

DER-24 / Assistance for Contaminated Water Supplies

New York State Department of Environmental Conservation

DEC Program Policy

Issuing Authority: Val Washington

Title: Deputy Commissioner,
Office of Remediation and Materials Management

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I. Summary:

This New York State Department of Environmental Conservation (DEC) Division of Environmental Remediation (DER) program policy establishes guidance for alternate water supplies (AWS) when individual water supplies¹ are impacted or threatened by contamination. This guidance is applicable to the Spill Response Program (SRP), Inactive Hazardous Waste Disposal Site Remedial Program (SSF), the Environmental Restoration Program (ERP), the Brownfield Cleanup Program (BCP), and the Voluntary Cleanup Program (VCP).

II. Policy:

The DEC will attempt to ensure that AWS are provided to individual water supplies that are impacted or threatened by contamination according to the procedures in this guidance. Where a responsible party² (RP) does not provide the AWS, State³ or federal funds will be used as indicated in this guidance to provide the AWS.

III. Purpose and Background:

The quality of drinking water supplies is regulated by the federal Safe Drinking Water Act and the New York State Sanitary Code. DER is responsible for responding to releases of contamination into the environment which could impact the quality of drinking water supplies. When individual water supplies become contaminated, DER may direct or take emergency or non-emergency actions to provide temporary or permanent AWS.

The purpose of this guidance is to describe how and when to implement the various AWS options. This

¹As defined in 10 NYCRR Part 75.3 (a)

²“Responsible party” for the purposes of this document includes any party responsible for the contamination, including responsible parties as defined in ECL Article 27, spillers under the Navigation Law, and BCP participants. Volunteers in the VCP and BCP programs are generally not responsible for off-site impacts. If, however, an AWS was needed on a volunteer’s site, they may be responsible.

³DEC has the authority to fund AWS related only to petroleum and hazardous waste.

program policy replaces Technical and Administrative Guidance Memorandum (TAGM) 4027 and Section 1.6 of the Spill Guidance Manual (SGM). This new guidance is applicable to all DER remedial and spill response programs and it standardizes program requirements for documentation.

IV. Responsibility:

The responsibility for interpreting and maintaining this policy lies with the Bureau of Technical Support (BTS) and Remedial Bureau E (RBE) in DER. DER Staff, primarily DER spill responders and project managers (PM), are responsible for implementing the policy. In addition to the following procedures which apply generally, DER staff must follow the additional internal procedures found in Appendix B.

V. Procedure:

A. AWS Response

1. Notification

The following entities should be notified within 24 hours if data or other evidence (e.g. taste, odor) indicates that an individual water supply is contaminated or contamination of the water supply appears to be imminent:

- New York State Department of Health (NYSDOH)⁴ Bureau of Environmental Exposure Investigation (518-402-7850);
- DEC Spill Hotline (1-800-457-7362) or the DER site case manager.
- The well's owner and/or operator; and
- Those being served by the well.

Whoever becomes aware of a threat to, or contamination of, the water supply should make the notification. Generally, if the contamination is related to a site, the lead on the site (e.g. state agency, RP) should make the notifications.

If a reasonable threat of contamination to an individual water supply exists (e.g. contaminants have been detected in the water supply or are likely to impact the water supply), the same parties should be notified within 72 hours.

2. Sampling and Evaluation

Sampling⁵ of the supply should begin as soon as practical after a problem is detected or suspected. The sampling should continue periodically to develop enough data to determine a trend in the contaminant concentrations. Guidance on the sampling of potable water supplies is located in Section 5.6 of the NYSDEC Sampling Guidelines and Protocols, Division of Water, September 1992.

⁴ In areas where the county health department takes an active role, both the state and county health departments should be notified. For these areas, the term health department should be interpreted to mean state and local health departments.

⁵ DEC will perform the sampling if no party has accepted responsibility or volunteered to sample.

Only environmental laboratory approval program (ELAP) approved laboratories can be used. USEPA analytical methods 502.2 or 524.2 are recommended for volatile organic compounds (VOCs). For other contaminants, such as inorganics, or to identify tastes or odors that may be attributable to the petroleum or hazardous waste, different analyses will be required⁶. The NYSDOH contact and/or DER staff should be consulted regarding different analytes or analytical methods.

