Exhibit H – 1
PENNVEST Drinking Water Project Prioritization Criteria

Revised June 20, 2003

In order to qualify for points under each of the following prioritization criteria, the Applicant must provide written documentation to substantiate the problems claimed in the application. The Project Manager will be responsible for evaluating the documentation provided by the Applicant to determine if the reported problems are present. A STATEMENT OF THE PROBLEM BY THE APPLICANT IN THE PLANNING AND FEASIBILITY REPORT (PART II OF THE APPLICATION) IS NOT, BY ITSELF, VERIFICATION. THESE STATEMENTS SHOULD BE SUPPORTED BY ANALYTICAL RESULTS OR ENGINEERING REPORTS.

CERTAIN EXAMPLES REFERENCE THE NEED TO PROVIDE A REPRESENTATIVE SAMPLE TO SUBSTANTIATE THE THREAT TO PUBLC HEALTH OR THE ENVIRONMENT. A REPRESENTATIVE SAMPLE IS DEFINED AS:

Number of Customers or Wells in Service Area	Percent Sampling Required
Up to 50	50 percent
51 to 100	35 percent
101 to 500	25 percent
501 to 1000	20 percent
Greater than 1000	15 percent

The examples provided under each section below are not intended to be an inclusive list of projects or conditions that satisfy the ranking criteria. Similarly, simply because some portion of a proposed project exhibits characteristics of one of the examples does not mean that the project satisfies the ranking criteria. In all cases, the Department will evaluate each proposed project in its entirety to determine the ranking that is most appropriate.

In order for a project benefit to be considered significant relative to the scope of the project, the benefit should generally be applicable to a minimum of 10% of the customers within the scope of the project. In some cases, however, the DEP Ranking Committee may override this 10% criteria and determine that a benefit is significant or insignificant based on other considerations.

A. BENEFITS TO PUBLIC HEALTH

For projects that propose to remedy a contamination problem, the level of contamination must be determined in the same manner as compliance with an MCL (e.g. average of the original and a check sample when monitoring annually or less frequently, or annual average of quarterly samples).

1. Eliminates critical or chronic health hazard

a. **Forty (40) points** will be awarded to projects that propose to eliminate a problem that poses an acute, ongoing health hazard to the consumer.

Examples of acute, ongoing health hazards include:

(i) A violation of a primary MCL or maximum unregulated contaminant concentration and its associated high risk to health level (see attached listing).

(ii) Fecal coliform contamination where 50% of the representative sample is positive for fecal coliform. (Projects qualifying for 30 or 40 priority points due to coliform contamination will normally be waterline extension projects that propose to eliminate the use of individual wells or unpermitted community systems operating without disinfection.)

(iii) No water is available at the tap from the system's permitted sources or for unpermitted sources normally used. The length of the outagehas been, or is expected to be (e.g. verification that failure of a critical part of the system is probable), a week or more to a significant number of customers relative to the scope of project.

(iv) Giardia or Cryptosporidium cysts in the filtered water. Giardia or Cryptosporidium cysts in the raw water of systems without filtration or systems that currently have Filter Plant Performance Evaluation rating of "Needs Improvement" with identified equipment or structural deficiencies (not operational deficiencies).

NOTE: Since only the presence of Giardia cysts trigger the requirement for establishing concentrations and contact times (CTs), a system that has already triggered for filtration and disinfection due to source water coliform or turbidity is not given a higher ranking because of these source contamination problems. The regulatory requirement to provide 2.5 mg/l of disinfectant adequately addresses all water quality problems associated with the filter rule other than Giardia.

b. **<u>Thirty (30) points</u>** will be awarded to projects that propose to eliminate a problem that poses a chronic health hazard to the consumer.

<u>Examples of chronic health hazards include</u>:

(i) A violation of a primary MCL or maximum unregulated contaminant concentration but less than the associated high-risk level. For example, the annual average concentration of quarterly trichloroethylene samples is between 0.005 mg/l (MCL) and 0.3 mg/l (High Risk Level).

