

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WSG 66

Date Signed: August 25, 1992

MEMORANDUM

SUBJECT: Final Guidances for State Sampling Waiver Programs

FROM: Robert J. Blanco, Director
Enforcement and Program Implementation Division

TO: Drinking Water & Ground Water Protection Branch
Chiefs
Regions I - X

This is to distribute the final national and Region V Guidances for State Sampling Waiver Programs. I would like to thank Regions IV, V, VI and VIII for their comments on the draft national guidance. We have tried to address these comments, while keeping the detail and length of this guidance to a minimum.

I hope these documents will be useful to you in reviewing State primacy applications. If you have any further questions about the Region V guidance, please call Ed Watters at 312/353-2151, or have your staff call Tom Matheson at 312/886-6204. If you have any questions about the national guidance, please call me at 202/260-5522, or have your staff call Mike Muse at 202/260-3874.

cc: Drinking Water Section Chiefs
Regional Phase II/V Coordinators
Ramona Trovato, GWPD

GUIDANCE TO REGIONS FOR REVIEW OF STATE WAIVER PROGRAMS UNDER PHASE II & V PRIMACY REVISION APPLICATIONS

Introduction

The purpose of this document is to provide guidance to regional offices to help them review State waiver programs for surface water and ground water systems established pursuant to the Phase II and V National Primary Drinking Water Regulations (NPDWRs). This guidance summarizes waiver provisions in the NPDWRs and then presents the criteria Regions should consider in reviewing State requests to take advantage of these provisions.

Waiver Provision

The Phase II/V NPDWRs provide States the flexibility to grant waivers to systems. The NPDWRs state that systems are responsible for submitting waiver requests to the States. The States are responsible for acting on these waiver requests and deciding if the monitoring requirements can be reduced. In the absence of a State decision, the water system is legally responsible for performing full monitoring as though a waiver request had been denied. The same is true in States conducting vulnerability assessments on behalf of their water systems; failure by the State to complete a vulnerability assessment and issue a waiver does not excuse the water system from its monitoring responsibilities.

Waivers are allowed for asbestos, IOCs, SOCs, and VOCs. They are not allowed for nitrate or nitrite.¹ Waivers for VOC monitoring in surface water can be used to reduce or completely eliminate repeat monitoring, but waivers for VOC monitoring in ground water and all IOC monitoring can be used only to reduce the repeat monitoring requirements. Waivers for VOC monitoring and IOC monitoring can not alter the initial sampling requirements. Waivers for SOC monitoring and asbestos monitoring can be used to reduce or eliminate all monitoring requirements.

There are two basic types of waivers: use and susceptibility. States may also devise a variety of combined use/susceptibility waivers. Use waivers may be granted where there is no previous use (including transport, storage, or disposal) of the contaminant within the watershed or delineated area (VOC use waivers must include consideration of initial sampling results.). Susceptibility waivers may be granted where the contaminant has been used or where the use is unknown after considering several factors which would influence the probability of its occurrence in the source water. These factors are:

- For Asbestos - presence of asbestos in the source water and the potential for asbestos contamination in the distribution system, including the use of unlined asbestos-cement pipe and the corrosivity of finished water;

¹ The regulation of sulfate an NPDWR will be decided at some future date.

- For IOCs - all previous analytical results, the variation in the concentration and other factors affecting concentration e.g, changes in pumping rates, system configuration or operating procedures, and stream flows or characteristics;
- For SOCs - (1) previous analytical results, (2) environmental persistence and transport of the chemical, (3) proximity of the system to a potential point or non-point source of contamination, including: spills and leaks at or near the water system; from manufacturing, distribution, or storage facilities; from hazardous and municipal waste landfills and other waste handling facilities; and the use of pesticides on agricultural areas, forest lands, home and gardens, and other land application uses, (4) elevated nitrate levels as an indicator of potential for pesticide contamination, (5) aspects of source water protection, including depth of the well and integrity of its casing, and type of soil in the delineated area, and (6) for PCBs the proximity of water pumps, electrical transformers or other equipment that may contain PCBs.
- For VOCs - (1) previous analytical results, (2) environmental persistence and transport of the compound, (3) proximity of the water system to potential sources of contamination, including spills or leaks: at or near the water treatment facility; from commercial or industrial use, disposal, or storage of contaminants; and from hazardous and municipal waste landfills and other waste handling facilities, (4) number of persons served by the system, and (5) the proximity of a small system to a larger system.