Only a health department can determine if a contaminated water supply poses a risk to public health. The determination is made utilizing, among other criteria, the New York State Sanitary Code, 10 NYCRR Part 5, Subpart 5.1, Public Water System Standards. The health department also answers all health questions related to the water supply. The DEC staff can, however, decide that an AWS is appropriate in cases where the water supply is obviously contaminated (e.g. based on taste or olfactory evidence) or when analytical results indicate that contamination in the supply exceeds a maximum contaminant level (MCL)⁷. In all other cases, the determination that an AWS is warranted is the responsibility of the health department.

To support the AWS decision, DER staff provide information about the water supply threat (including investigation and analytical results) to health officials. After receipt of all available relevant information, the health department should use best efforts to determine if an AWS is needed within 24 hours for a contaminated water supply and 72 hours for a threatened supply.

B. AWS Implementation

If the DEC staff or the health department determines that an AWS is warranted, the next steps depend upon which of the following situations apply:

- Where the RP accepts responsibility, that party must provide an AWS which is acceptable to the State. The DEC, in conjunction with the NYSDOH, reviews and approves the proposed AWS.
- Where the RP is unknown or has refused to clean up the contamination and mitigate its impacts, the DEC becomes primarily responsible for providing the AWS. State funds may be used based on programmatic authority over the type and circumstances of the contamination, as described in Table 1 of Appendix B. The DEC will pursue responsible parties to recover expended costs.
- For a self-spiller (e.g., a release caused by a property owner which contaminates his/her water supply well), it is the spiller's responsibility to take remedial actions, including provision of an AWS. The DEC may advise the property owner on a course of action. State funds should only be expended to provide AWS if other people are affected by the release and the owner cannot or will not implement an AWS.

⁶ NYSDOH has developed an analytical method to identify the source of fuel oil odors in water. The method is NYSDOH 310-13.

⁷ The health risk was determined when the MCL was established, therefore proceeding when an MCL is exceeded is not a decision which requires health department concurrence.

1. AWS Options

The various AWS options are described in Appendix A of this program policy.

A short-term AWS is appropriate when:

- an immediate response is needed to provide potable water to building occupants and the impacts to the water supply are expected to be short-lived or insufficient data exists to determine if a more permanent AWS will be needed; or
- it is used as an interim measure during the response and containment, remediation or during permanent AWS construction.

In some situations, a long-term or different AWS may be technically feasible and cost-effective. The decision to pursue a more permanent AWS is generally made when an estimate can be made of the length of time that an AWS may need to operate, it becomes possible, necessary, or advantageous to switch from a short-term AWS, or a remedial decision is made for a site. A long-term AWS may be appropriate when:

- the impacts from contaminants to the water supply are expected to remain for an extended period of time;
- it is determined to be technically infeasible to remediate the groundwater to meet standards; or
- it provides cost savings when compared to short-term AWS.

1.1 Bottled Water

If an individual water supply is contaminated or contamination of the supply appears to be imminent, a sufficient supply of bottled water for drinking should be provided immediately (e.g. within 24 hours), even prior to receipt of analytical results. If the analytical results indicate that contaminant concentrations in the water supply **exceed MCLs**, provision of bottled water should continue until enough information exists to determine and take the appropriate next course of action⁸. If analytical results indicate that contaminant concentrations **do not exceed MCLs**, the DEC and the health department will evaluate the need to continue the provision of bottled water. Data from a groundwater investigation may be useful in predicting whether concentrations in the water supply will increase until standards are exceeded or will decrease.

1.2 Whole-House Filtration System

If additional AWS efforts beyond bottled water are necessary, a Whole-House Filtration System (WHFS) is often selected as either an interim or a long-term technology to treat the water. A WHFS may, in some cases, be selected as the permanent AWS. Figure 1 shows a schematic of how a typical WHFS should be constructed.

2. Monitoring

Periodic monitoring of an individual water supply and/or AWS should continue to develop data to support decision making. The monitoring frequency may be driven by site specific considerations, but

⁸ A WHFS could be required to prevent VOC exposure from non-potable uses (e.g., showering).

should initially be at least monthly.