(ii) Total coliform contamination where 50% of the representative sample is positive for total coliform.

(iii) Unfiltered surface water source or GUDI and a disinfection process that is not capable of 99.9% inactivation of Giardia cysts.

2. Eliminates periodic or significant potential health hazard

a. **<u>Twenty (20) points</u>** will be awarded if the project proposed is to eliminate a documented health hazard that has occurred periodically, or if there is documented evidence (written correspondence, order, etc.) of the potential for the problem to occur.

<u>Examples of documented periodic health hazards include</u>:

(i) A periodic violation of a primary MCL or maximum unregulated contaminant concentration due to an intermittent malfunction of treatment equipment.

(ii) A periodic water outage. A water outage occurs when a water system is unable to provide water for a period of time at least a day in length, from its permitted sources (other than emergency permits) to a significant number of customers relative to the scope of the project. For unpermitted systems, these sources should be the ones normally used. This criteria is also applicable to periodic water outages that may affect a significant number of private well owners relative to the scope of the project, where the project provides water service to replace the existing wells.

(iii) The Filter Plant Performance Evaluation rating for a plant is “Needs Improvement” with identified equipment or structural deficiencies (not operational deficiencies) and where the disinfection process is not capable of 99.9% inactivation of Giardia cysts

(iv) Unfiltered surface water source or GUDI with a disinfection process capable of 99.9% inactivation of Giardia cysts and with documented periods of turbidity > 5 NTU.

(v) Ground water source with no or inadequate disinfection (< 20-minute contact time) due to inadequate disinfection equipment or structural needs.

(vi) A Stage 3 Drought Emergency Declaration

(vii) Fecal coliform or primary MCL contamination where 25 to 49% of the representative sample is positive for the contaminant.

b. Fifteen points will be awarded to projects that provides protection against significant potential health hazards

Examples of projects that provide protection against significant potential health hazards include:

(i) Cover a finished water reservoir,

(ii) Add filtration for an unfiltered surface water source or GUDI where the disinfection process is currently capable of 99.9% inactivation of Giardia cysts and with turbidity > 5 NTU.

The Filter Plant Performance Evaluation rating for a plant is “Needs Improvement”with identified equipment or structural deficiencies (not operational deficiencies) and where the disinfection process is currently capable of 99.9% inactivation of Giardia cysts.

(iii) The Filter Plant Performance Evaluation rating for a plant is “Satisfactory” where the disinfection process is not capable of 99.9% inactivation of Giardia cysts,

(iv) Groundwater source with adequate disinfection (minimum 20-minute contact time) and with documented periods where turbidity > 5 NTU.

(v) Total coliform or secondary MCL contamination where 25 to 49% of the representative sample is positive for the contaminant,

(vi) Existing inadequate source capacity where water outages are less than one (1) day in length and where water conservation measures (i.e. mandatory or voluntary water use restrictions) have been implemented. or add disinfection where none currently exists.

Note: Projects that propose to provide public water supply for anticipated future development will not receive 15 points for adding disinfection, since these homeowners would have the option of providing their own disinfection had they developed an individual water system.

3. Provides protection against potential health hazards through preventative maintenance

Ten (10) points will be awarded to projects that propose preventative maintenance improvements.

Examples of such projects include:

a. Although no MCL violation or health hazard has been observed, replacing an old, undersized or malfunctioning chlorinator or replacing leaking waterlines would fall into this category.

b. The Filter Plant Performance Evaluation rating of a plant is “Satisfactory” where the disinfection process is capable of 99.9% inactivation of Giardia cysts and structural repairs are needed.

c. Groundwater source with adequate disinfection (minimum 20-minute contact time) and with documented periods where turbidity < 5 NTU and structural repairs are needed.

d. Fecal or total coliform or primary MCL contamination where less than 25% of the representative sample is positive for the contaminant.