States can design their waiver programs in many different ways. Waivers can be given on an individual system basis or on an area-wide basis. States could limit waivers to certain groups of contaminants (e.g. pesticides). They may limit waivers to use waivers only; they may wish to focus their resources on area-wide waivers only; or they may want to limit waivers to ground water systems' or to systems serving certain population categories.

States should carefully evaluate their options to determine what type of program has the greatest benefit for the resource investment, while providing an adequate level of public health protection. Because waivers have a potentially significant long term payoff in terms of reducing source water contamination, States should begin to establish waiver programs, even if they do not yet have sufficient resources to implement vulnerability analyses for all contaminants.

Criteria for Reviewing/Approving State Waiver Programs

When reviewing State waiver programs, regions should be satisfied that the State drinking water authority has thought through and adequately described: (1) the type of waiver program it is adopting; (2) a sound method for meeting the minimum requirements (described above) for granting waivers; (3) a sound way of coordinating its activities with its ground water protection counterparts; and (4) adequate procedures for reviewing and approving waiver applications and documenting the results. These criteria are described in greater detail below.

- (1) **Type of waiver Program:** The State should identify the kinds of waivers it intends to issue (use/susceptibility; types of contaminants; area-wide /individual) and the types of systems eligible for the program.
- (2) **Method of Meeting Minimum Requirements:** The State Primacy Application should adequately answer the following questions:
 - Does the State have a sound method for determining the monitoring waiver review area and assuring that its time of travel equals or exceeds the term of the waiver? Is this method the same or complementary to the area delineation method used in the Wellhead Protection Program (WHPP)?
 - Has the State adequately considered all sources of information to meet the requirement outlined above, e.g. source water quality, management of existing and future contamination sites within the monitoring waiver review area, pesticide programs, wellhead protection and well construction records, geology or soil data?
 - Does the State present a reasonable plan for using this information to make sound decisions, and is the plan easy to use and understand by field/county offices that may help in making the determinations? Are the decision criteria and process clearly explained i.e... would two reviewers come to the same conclusion using the State's procedures?
- (3) **Coordination with Ground Water Program:** The State should describe the coordination between its waiver and ground water programs. If the State has adopted a wellhead protection program, the waiver program should complement this effort by using its area delineation methods and its contamination sites inventory. If the State has not yet adopted a wellhead program, its ground water staff should participate in the waiver program development, so that its future wellhead program is consistent with the waiver program.
- (4) **Procedures for Reviewing/Approving/Documenting Waiver Decisions:** The State application should describe its overall procedures for granting, renewing and recording waivers. The State should address who has authority to sign waivers, what the internal review process is, and how it will document the decision. States should not allow their field offices to grant verbal waivers to systems based on the "judgement" of the field staff. The State should have a well documented and reasonably uniform process. State waiver decisions are subject to EPA review, and future data verification efforts should include a random sample of waivers.

**U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION 5
MONITORING WAIVERS GUIDANCE**

Introduction

As part of the Phase 11 Regulatory package for 38 inorganic and organic contaminants, the U.S. Environmental Protection Agency (U.S. EPA) established a standardized monitoring framework. The U.S. EPA's use of a standard monitoring framework will apply to future monitoring requirements for inorganics, Volatile Organic Chemicals (VOC), pesticides, and radionuclides. Monitoring requirements for currently regulated contaminants will be integrated into the framework when the existing regulations are revised.

The degree of variability among monitoring requirements poses both management and technical barriers for States and water systems that are ultimately responsible for implementing and complying with the regulations. In response, the U.S. EPA has attempted to standardize and simplify monitoring requirements and synchronize monitoring schedules where possible. The benefits of this action are:

- 1) Reduce the complexity of the monitoring workload from a technical and managerial perspective for both States and water systems;
- 2) Level out resource expenditures for monitoring and vulnerability assessments;
- 3) Reduce sampling and vulnerability determination costs; and
- 4) Increase compliance with monitoring requirements.