If a WHFS is implemented, additional monitoring is required. The water before, between, and after the treatment units (typically activated carbon filters) must be analyzed to determine the quality of the incoming water, the performance of the system, and the quality of the water supplied to the building occupant(s). The data will also demonstrate when the carbon needs replacing. The sampling frequency will be determined from contaminant concentration, flow rates (including seasonal variability in flow rates [e.g. higher water use in warm weather]), and contaminant removal efficiency. Assistance to determine estimated carbon usage rate and sampling frequency is typically available from the system vendor. For high contaminant concentrations, an estimate of the breakthrough time should be made until the sampling data reveal actual breakthrough frequency. Initially, systems should be sampled at least monthly. Over time, data from the plume or the treatment system may support a modified sampling plan, including a reduction in sampling frequency. The DEC, with concurrence from the health department, must approve any proposed reduction in sampling. At a minimum, sampling should be conducted annually.

Once the results of any sample analysis are determined to be usable, the results should be sent promptly to the owner of the real property that has been tested. Copies of the results should also be sent to the DEC and the health department(s). If the results indicate an exceedance of MCLs in water which could be consumed, the transmittal letter should recommend that property owners notify any or all tenants of exceedances. If individuals desire an interpretation of the analytical results relative to their health, they should be directed to the health department contact for the site. The data should be transmitted with a cover letter and should include the following information:

- Site/Spill number;
- Location of the water supply and/or AWS (i.e. complete address);
- Name of the building occupant/contact and owner;
- Sampling locations (i.e. raw water, between filters, treated water);
- List of Analytes, analytical results for each analyte, and associated MCLs; and
- An indication of whether any analytes exceeded an MCL in any of the samples.

3. Discontinuation of AWS

The AWS may be discontinued if:

- a. Public water or a well which is not, and will not become impacted by the release/site is provided; or
- b. The contaminant plume is remediated, no longer threatening the water supply, or is otherwise prevented from impacting the water supply; and contaminant concentrations in the water supply influent:
 - (I) remain at or below 50%⁹ of the State drinking water standards for four consecutive quarters;
 - (ii) present no taste and/or odors attributable to the site/spill contamination; and
 - (iii) in the aggregate, do not pose a risk in the opinion of the health department.

⁹ This criteria is simple and conservative. More sophisticated methods such as statistical methods can be proposed to determine if the detected concentrations are protective and the AWS can be discontinued.

For a privately funded AWS, the RP or the RP's agent must request permission from DER in writing to discontinue the AWS. The request should include all appropriate documentation to meet the above criteria. Self-spillers do not need approval from the DEC to terminate an AWS unless it serves any other people.

VI. Related References:

- New York State Department of Environmental Conservation Spill Guidance Manual; 1990
- Public Health Law; Sections 201 (1), 201 (1)(1), 225 (5), 1100-1107, 1120, and Article 5 Section 502.2 (ELAP)
- 10 NYCRR Subpart 5-1, Public Water System; Effective Date: January 6, 1993
- 10 NYCRR Subpart 5-5, Water Quality Treatment Districts
- Technical Operating Guidance Series (TOGS) 1.1.1; June 1998 (inc. addenda)
- NYSDOH Environmental Health Manual CSFP-530 - "Individual Water Supplies - Activated Carbon Treatment Systems"; November 6, 2000
- Sampling Guidelines and Protocols, Technological Background and Quality Control/Quality Assurance for NYSDEC Spill Response Program, Division of Water; September 1992
- National Primary Drinking Water Standards
- U.S. Environmental Protection Agency Method 502.2, National Exposure Research Laboratory Office of Research and Development, Cincinnati, Ohio

