be rewarded.

- **Over the next six months, the Agency will hold, in each Region, roundtable discussions.** State Directors of Environmental Agencies as well as State ground-water program directors will meet with EPA to reach agreement on the elements of a State program, which would provide comprehensive protection; a definition of the range of "adequate" State programs; and an EPA review process.

- **Over the next year, EPA will continue ongoing work with the States to profile and assess current State ground-water protection activities to obtain a baseline of information and help States identify gaps in their current ground-water protection programs.** This two-stage profile process includes developing an objective description of current State activities and then working with the State in conducting a self-assessment of its activities to identify areas in need of further work. A State's current efforts will be compared with the elements of, and adequacy criteria for, a comprehensive program developed, in part, through the roundtables process described above. This baseline information will be used by the EPA Regional offices in supporting State efforts to develop and implement programs that provide comprehensive ground-water protection. Regional priorities, milestones, and commitments for the Agency's ground-water related programs will be set in a way that are consistent with individual State's needs and circumstances.

- **As States move toward designing and achieving a comprehensive approach to protection of the resource, EPA will review and concur in ground-water quality protection programs submitted by the States.** The review will focus on "adequacy" instead of "consistency" -- the threshold question will not be whether a State's program is consistent with EPA criteria, but whether a program falls within a range deemed "adequate" to protect a State's ground-water resource. The Agency, in collaboration with the States, will define a range of ways to achieve "adequacy" rather than one prescriptive definition.

- **EPA's review of State programs will be flexible and take into account the unique characteristics of each State, as well as the different stages of development of each State program.** The process will be interactive and iterative, with the States and EPA working together. It will focus on assessing programs to identify gaps and providing EPA technical and financial assistance to States to address the gaps.

- **The purpose of the process of determining adequacy is not to judge or evaluate a State program in a "pass/fail" manner, or determine that a State's program is "inadequate" if it does not meet the criteria EPA has developed in conjunction with the States.** Rather, it is meant to be a process in which EPA works with States to help them fill

in gaps in State ground-water protection programs. The intent being to bring these programs to a point where the States are fully capable of comprehensively protecting the ground-water resource, given an individual State's particular needs and circumstances. When EPA can determine that a State has reached this point, EPA will seek to defer to State standards, priorities, and programs to the extent authorized under Federal statutes.

- **EPA's non-concurrence of a State's Ground-Water Protection Program will not imply inadequacy of specific source management programs and efforts within the State either being conducted or approved by EPA or other Federal agencies.** However, non-concurrence of a State's Program could result from a State not taking responsibility for an expected role in the implementation of specific source management programs or efforts.

- **Using current ground-water related grants, EPA will support the development and implementation of State Ground-Water Protection Programs designed for comprehensive protection of the resource.** While all States will initially be eligible for funds, the Agency, working with the States, will define a range of program characteristics that will be used to assess State progress toward achieving an "adequate" comprehensive program. Exemplary State programs will receive an increasing share of the grants, while States showing little or no progress will receive reduced grant amounts. Further, for States with an "adequate" program, the Agency oversight process will focus less on defining and overseeing individual State actions and more on the overall effect of the program in comprehensively protecting ground water. States that elect not to participate in the process will not be able to avail themselves of certain EPA financial and oversight benefits.

- **To the extent authorized by EPA statute and consistent with Agency program implementation objectives, EPA will defer to State policies, priorities, and standards once a State has developed an "adequate" program.** For States that develop adequate State ground-water protection programs, EPA's policy will be to look to or "defer to" State policies, priorities, and standards. Under this policy of deference, EPA will study and identify ways in which the Agency can defer to State decisions in implementing Agency programs. Implementation of this policy for States with an adequate ground-water protection program will take several forms.

  - First, EPA will identify ways to provide States with greater flexibility to target enforcement and permitting activities consistent with the States' own policies and priorities.

  - Second, EPA will establish policies for reducing routine Agency oversight of State programs affecting ground water.

  - Third, in its development of regulations and guidance, EPA will explore ways in which it can provide for deference to State ground-water standards, regulations, or policies. To the extent authorized by EPA statutes and consistent with Agency program implementation objectives, EPA will provide for consideration of or deference to State standards, regulations, and policies. EPA statutes generally provide that Federally promulgated

standards or regulations serve as minimum levels of protection. These statutes, however, generally reserve to the States the authority to adopt more stringent standards or regulations. Therefore, States already have a significant role in establishing applicable standards for EPA programs. The Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) is an excellent example of a statute that provides an important role for States in decision-making.[2]

— Finally, where State regulations, standards or policies would provide for less stringent protection than EPA regulations, standards or policies, there may be statutory or regulatory prohibitions to deferring to the State. EPA, however, is committed to exploring opportunities for providing for deference to State regulations, standards or policies as authorized by EPA statutes and consistent with Agency program implementation objectives.