B. BENEFITS TO PUBLIC SAFETY

Water system facilities (e.g. storage tanks, major pump stations, treatment buildings, etc.) that pose a safety hazard to workers or others in the event of system failure will receive ranking points for correction only if the facility/equipment is essential for the continued operation of the water system. Public safety also may depend upon the assured availability of adequate quantity and pressure of water for fighting fires. Projects that are mainly for fire protection are not eligible for DWSRF assistance. However, projects that include improvements to fire protection as an ancillary project benefit or as a secondary project purpose may be considered for DWSRF assistance.

Projects for dams are not eligible for DWSRF assistance. However, they may qualify for other state or other types of financial assistance offered by PENNVEST. A dam classified by the Bureau of Waterways Engineering as "unsafe" means that there is an existing condition that could cause a dam to fail and could result in the loss of life. "High hazard" means that loss of life would probably result if the dam failed, but the term does not indicate the current condition of the dam. All "unsafe" dams are also classified as "high hazard". A dam that is in such condition that it could fail but loss of life would not result is not classified as unsafe.

1. Eliminates critical or chronic safety hazard

Five (5) points will be awarded to projects that propose to eliminate a problem that poses an ongoing safety hazard. Written documentation of the problem is required.

Examples of critical or chronic ongoing safety hazards include:

a. A proposed project is for replacement or rehabilitation of an unsafe water supply storage tank that may collapse or a major pump that has failed periodically.

b. A project will meet fire code where the existing system currently provides less than the minimum pressure or quantity of water as recognized as necessary for fire protection (ISO = 10 or 9 plus a documented major fire). This should include the provision of adequately-sized distribution lines having a diameter equal to or greater than 6 inches. (The improvement to the fire protection is a secondary project purpose.)

c. Dam is classified as "unsafe" by DEP Bureau of Waterways Engineering (not eligible for federal loan monies)

d. Project will provide adequate water where water outages of a week or more existed.

2. Eliminates periodic or potential significant safety hazard

Three (3) points will be awarded if the project proposed is to eliminate a documented (in writing) safety hazard that has occurred periodically, or if there is potential for a significant safety problem to occur.

Examples of periodic or potential significant safety problems include:

a. The project will correct existing problems at a water storage that does not comply with Occupational Safety and Health Administration (OSHA) safety standards (e.g. no fencing is provided around the perimeter of the tank.)

b. A project that will replace or provide major rehabilitation of pumps that may fail (e.g. due to an inadequate backup electrical supply).

c. A project that will install fire hydrants where, because of a current lack of or an insufficient number of hydrants, the system currently fails to meet fire protection codes (ISO = 9). This should include the provision of adequately-sized distribution lines having a diameter equal to or greater than 6 inches. (Improvement to fire protection must be a secondary project benefit.)

d. Project will provide adequate water where a periodic water outage of 24 hours or more existed.

3. Provides protection against potential safety hazard through preventative maintenance

One (1) point will be awarded to projects that propose preventative maintenance improvements.

Examples of such projects include:

a. Project will provide a recoating of a water storage tank.

b. Project will correct problems in the sufficiency of water pressure at some locations in the system that cause the system to fail to meet fire codes (ISO < 9). This should include the provision of adequately-sized distribution lines having a diameter equal to or greater than 6 inches. (Improvement to fire protection must be a secondary project benefit.)

C. ENVIRONMENTAL[1] AND SOCIAL IMPACTS

Beneficial environmental and social impact

1. **Five (5) points** will be awarded to proposed projects that will improve some existing environmental condition.

   Examples of such projects include:

   a. Installation of sludge handling facilities at an existing filtration plant.

   b. Waterline replacement projects where unaccounted for water losses exceed 20%

   c. Water meter projects where there are high unaccounted for water losses

2. **Two (2) points** will be awarded to proposed projects that will improve the quality of life for consumers.

   Example: Any project that provides benefits to public health or public safety.

3. **One (1) point** will be awarded for any project in which there is no demonstrable negative environmental or social impact.