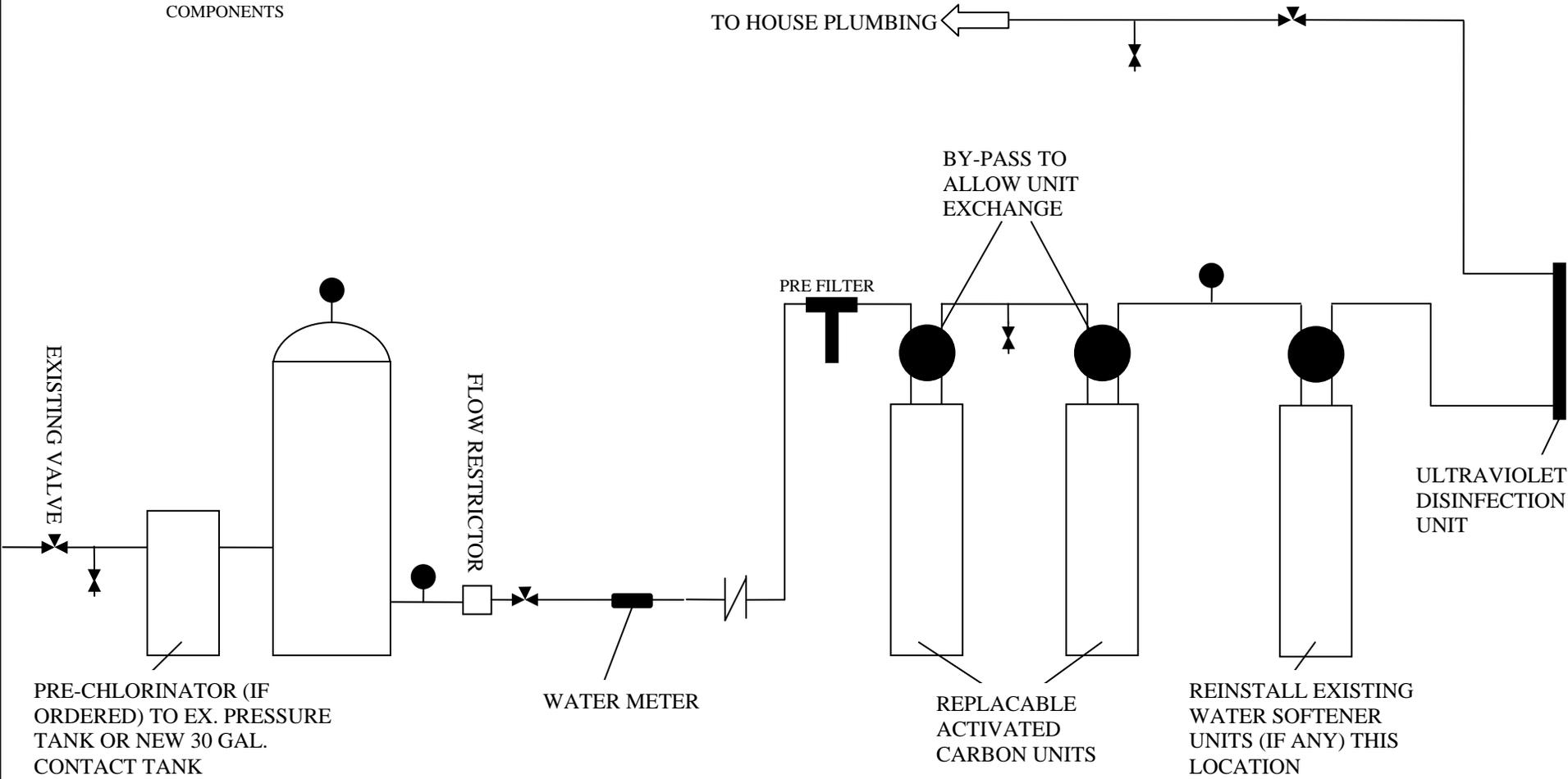
Attachments:

- Figure 1: Typical Whole-House Filtration System Schematic
- Appendix A: Alternate Water Supply Options
- Appendix B: Alternate Water Supply Internal DEC Procedures
 - Attachment 1: Alternate Water Supply Option Recommendation Guidance
 - Attachment 2: Alternate Water Supply Release/Declination
 - Attachment 3: Transfer of Alternate Water Supply Form