Common Elements of "Mature" Ground-Water Protection Programs

As part of its role in promoting development of State programs that will provide comprehensive ground-water protection, the Agency, in collaboration with the States, will determine over the next year the key elements of a State program.

Because of each State's unique hydrogeological characteristics and conditions, the character of a program that provides comprehensive ground-water

[2] With some limitations, CERCLA provides significant opportunities for EPA to adopt State requirements as part of CERCLA cleanup actions. Whether or not CERCLA cleanups would be based on provisions of a State ground-water protection program depends first on whether the plan includes "ARARs." As defined in section 121(d)(2) of CERCLA, ARARs are "applicable or relevant and appropriate requirements" of other Federal or State environmental laws. For a State law requirement to be ARAR, it must be promulgated (i.e., of general applicability and legally enforceable, see section 300.400(g)(4) (1990) of the National Contingency Plan), substantive rather than administrative (see 55 Fed. Reg. 8756-57, March 8, 1990), identified in a timely manner, and *more stringent* than the Federal standard (section 300.400(g)(4) (1990)). Where a State requirement is not directly applicable, EPA has discretion to find the requirement to be ARAR because it is "relevant and appropriate" to circumstances at the site. Where State standards include substantive requirements that are ARARs, the CERCLA remedy would be required to meet or waive them. ARARs may be waived in six limited circumstances, such as where it is impracticable to attain them, or for State standards, where the standard has not been consistently applied (see CERCLA section 121(d)(4)). Under CERCLA, where State plans, policies or guidelines do not qualify as ARARs, EPA may nevertheless treat them as provisions "to be considered" ("TBCs") with respect to the cleanup plan. TBCs would be evaluated and justified on a site-specific basis. The recently revised NCP, in implementing CERCLA's cleanup program, demonstrates EPA's commitment to providing a significant role for States in decision-making.

resource protection will not be identical in all States. EPA will provide States with great flexibility in addressing the elements of a comprehensive program. A list of elements commonly found in "mature" ground-water programs is provided below, including a narrative description of each element. Using this universe of potential elements, EPA, in collaboration with the States, will develop over the coming year, a final set of elements and adequacy criteria for each element of a State program that provides comprehensive protection for the ground-water resource.

SETTING GOALS AND DOCUMENTING PROGRESS

- **Ground-Water Protection Goal which Accounts for Present and Future Uses of the Resource.** The ground-water protection goal is in harmony with the national ground-water protection goal and the goal is established in State statute. The ground-water protection goal accounts for present and reasonably expected future ground-water uses.

- **Yearly Action Plan for Achieving the Goal, which Includes a Mechanism for Evaluating Progress Toward the Goal and Provides for Periodic Review.** The State has an action plan that describes how the State will achieve its comprehensive protection goal. The action plan outlines outcomes that are needed to assure that the resource protection goal is achieved; a process for reaching those outcomes; short- and long-term timetables, milestones, and measures of progress; and parties responsible for achieving desired outcomes. Usually, the plan reflects the diverse authorities available to the State to achieve its goal, including land-use authorities, public health authorities, and enforcement authorities.

CHARACTERIZING THE RESOURCE AND SETTING PRIORITIES FOR ACTIONS

- **Comprehensive Assessment of Aquifer Systems for Ground-Water Protection Purposes.** The State has an ongoing, effective program that provides basic information on the occurrence, movement, and quality of ground-water resources within its borders. This program utilizes and integrates the information available from State geological surveys, as well as ongoing Federal assessment and mapping programs, such as those available from the USGS and Soil Conservation Service.

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- **Procedure for Inventorying and Ranking Potential Sources of Contamination that May Cause an Adverse Effect on Human Health or Ecological Systems.** The State has a program for identifying the existence, location, and relative magnitude/risk of anthropogenic and natural threats to ground-water quality. The program is capable of: (1) identifying specific categories of activities which pose threats to the quality of the resource, (2) locating geographic areas where such threats/sources are concentrated, and (3)

identifying specific source locations, facilities, plumes, etc., deemed to pose a threat to public health and or the environment.