Standardized Monitoring Framework

To standardize monitoring, the U.S. EPA has established nine-year compliance cycles (Figure 1). Each nine-year compliance cycle has 3 three-year compliance periods. All compliance cycles and periods run on a calendar year basis (January 1 to December 31). The first compliance cycle begins on January 1, 1993 and ends on December 31, 2001. Within the first nine-year cycle, the first compliance period begins January 1, 1993 and ends December 31, 1995; the second compliance period begins January 1, 1996 and ends December

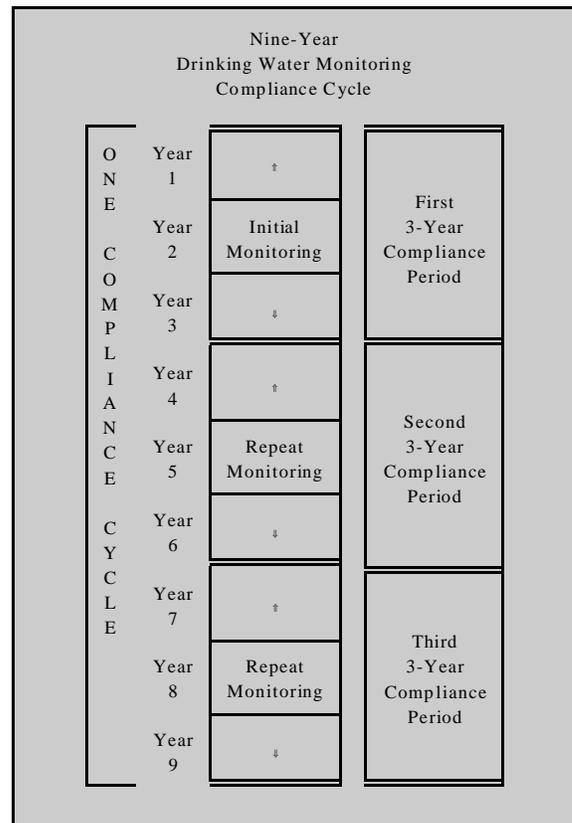


Figure 1. A nine-year compliance cycle with the three-year compliance periods.

31, 1998; and the third compliance period begins on January 1, 1999 and ends December 31, 2001.

The U.S. EPA’s requirement to phase-in monitoring by system size is eliminated in the Phase II Regulations. However, phase-in of the Phase V Regulations will be based on system size (systems with 150 or more service connections will be required to begin monitoring during the first compliance period, whereas systems with less than 150 will be required to begin monitoring in the second compliance period). The States are required to schedule approximately one-third of the systems for monitoring during each year of the initial three-year compliance period. Each State has the flexibility to establish its own monitoring plan.

Monitoring Frequency

The U.S. EPA has established base monitoring frequencies for all community and non-transient water systems. In cases of detection or non-compliance, U.S. EPA has specified increased monitoring from the base frequencies. Water systems may decrease monitoring frequencies by obtaining waivers from the State.

Increased Monitoring

All systems that detect contamination must sample quarterly, until the State determines that the analytical results are “reliably and consistently” below the maximum contaminant level (MCL). “Detection” is defined as the MCL for inorganics, except nitrate and nitrite; 50 percent of the MCL for nitrate and nitrite; 0.0005 mg/l for the VOCS; and at the analytical Method Detection Limit (MDL) for the pesticides and PCBs (figure 2). “Reliably and consistently” below the MCL means that though the system detects contaminants in its water supply, it has sufficient knowledge of the source or extent of the contamination to predict that the MCL will not be exceeded. Wide variations in the analytical results near the MCL will not meet the “reliably and consistently” test.

<u>Contaminant Detection Level</u>	
Inorganics	
Nitrate	50% of MCL
Nitrite	50% of MCL
All Others	MCL
Volatile Organic Chemicals	
All	0.0005 mg/L
Pesticides/PCBs	
All	Method Detection Limit

Figure 2. The various Phase II contaminant “detection” levels for determining repeat sampling requirements.