FIGURE 1
Typical Whole-House Filtration System Schematic

Legend

-  PRESSURE GAGE
-  3/4 IN GATE VALVE
-  CHECK VALVE
-  SAMPLING TAP
-  STANDARD SYSTEM COMPONENTS



Appendix A

Alternate Water Supply Options

1. **Bottled Water**: Bottled water should be procured from a commercial supplier. This is considered to be a short-term measure. Bottled water does not eliminate other potential exposures from household water use such as dermal contact or inhalation and is not appropriate if these other exposures create unacceptable risks.
2. **Whole-house Filtration System (WHFS)**: This is typically a granulated activated carbon (GAC) system with ultraviolet disinfection, but could include additional water treatment system components¹ such as particulate filters, water softeners or green sand filters. When installed on private water systems it provides potable water to the structure's entire water distribution system. These systems are easily installed, but have substantial monitoring costs.
3. **Treatment at the Water Supply Source**: Treatment such as air stripping or activated carbon filtration may be installed at the source of an individual water system if more cost effective than providing another source or point-of-entry systems such as WHFS.
4. **Connection to/Extension of an Existing Water Main**: This solution is desirable if there is an existing water main near, and with capacity to supply, the impacted properties. Individual connections are provided only for those properties with contaminated or clearly threatened private wells. This solution normally offers lower risk than WHFS or replacement wells and eliminates monitoring and maintenance costs.
5. **Development of a New Source**: This is typically a new replacement individual supply well and can be selected when the connection to, or extension of, a municipal water supply system is not possible or is prohibitively expensive and the hydrogeologic setting is understood well enough to be reasonably certain that the new well will not be affected by the contamination.

¹When a WHFS is considered, additional sampling may be necessary to support the design of the system. In areas of unknown water quality (high iron concentration, sulfur, etc.), samples should be analyzed for any relevant parameters, including the following: ammonia, nitrite, nitrate, chloride, coliform, standard plate count, sulfate, 13 priority pollutant metals, hardness, and fluoride. The WHFS design should be adjusted as necessary based upon the analytical results. It may be necessary to design the system to address other contaminants present in the water supply in order to treat the target contaminants.

Appendix B

Alternate Water Supply Internal DEC Procedures

Following are internal procedures to assist Division of Environmental Remediation (DER) staff in managing AWS.

A. General

Emergencies¹ are the only situations in which DER staff may make decisions regarding an AWS prior to health department input. In these instances DER staff may:

- advise the residents to discontinue using their water supply; and
- supply bottled water or direct a responsible party (RP) to provide an AWS. DEC will provide up to 1.5 gallons of bottled water per person per day.

A DER response or remediation contractor should be utilized for the State-funded provision of bottled water.

The health department determination of health risk and direction to proceed with an AWS should be communicated in writing to the DEC. The health department should attempt to make a determination within time frames equivalent to those for the DEC notification (e.g. 24 hours for contaminated water supplies and 72 hours for threatened water supplies). Verbal communication within the time frames with written followup is acceptable.

DEC project managers should consult with the NYSDOH² prior to transmitting analytical results which exceed MCLs to property owners or tenants.

AWS can be funded by the state according to Table 1. DER staff choose the type of state-funded AWS. The AWS decision should be made by considering all available information, including: nature of the product released; fate and transport properties of the contaminant; hydrogeology; volume of the release; groundwater flow direction and rate, distance and direction to the water supply; response and/or remedial efforts applied; available analytical results; and experience.

¹ Situations where, in the opinion of DER staff, an imminent health threat exists and there is insufficient time for the health department to respond.

² In areas where the county health department takes an active role, both the state and county health departments should be notified. For these areas, the term health department should be interpreted to mean state and local health departments.

1. WHFS

A WHFS may not be a cost effective long term solution and should not be the presumed course of action. Implicit in the installation of these systems is the commitment to active maintenance and monitoring and the significant costs associated with collecting and analyzing samples. A State-funded WHFS should not be installed unless it is absolutely necessary. If the impact of the contamination to the water supply is expected to be short-lived, an economic analysis may show that continued provision of bottled water is more cost effective³. DER staff's professional judgment is fundamental to the economic analysis.

If target (release/site related) contaminant concentrations are expected to remain above approximately 50% of the drinking water standard, the analysis may show that installation of an AWS beyond bottled water is warranted. If a WHFS is necessary, the R&C or I&R contractors should be utilized for the installation, maintenance and monitoring of WHFS on petroleum sites and when a rapid response is needed on other DER sites. The I&R contract includes standard specifications for these systems. Systems using activated carbon must also comply with 10 NYCRR Part 75-B.2. The DER must also make arrangements for periodic sampling. DER staff must obtain permission from the building owner to install an AWS in their building. The AWS Acceptance/Declination form (Attachment 2) should be used for this. If an owner declines a system, this should also be documented using the same form.