- **Process Used for Setting Priorities for Actions Taken to Protect or Remediate the Resource, Such as a Use Designation/Classification Scheme that Considers Use, Value, Vulnerability, Yield, and Current Quality, Including Wellhead Protection and Cost Benefit Analysis.** The State balances the timing, ordering, and extent of protection activity development and implementation based on a scheme that reflects the risk to ground-water quality, human health, and ecosystem maintenance. Prioritization schemes reflect resource characterization and source inventory efforts. The State is encouraged to adopt prioritization schemes that consider such factors as resource use and potential use for drinking water and other purposes, resource sensitivity to contamination, and the tradeoffs in cost and/or effectiveness between protection and remediation options. Prioritization schemes incorporate priorities established in Federal environmental statutes.

DEVELOPING AND IMPLEMENTING PREVENTION AND CONTROL PROGRAMS

- **A Coordinated Pollution Prevention and Source Reduction Program Aimed at Reducing and Eliminating the Amount of Pollution that Could Affect Ground Water.** A program to reduce and eliminate the amount of pollution that could potentially affect ground water with techniques, such as wellhead and recharge area protection programs, siting criteria, improved management practices and technology standards, etc.

- **Enforceable Quality Standards that are Health Based for Drinking Water Supplies and Ecologically Based in Areas Where Ground Water is Closely Hydrologically Connected to Surface Water.** Legally defensible and enforceable quality standards that could be based on MCLs (or EPA Health Advisory levels) for drinking water and on surface water quality criteria established under the Clean Water Act for ground water closely hydrologically connected to surface water are a part of a comprehensive program. In applying standards, States should distinguish between prevention and remediation activities -- EPA's policy on the use of quality standards in ground-water prevention and remediation activities is one approach to which the States can refer. (Note: It is the State's prerogative to determine whether to establish its own standards or to use EPA's for actions under State law.)

- **Regulatory and Nonregulatory Authorities to Control Sources of Contamination Under State or Local Jurisdiction; e.g., Permitting, Siting, and Zoning Authorities.** The State has authorities necessary to manage the contaminant sources characterized in Element Two. The State has received or is making progress toward receiving delegation of EPA's contaminant control programs. Regulatory and nonregulatory authorities are sufficient to control additional sources of contamination under State or local jurisdiction. These

authorities include, but are not limited to, permitting authorities; controls on activities such as transport regulations and facility design standards; and land-use regulations (e.g., zoning) that limit where, when, how, and if certain activities may occur. implementation and enforcement authorities are vested in local governments where appropriate.

- **Remediation Program which Dovetails With RCRA and Superfund and Sets Priorities for Action According to Risk.** The State has or is developing a remediation program that adequately addresses those potential polluting activities and sites not already covered by EPA's remediation programs (e.g., hazardous waste treatment, storage, and disposal facilities -- including solid waste management units at such facilities) and sites not on the National Priorities List.

- **Monitoring, Data Collection, and Data Analysis Activities to Determine the Extent of Contamination, Update Control Strategies and Assess Any Needed Changes in Order to Achieve the State's own Ground-Water Protection Goal.** The State's information management activities include the collection, laboratory analysis, storage, retrieval, and analysis of ground-water data. The State has a program to ensure that the data collected within the State are consistent, of known and reliable quality, and are efficiently stored for retrieval

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and use. This data are readily accessible to State and local agencies for use in analysis and decision making such as ground-water protection planning, enforcement, trend analysis, permitting and other activities.

- **Compliance and Enforcement Authorities Given to the Appropriate State and Local Officials Through Legislative or Administrative Processes.** Compliance monitoring and enforcement authorities are adequately delegated to the appropriate State and local officials.

- **Water Well Program, Including Private Drinking Water Wells, Covering Areas Such as Well Testing, Driller Certification, Well Construction, and Plugging Abandoned Wells.** The State has standards for water well construction, testing, and driller certification to ensure that wells are drilled and finished in a manner that is protective of public health. These standards include both public and private drinking water wells. Additionally, the State provides well closure standards to ensure that abandoned wells will not act as conduits into drinking water aquifers for contaminants.

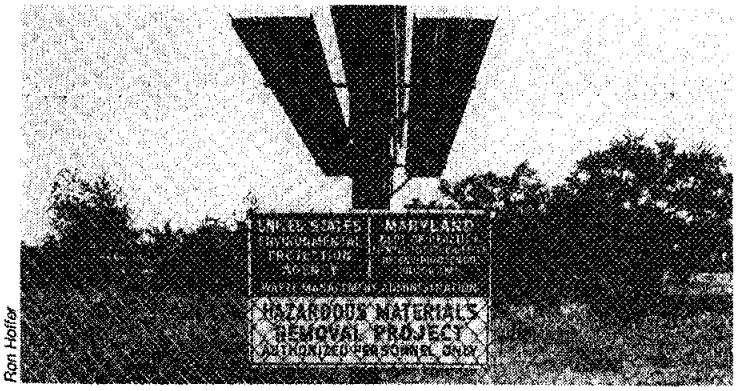
- **Statement of How Federal, State, and Local Resources will be used to Adequately Fund the Program.** The State adequately funds and staffs the Program. There is a good match between available revenues and proposed expenditures.