In some cases, monitoring requirements for an initial monitoring event may be more prescriptive than the more routine repeat monitoring requirements. For example, initial VOC monitoring will require one sample during each of four consecutive quarters. Following this initial monitoring event, compliance with VOC requirements may be satisfied by one sample per year.

Grandfathered Data

At the State’s discretion, VOC sampling data collected after January 1, 1988 and SOC sampling data collected after January 1, 1990, can be used to satisfy the initial sampling requirements. Systems using this grandfather provision could then sample at the repeat frequencies that generally may be lower than the initial frequencies.

Waivers

Provisions are available by which States may waive sampling requirements if certain conditions are met. These provisions are discussed in further detail in the section on *Waiver Types*. All systems may be considered for waivers. Waivers must be granted on a contaminant-by-contaminant basis. Systems which do not receive waivers must comply with the minimum sampling requirements. Waivers may be issued for a maximum of 3, 6, or 9 year periods, depending on the contaminant and system specific conditions.

Three, six, or nine year waivers will reduce or completely eliminate monitoring requirements during the 9-year compliance cycle (Figure 3). Waivers issued to ground water systems for VOCs reduce the number of samples required to comply with the regulations. Waivers issued for pesticides/PCBs and the unregulated contaminants completely eliminate sampling requirements. The waivers may be issued at any time before the beginning of the monitoring period in which the contaminant is to be monitored.

Waivers may be issued for a group of contaminants analyzed under the same analytical method (Figure 4), in lieu of obtaining an individual waiver for each contaminant in the group. An example of contaminant grouping would be EPA analytical method 525.1. This analytical method is used for Alachlor, Atrazine, Chlordane, Heptachlor, Methoxychlor, Pentachlorophenol and Lindane. For a water supply system to apply for a group waiver, each contaminant in that group must be eligible for the waiver.

Waiver Types

The types of waivers available to all systems are water system “use” waiver and “susceptibility” waivers. In addition, States may choose to issue State-wide or region-wide waivers. These “area-wide” waivers are based on “use” or “susceptibility” criteria specified in the Primary Drinking Water Regulations.

<u>CONTAMINANT</u>	<u>WAIVER TYPE</u>	<u>LENGTH</u>
<i>Inorganics</i>		
Asbestos	Eliminate	9 years
Nitrate	Not Available	
Nitrite	Not Available	
<i>Volatile Organic Chemicals</i>		
All	Reduced	6 years
<i>Pesticides/PCBs</i>		
All	Eliminate	3 years
<i>Unregulated Contaminants</i>		
All	Eliminate	3 years

Figure 3. Phase II contaminants with the type and length of the waiver.

1) “Use” Waiver:

“Use” waivers are available for both individual systems and may be applied as an “area wide” waiver.

The State or system must determine if the contaminant was used, manufactured, stored, transported, or disposed of in the area. For some contaminants, an assessment of the contaminant’s use in the treatment or distribution of water also may be required. “Area” is defined as the watershed area for a surface water system or the area of recharge for a ground water system and includes possible effects in the distribution system, such as the use of pipe material, which may allow certain VOCs to permeate through the pipe wall, or lack of an effective back-flow prevention program. If the contaminant was not used, manufactured, stored, transported, or disposed of in the area, then the system may obtain a “use” waiver. If the system or State cannot ascertain those factors, the system will not receive a “use” waiver, but may apply for a “susceptibility” waiver. “Use” waivers will apply mostly to pesticides and PCBs where use can more readily be determined than for VOCS.