To prevent unnecessary expenditures, a WHFS should be discontinued as soon as appropriate. Active involvement in the operation, maintenance and monitoring, and the plume investigation and remediation will allow staff to terminate the WHFS as soon as possible based upon the data.

2. Long-Term AWS

Selection of a permanent or long-term AWS should include an evaluation and comparison of the feasibility and cost effectiveness of the various permanent AWS alternatives and the temporary AWS. Cost analysis is necessary to justify a permanent AWS. The present worth analysis should include all capital, operation, maintenance and monitoring costs anticipated over the lifetime of the AWS. Procurement of permanent or long-term AWS must be solicited following all New York State competitive procurement procedures. Central Office approval is required to select a permanent or long-term AWS. The designated bureau (presently Remedial Bureau E [RBE]) will solicit or assist in procurement of permanent and long-term AWS for all programs.

B. Process

1. Regional Lead Petroleum AWS

For all AWS costing more than \$25,000 on petroleum projects, whether or not the AWS is permanent or long-term, Spill Responders and Regional Spill Engineers (RSE) must obtain concurrence from Central Office. For these cases, a written recommendation must be submitted (See Format in Attachment 1). The recommendation is routed from the RSE to the Chief of the

³A WHFS could, however, be required to prevent VOC exposure from non-potable uses (e.g., showering).

Emergency Response Coordination (ERC) Section. The ERC section coordinates the Bureau of Technical Support (BTS) review and notifies the Oil Spill Fund Administrator (SFA) as necessary.

2. Long-Term AWS, Non-Petroleum AWS, and Central Office Lead Petroleum AWS

RBE manages AWS for all central office-lead petroleum projects, all non-petroleum projects, and all long-term AWS. For these projects, an AWS recommendation (See format in Attachment 1) is prepared and routed through the Bureau Director, Regional Hazardous Waste Remediation Engineer (RHWRE), or RSE to the Director of RBE. The ERC⁴ Section Chief must be copied on the recommendation for petroleum-related AWS. For non-petroleum sites, concurrence on the recommendation will be requested from the Director, Bureau of Environmental Exposure Investigation, NYSDOH. RBE will coordinate or solicit the AWS if RBE (and for petroleum projects, ERC and SFA) concurs with the recommendation, and it is approved by the Director of DER.

For recommendations related to non-petroleum projects, if no RP is available, and if a contaminant concentration is above the Environmental Protection Agency (EPA) MCL, RBE will first attempt to get EPA, through its removal program, to provide an AWS. RBE will prepare a written request to the EPA for signature by the Director of the DER. If EPA rejects the request, RBE will task a standby consultant to provide the necessary installation and OM&M services. Oversight of the AWS construction will be completed by Regional staff, if possible.

3. Tracking

All AWS activities will be tracked with the site or release in the Unified Information System (UIS) by the project lead (e.g., Spill Responder, PM). Information such as the type of AWS, locations where AWS were installed, the dates installed and removed and any other relevant information should be included. For petroleum releases, the “DEC remarks” section may be used for documenting the AWS. For non-petroleum sites, the AWS information should be tracked in the operable unit under which the AWS was installed. The AWS should be described in the project status and remedy description fields and the appropriate AWS box should be checked in the technology screen.

4. Project Management

Long-term management of a petroleum WHFS can be transferred to RBE upon agreement between RBE and the RSE. Management of the WHFS will transfer to RBE if it is the only remaining task related to the original release.

⁴ ERC/BTS allows Oil Spill Funds to be spent to provide a long-term or permanent AWS as long the conditions in Section V. A. of this program policy are met. Approval from BTS/ERC is required to satisfy the DEC responsibility to the Oil Spill Fund to ensure that decisions to purchase and provide alternate water supplies pursuant to Article 12 of the Navigation Law obligations are based on sound scientific and economic considerations. The DEC must also be able to justify and document the decision process. The information presented in a AWS Recommendation fulfills these needs.

5. Project Reviews

If a proposed AWS, except bottled water, meets any of the following criteria, a project review should be conducted before an AWS recommendation is made, if possible:

- costs are greater than \$25,000;
- five or more private wells are impacted;
- anticipated duration of a temporary AWS is greater than two years; or
- proposed AWS addresses complex sites or those with significant public concerns.