- **Public Participation Activities to Involve the Public in the Development and Implementation of the Program.** The public is involved in the development, review, and implementation of the Program.

DEFINING ROLES WITHIN THE STATE, AND THE RELATIONSHIP TO FEDERAL PROGRAMS

- **Delineation of State Agencies' Responsibilities in the Ground-Water Program Covering Areas Such as Planning, Implementation, Enforcement, and Coordination.** The State delineates the responsibilities of State agencies in planning, implementing, enforcing, and coordinating the Program. The designation of a lead agency, or formally established institutional structure, with responsibility for coordinating program implementation is recommended. The State addresses these issues with respect to interstate and regional organizations, if applicable.

- **Statement Indicating How the State Will or Does Provide Local Governments With Authorities to Address Local Ground-Water Protection Issues.** The State provides local governments with the authorities to address local ground-water protection issues. The State encourages local agency involvement in all aspects of ground-water protection, including technical assistance, training, and financial assistance.



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- **Statement of the State's Role Under Ground-Water Related EPA Statutes Including RCRA, CERCLA, SDWA, CWA, and FIFRA -- e.g. EPA-approved programs such as RCRA authorization should be listed and integrated as part of the State's overall ground-water protection program yet continue operating as free-standing programs.** The State carries out its responsibilities in delegated and authorized Federal programs. For any program for which the State has not been delegated implementation authority, the State is striving to get such delegation.

- **Mechanisms for Dealing with Other Federal Agencies that Affect State Ground-Water Programs Including MOUs and Other Formal Agreements.** The State's Program provides for coordination with other Federal Agencies that affect State ground-water programs (e.g., USDA, DOI, DOD).

- **Statement Indicating How the State Intends to Integrate Water Quantity and Quality Management.** The State addresses methods that it will use to minimize the impacts of ground-water withdrawals on ground-water quality. The approach includes coordination between the State agencies responsible for quantity management and quality management.

- **Coordination of Ground-Water Programs with other Relevant Natural Resource Protection Programs, Including Surface Water Management.** The State has a mechanism for coordinating and integrating the planning and implementation of all State, local, and Federal activities affecting ground water. The mechanism might include commissions or task forces that use inter-departmental staff from all State and Federal regulatory agencies, including staff from agencies not usually associated with ground-water protection, such as community development and public works.

Part D

Agency Policy on EPA's Use of Quality Standards in Ground-Water Prevention and Remediation Activities

The purpose of this policy statement is to describe the approach the Agency will use in making specific decisions with quality standards when carrying out EPA's ground-water related statutory responsibilities.

When EPA is carrying out its programs, the Agency will use maximum contaminant levels (MCLs) under the Safe Drinking Water Act, as "reference points" for water resource protection efforts when the ground water in question is a potential source of drinking water. Water quality standards, under the Clean Water Act, will be used as reference points when ground water is closely hydrologically connected to surface water ecological systems. Where MCLs are not available, EPA Health Advisory numbers or other approved health-based levels are recommended as the point of reference. If such numbers are not available, reference points may be derived from the health-effects literature where appropriate. In certain cases, maximum contaminant level goals (MCLGs) under the Safe Drinking Water Act, or background levels may be used in order to comply with Federal statutory requirements. Reference points are to be applied differently for prevention and cleanup purposes.

- **Prevention**: Best technologies and management practices should be relied on to protect ground water to the maximum extent practicable. Detection of a percentage of the reference point at an appropriate monitoring location would then be used to trigger consideration of additional action (e.g., additional monitoring; restricting, limiting use or banning the use of a pesticide). Reaching the MCL or other appropriate reference point would be considered a failure of prevention.

- **Cleanup**: Remediation will generally attempt to achieve a total lifetime cancer risk level in the range of 10-4 to 10-6 and exposures to non-carcinogens below appropriate reference doses. More stringent measures may be selected based on such factors as the cumulative effect of multiple contaminants, exposure from other pathways, and unusual population sensitivities. Less stringent measures than the reference point may be selected where authorized by law, based on such factors as technological practicality, adverse environmental impacts of remediation measures, cost and low likelihood of potential use.