EPA ANALYTICAL METHODS FOR VOCs and SOCs		
<u>Methods 502.1, 502.2, 503.1, 524.1, & 524.2</u>	<u>Method 508</u>	<u>Method 525.1</u>
Benzene	Aldrin♣	Alachlor♦
Carbon tetrachloride	Chlordane♦	Aldrin♣
1,2-Dichloroethane	Dieldrin♣	Atrazine♦
1,1-Dichloroethylene	Endrin*	Benzo(a)pyrene*
o-Dichlorobenzene♦	Heptachlor♦	Butachlor♣
para-Dichlorobenzene	Heptachlor epoxide♦	Chlordane♦
cis-1,2-Dichloroethylene♦	Hexachlorobenzene*	Dieldrin♣
trans-1,2-Dichloroethylene♦	Hexachlorocyclopentadiene*	Di(2-ethylhexyl)adipate*
Dichloromethane*	Lindane♦	Di(2-ethylhexyl)phthalate*
1,2-Dichloropropane♦	Methoxychlor♦	Endrin
Ethylbenzene♦	Metribuzin♣	Heptachlor♦
Monochlorobenzene♦	PCBs♦	Heptachlor epoxide♦
Styrene♦		Hexachlorobenzene*
Tetrachloroethylene♦	<u>Method 515.1</u>	Hexachlorocyclopentadiene*
1,2,4-Trichlorobenzene*	2,4-D♦	
1,1,1-Trichloroethane	2,3,5-TP (Silvex)♦	Lindane♦
1,1,2-Trichloroethane*	Dalapon*	Methoxychlor♦
Toluene♦	Dicamba♣	Metolachlor♣
Vinyl Chloride	Dinoseb*	Metribuzin♣
Xylenes♦	Picloram*	Pentachlorophenol♦
	Pentachlorophenol♦	Simazine*
<u>Method 505</u>	<u>Method 531.1</u>	<u>Method 547</u>
Alachlor♦	Aldicarb♦	Glyphosate*
Aldrin♣	Aldicarb sulfone♦	
Atrazine♦	Aldicarb sulfoxide♦	<u>Method 548</u>
Chlordane♦	Carbaryl♣	Endothall*
Dieldrin♣	Carbofuran♦	
Endrin*	3-Hydroxycarbofuran♣	<u>Method 549</u>
Heptachlor♦	Methomyl♣	Diquat*
Heptachlor epoxide♦	Oxamyl (vydate)*	
Hexachlorobenzene*		<u>Method 1612 & 1613</u>
Hexachlorocyclopentadiene*	<u>Method 550 & 550.1</u>	2,3,7,8-TCDD (Dioxin)*
Lindane♦	Benzo(a)pyrene*	
Methoxychlor♦		<u>Method 506</u>
PCBs♦	<u>Method 507</u>	Di(2-ethylhexyl)adipate*
Simazine*	Alachlor♦	Di(2-ethylhexyl)phthalate*
Toxaphene♦	Atrazine♦	
	Butachlor♣	
<u>Method 504</u>	Metolachlor♣	
Dibromochloropropane♦	Metribuzin♣	
Ethylene Dibromide♦	Propachlor♣	
	Simazine*	

♦Phase II Regulated Contaminants
♣Phase II Unregulated Contaminants
*Phase V Contaminants

Figure 4. Contaminant groupings according to EPA analytical method.

- 2) **“Susceptibility” Waiver:** This type of waiver may be issued for individual systems or applied on a regional scale.

If a “use” waiver is not granted, a system may apply for a “susceptibility” waiver. Susceptibility waivers may be issued when the following information is reviewed and evaluated: previous monitoring results; contaminant persistence and transport; soil and aquifer properties and/or confinement system geology; well construction; and known abandoned well history. Systems with no known susceptibility to contamination based on an assessment of the above criteria may be granted a waiver. If susceptibility cannot be determined, the system is not eligible for a waiver.

**ITEMS TO EVALUATE IN ISSUING
“SUSCEPTIBILITY” WAIVERS**

1. Previous monitoring data. If there are any detects in previous monitoring, the system is normally not eligible for a waiver.
2. Contaminant persistence and transport. A contaminant such as PCBs persists in the environment, but is generally not mobile.
3. Aquifer properties and geological setting. A shallow, unconfined aquifer is more susceptible to contamination than a deep, confined aquifer. If a system is located in a karst area, the system is not normally eligible for a “susceptibility” waiver. A ground water well under the direct influence of surface water is considered susceptible to contamination.
4. Well construction and abandonment history. Wells that do not comply with the State construction code would normally not be eligible for a susceptibility waiver.
5. Location of a system relative to potential contamination sources, e.g., waste sites, military installations, pesticide storage or use areas. The system must demonstrate it is not susceptible to contamination from nearby sources.