6. Ownership and Disposition of AWS Equipment

The State may opt to either keep and re-use the AWS equipment which was purchased using spill fund or SSF monies, or offer the equipment to the building owner or private water system owner once it is no longer needed. If the salvage value of the equipment does not exceed the cost of removal and transportation, then the equipment can be transferred to the private party at no cost (\$1.00 waived). The form in Attachment 3 is used for transferring WHFS equipment to a private party. If the salvage value exceeds the cost of removal, the equipment should be removed and managed following DER and Agency protocols. Leased equipment remains the property of the contractor.

Table 1

Capital and OM&M Funding Details by Site Type

Program	Is State Funding Available?	
	Capital	Operation, Maintenance and Monitoring (OM&M)
SRP ^{1,2} and SSF	Yes, unless there is a viable responsive RP. ³	Yes, unless there is a viable and responsive RP or the AWS is installed on a water system with a licensed operator (e.g., public water supply, water treatment plant).
BCP	On-site: No Off-site¹: Yes, if true volunteer and no viable responsive RP.	On-site: No Off-site: Yes, if true volunteer and no viable responsive RP.
ERP	On-site: Yes, 90% reimbursement Off-site: Yes, 100% reimbursement	No. OM&M costs are not eligible for reimbursement per 6 NYCRR 375-4.3(e)(2).
Title 3	Yes, up to 75% funding of capital costs may be eligible.	No. Per 6 NYCRR 375-2.3(f)(2), OM&M of Title 3 sites is not eligible for State funding.
Federal Superfund	If the EPA Removal Branch does the work, no SSF monies are used. If the EPA Remedial Branch does the work subsequent to a ROD, then the State pays 10%.	EPA will fund OM&M of AWS through the Remedial Action and for permanent (AWS) through an additional one year shake-down period. Section 300.510(c)(1) of the National Contingency Plan describes EPA's position on OM&M. State funding is similar to SSF sites. The State will fund the OM&M of the AWS unless it is installed on a water system with a licenced operator (e.g. public water supply, water treatment plant) or there is a viable RP.

Notes:

¹ To ensure that cost recovery is not jeopardized, check with the project attorney if State funding is required due to a non-viable, recalcitrant, or unresponsive RP.

² Where it is determined that the spill or emergency response is not related to petroleum, a hazardous materials PIN must be generated. Funding is then provided from the SSF, not the Oil Spill Fund.

³ Public input may lead the DEC to recommend a contribution of Oil Spill Fund or SSF monies toward a public water supply project instead of a lower cost alternative. The DEC may contribute funds, equivalent to the lower cost alternative amount. A detailed present worth analysis is used to determine the amount of the contribution. The analysis should include the DEC's cost incurred during the time needed to implement the solution, (i.e. the time it takes to form a water district or to extend a water main and provide service connections).

Attachment 1

Alternate Water Supply Option Recommendation Guidance

The following is the suggested format and content for the preparation of the Alternate Water Supply (AWS) Recommendation for permanent or long-term AWS. The recommendation should be prepared by the spill responder or project manager, and transmitted through his/her supervisor, to the appropriate central office staff (see guidance, Appendix B). The recommendation should be concise, but still capture the site specific characteristics that led to the recommendation. Depending on a project's site specific characteristics, all of the suggested information may not be necessary.

I. Background of Release

- Site Number or Spill Number and PIN number.
- Chronology of events with brief descriptive narrative.
- RP status. Is RP known, unknown, uncooperative, or still being investigated?
- DOH involvement- Who notified? Details of their determination of the need for an AWS.
- Public involvement/concerns.
- Discussion of chances for cost recovery.

II. Investigation/Remediation Summary

- Brief summary of site hydrogeology: depth to water table, groundwater flow direction, soils, bedrock, nearby surface waters.
- Description of contaminant source or release. Has the source been located? What contaminants are involved (chemicals of concern and driving factor)? Has the source been addressed? Amount of product lost/recovered? Potential environmental fate of unrecovered product?
- Labeled site map showing outline of plume, location of potential receptors and the location of impacted residences (include name and address list of residences).
- Interim Remedial Measures initiated and their status.
- Brief summary of remedial actions and the present status of engineering controls, assessment of effectiveness of remediation, and a description of any problems.
- Potential for down gradient impacts to homes, surface waters, etc.
- Brief description of any groundwater models used.
- Results of any surveys of private wells.

III. Analysis and Discussion of Options

- Cost Benefit Analysis
 - Prediction of project duration.
 - Discussion of each option (bottled water, WHFS, replacement well, water main extension/connections), pros and cons, feasibility, implementation, and OM&M costs.
 - Discussion of whether the site remedy could ultimately eliminate the need for the AWS.

- Assessment of remedial costs. Will implementation of the AWS add to, subtract from or have no effect on site remedial costs? For example, if it costs less to continue remediation and maintain a WHFS than to connect to a water main extension, then the cost evaluation should document this conclusion. {NOTE: Recovery of costs is not part of the “cost effective” evaluation. The cost of the project should not be reduced by the possibility of cost recovery.}
- Summary table of cost comparisons.

IV. Recommendation

- Discussion of why option selected.
- Discussion of future remediation and sampling plans once the AWS is implemented.
- For recommendations involving connections to municipal water supply systems, project managers must include the names and addresses of all homes to be connected. This information is needed by RBE and the Contracts and Payments Section in the Bureau of Program Management.

Attachment 2

AGREEMENT by PROPERTY OWNER

ACCEPT/DECLINE ALTERNATE WATER SUPPLY SYSTEM

The undersigned (owner) _____, of property located at _____ in _____ County, and the Town of _____,

having been notified by the New York State Department of Environmental Conservation (DEC), in conjunction with the New York State Department of Health, that the water supply well installed to provide potable water to the above referenced property has been impacted by contaminants and is no longer able to provide potable water, does hereby select the following option: (select only one)

_____ 1) (a) I hereby grant permission to the DEC and its contractor(s) to enter upon said property with equipment, personnel and such items as are necessary to install a (choose one) {service line to provide metered water, Whole-House Filtration System (WHFS) to provide potable water} to the property.

(b) In consideration thereof, the DEC agrees to restore said property to its previous condition, and agrees to restore and/or replace any items on the aforesaid property which are damaged as a result of the DEC and/or its contractors entering the aforesaid premises and performing the installation.

_____ 2) (a) I hereby provide notice to the DEC that I decline the offer to install a (choose one) {service line to provide metered water, Whole-House Filtration System (WHFS) to provide potable water} to the property.

(b) I recognize that the DEC shall not be responsible for any future (choose one) {connection to the public water main, WHFS system installation}. Such (choose one) {connection, installation} will be the responsibility of said owner and any and all costs associated with the (choose one) {connection, installation} shall be borne by the owner.

Signed: _____ Date: _____

Property Address: _____

Phone Numbers: _____

Best time to call for making arrangements to enter your property: _____

Attachment 3

**AGREEMENT by PROPERTY OWNER
ACCEPT/DECLINE TO RETAIN GAC SYSTEM**

The undersigned (owner) _____, of property located at _____ in _____ County, and the Town of _____, having been notified by the New York State Department of Environmental Conservation (DEC), in conjunction with the New York State Department of Health, that the Granular Activated Carbon (GAC) Point of Entry Treatment (POET) System(System) installed at the above referenced property is no longer required to provide potable water; does hereby select the following option: (select only one)

_____ 1) (a) I hereby agree to keep the System and accept all physical and financial responsibility for the operation, maintenance, and monitoring of said System. I accept this System “as is” and recognize that the DEC does not warrant or otherwise guarantee its performance.

(b) I hereby release and hold harmless the DEC from any and all causes of actions in law or equity, demands, payments, recoveries, and/or claims of any kind arising either directly or indirectly from the operation of the System.

_____ 2) (a) I hereby request that the DEC arrange for the removal of the System and hereby release and hold harmless the DEC from any and all causes of actions in law or equity, demands, payments, recoveries, and/or claims of any kind arising either directly or indirectly from the removal of the System.

(b) I hereby grant permission to the DEC and its contractor(s) to enter upon my property with equipment, personnel and such items as are necessary to remove the System. In consideration thereof, the DEC agrees to restore said property to its previous condition, and agrees to restore and/or replace any items on the aforesaid property which are damaged as a result of the DEC and/or its contractors entering the aforesaid premises and performing the removal.

Signed: _____ Date: _____

Property Address: _____

Phone Numbers: _____

Best time to call for making arrangements to enter your property: _____