Figure 5. “Susceptibility” waiver consideration items.

General Approach in Issuing Waivers

A first step is to issue “area wide” waivers for those pesticides (or group of pesticides analyzed under the same analytical method) not used in the State or a region of the State. States may choose to exclude specific systems, such as those failing to meet State well construction codes. Since pesticide use is the easiest to determine and pesticides are most expensive to monitor, States should begin their waiver program by considering “area wide” pesticide “use” waivers. Following “area wide” “use” waivers, “susceptibility” waivers should then be considered for those eligible regions or areas of the State for those contaminants identified as unlikely to contaminate the source water. Individual system waivers should then be pursued to the extent that it is economically feasible. A “susceptibility” waiver may be issued to a system in the process of initial quarterly monitoring, thereby reducing the initial monitoring requirement, provided the system did not detect the contaminant and meets the other requirements for the waiver.

“Area Wide” Waivers

A State may issue “area wide” waivers without an application from the water system. An “area wide” waiver may be issued to ground water supplies for contaminants not used or not likely to contaminate the source water. Region 5 strongly urges a system to complete an initial round of sampling before an “area wide” waiver may be issued for surface water supplies or for volatile

organic chemicals (VOCS) (both ground water and surface water supplies). Some information that must be gathered and evaluated includes: previous monitoring data, geology type, aquifer depth and type (confined or unconfined), well construction, pesticide use, agricultural chemical sales data, cropping patterns, previous aquifer susceptibility studies, soil studies, and pesticide persistence/transport. Locations of the following sites must be identified: military installations, pesticide mixing sites, SARA Title III sites, proposed or current NPL sites, and RCRA sites. Various State and Federal groups must be contacted to determine what pesticides are eligible for “area wide” waivers and to delineate the area included in the waiver. Examples of the State and Federal agencies that should be involved in the decision process are: State Department of Agriculture, State Wellhead Protection Program, (WHPP), State Ground Water Division, Soil Conservation Service, Department of Interior, State and/or Federal Geological Survey, State and/or Federal Hazardous Waste programs, State and/or Federal Solid Waste Administration program, State Pesticide Committees, and University Agricultural Schools.

First Steps in Issuing “Area Wide” Waivers	
<i>Step 1:</i>	Send the list of Phase II pesticides to the State Department of Agriculture. The Department will determine which pesticides are not or have not been used in the State.
<i>Step 2:</i>	Have the State Department of Agriculture, with cooperation of other agricultural entities, determine which pesticides are limited to certain regions or areas of the State.
<i>Step 3:</i>	Compile list of “waste sites”, SARA Title III locations, and military installations. Prohibit “area wide” waivers to those water systems within an area considered to be at risk to contamination.

Figure 6. Steps to take for initial pesticides waivers issued on an “Area Wide” basis.

In addition to the information obtained on the non-use of certain pesticides, a State must have a compliance program within the State Agricultural Department to verify the information. The Director of the State Agricultural Department must submit documentation of that Department’s pesticide compliance program. At a minimum, the compliance program must consist of an inspection component and an enforcement component. In addition, the Director must submit documentation certifying the non-use of those pesticides eligible for waivers. The procedures for obtaining the information and the methods used to determine the pesticides that will be eligible for “area wide” waivers must be outlined in the State’s primacy application.

“Area wide” waivers should be issued using a multi-step approach. The first step would be for the State Agricultural Department to review the list of contaminants. The Departments should provide the most site specific information available on manufacture, storage, use, persistence, and transport of each pesticide on the list. The second step is to use the information to locate geographical areas where the potential for contamination is small and/or non-existent. Then a survey must be conducted to identify the “waste sites”, SARA Title III locations, and military installations. The public water systems that are located within an area that may be influenced by contamination from one of these waste sites are not eligible for an “area wide” waiver. By using these steps, the total number of pesticides to be tested could be reduced.

“Dioxin Area Wide” Waivers

All public water systems, except those located within one mile of any facility utilizing chlorine in the manufacturing process; a Superfund or NPL site; or a military installation, where dioxin may be suspected of being present, are considered non-vulnerable and will not be required to monitor for 2,3,7,8-TCDD (dioxin). States may choose to vary the one mile limit to accommodate local geologic or hydrologic conditions.

Systems NOT Covered by “Area wide” Waivers

For those systems not covered by an “area wide” waiver, an individual system waiver may be sought. The same criteria used to evaluate potential “area wide” waivers should be used to evaluate potential waivers to individual systems. In addition to the “area wide” criteria, the system must define a ***monitoring waiver review area*** around the wellhead, conduct a source identification assessment, and use this data to conduct a vulnerability assessment. The approved wellhead protection area (WHPA) would typically represent the minimum acceptable ***monitoring waiver review area***. The Wellhead Protection Program has established technical methods for delineating a wellhead protection area for use in developing a wellhead protection program. The approaches established by the WHP program are considered technically valid in delineating the ***monitoring waiver review area*** and should be used. In order to avoid confusion with the terminology of the WHP program, the term ***monitoring waiver review area*** should be used in describing the delineated area surrounding the well in which the system or State will be required to identify contaminant sources for use in conducting a vulnerability assessment prior to being granted a monitoring waiver. For the States with an EPA approved WHP Program, systems must be expected to factor in the approved wellhead program delineation approach (methods and criteria) to establish the ***monitoring waiver review area***. It is recognized that in some unusual cases the WHPA delineated under the State’s approved wellhead protection program may not be large enough to provide a sufficient margin of safety for the purpose of issuing monitoring waivers. These unusual cases will be evaluated on an individual basis.

Where a State WHPP is not yet approved the State PWSS program and WHP Program would be expected to develop joint delineation criteria and a method or methods that would serve the objectives of both programs, understanding that sometimes threshold values may need to be different.

Once the ***monitoring waiver review area*** has been delineated, a site assessment must be undertaken to identify the contaminant sources within the ***monitoring waiver review area***. The source identification will identify the types of contaminants found in the delineated area. Those contaminants not found in the area may be eligible for a “use” waiver. If any of the contaminants are found or were used in this area, a “use” waiver cannot be issued for those contaminants. For those contaminants that do not meet the criteria for “use” waivers, a “susceptibility” waiver may be considered.

To issue a “susceptibility” waiver, it must be shown that the water system is not susceptible to contamination. The items listed in figure 7 are some of the components that should be reviewed to determine if a system is susceptible to contamination. A system may be required to complete an initial round of sampling for the contaminants with potential to leach into ground water before being granted a susceptibility waiver. Once these criteria are met, susceptibility waivers may be issued in areas with contamination sources that are adequately managed. The State must identify the process by which these determinations are made and how the decisions are made to grant a waiver.

Susceptibility waivers for VOCs may be issued if after three consecutive annual samples, the system has no detects.

Grandfathering Data

The grandfathering provision allows systems to substitute a single sample for the four consecutive quarterly samples required under the initial base monitoring requirements of Phase II and Phase V. The VOC sampling must be completed after January 1, 1988 and the SOC sampling must be completed after January 1, 1990, to satisfy the initial monitoring requirements.

MONITORING WAIVER DECISION STRATEGY	
1.	Review all previous monitoring data.
2.	If the system has any previous history of chemical detects, the system is not eligible for waivers.
3.	The system must delineate a <i>monitoring waiver review area</i> around the water source.
4.	The system must then identify all sources of contamination within the delineated area through a source identification process.
5.	If any of the contaminants are used, stored, manufactured, or transported within the <i>monitoring waiver area</i> , the system is not eligible for a “use” waiver. The system may be eligible for a “susceptibility” waiver.
6.	The geology of the area must be identified. If the water sources is located in an area of cavernous limestone (karst), the system is not normally eligible for a “susceptibility” waiver.
7.	The system must determine the aquifer type. A ground water system under the direct influence of surface water is not eligible for a “susceptibility” waiver.
8.	The well(s) must meet the State construction codes. Any well logs must be reliable and accurate. If a well does not meet well construction codes, a susceptibility waiver would normally not be issued.
9.	The persistence and transport of each contaminant must be known.

Figure 7. Some of the items to consider in issuing individual system susceptibility waivers.