D. IMPROVEMENT IN ABILITY TO COMPLY

1. **Improves water system's ability to comply.** PENNVEST should not be used to reward or to penalize systems for compliance. Evaluation must be based strictly on benefits to be provided.

   a. Twenty (20) points will be awarded to projects that propose to comply with existing laws, rules or regulations; or a violation that poses an acute health or safety hazard (i.e. primary MCL violation).

   Examples include:

   (i) Projects that will ensure compliance with the Filtration Rule interim and final deadlines.

   (ii) Projects that demonstrate correction of operating pressures that are less than 20 psi.

[1] For the purposes of this guidance, "environmental" means all conditions, circumstances, and influences surrounding and affecting animal or plant organisms.

(iii) Projects that demonstrate correction of a Lead or Copper Action Level violation.

(iv) Projects that demonstrate correction of a Stage 3 Drought Emergency Declaration.

b. Ten (10) points will be awarded to projects that propose to improve compliance with existing laws, rules or regulations, when no compliance order, decree or agreement has been issued and there is no deadline date specified in regulation; or a violation that does not pose an acute health or safety hazard, but does pose a significant compliance problem (i.e. secondary MCL violation).

Examples include:

(i) Projects that demonstrate correction of a secondary MCL violation (not posing an acute health risk).

(ii) Projects that preclude a violation of the safe yield of the Water Allocation or PWS permit; project that preclude regular over-pumping of well sources beyond their permitted rate or documented safe yield.

c. Five (5) points will be awarded to projects that propose to provide protection against a significant problem by compliance with Section 109.4 of the Safe Drinking Water regulations as follows:

(i) Projects that protect the water sources under the supplier's control

(ii) Projects that provide treatment adequate to assure that the public health is protected

(iii) Projects that preclude a violation of the safe yield of the PWS permit

(iv) Projects that provide and effectively operate and maintain public water system facilities

(v) Projects that take whatever investigative or corrective action is necessary to assure that safe and potable water is continuously supplied to the user.

NOTE: SINCE NON-PUBLIC WATER SYSTEMS ARE NOT INCLUDED IN THE DEFINITION OF WATER SYSTEM IN THE PENNVEST REGULATIONS, NO COMPLIANCE POINTS WILL BE AWARDED FOR CORRECTION OF A PROBLEM AFFECTING THESE TYPES OF SYSTEMS.

E. IMPROVEMENT IN ADEQUACY AND EFFICIENCY

Increases available water (source, storage, pressure, etc.) provides water conservation, improves aesthetic water quality, improves Applicant's ability to operate and maintain the facility or increases the reliability of service. Improvements to the aesthetic water quality will generally apply to lowering the levels of the secondary contaminants. Improvements designed to lower or prevent increases in turbidity levels will only be given points under Section A – Benefits to Public Health – since turbidity is a primary contaminant.

1. **Five (5) points** will be awarded to projects that propose through water system consolidation to improve facility operation or maintenance, or improve the reliability/viability of the system. Five points will also be awarded to waterline replacement or water metering projects that improve water quality by addressing high unaccounted for water losses. This only applies to existing public water systems, not to new systems or waterline extensions. Consolidation involves one water system assuming ownership of another. Physical interconnection may or may not be involved. Consolidation occurs through acquisitions, mergers, satellite ownership, takeovers, buyouts or regionalization.

2. **Three (3) points** will be awarded to projects that propose to increase available water, provide water conservation, improve aesthetic water quality, and improve the Applicant's ability to operate and maintain the facility or increase the reliability of service by means other than water system consolidation.

3. **One (1) point** will be awarded to proposed projects in which a regional water system is considered but not available as a reasonable alternative.

High Risk Levels

The following High Risk Levels have been developed for the **sole purpose** of assisting in the prioritization of PENNVEST projects that propose to eliminate or reduce the concentration of a contaminant in drinking water. The levels are **NOT** to be used as triggers for any regulatory action.

Contaminant	MCL (mg/l)	High Risk Level (mg/l)
INORGANICS		
Arsenic	0.05	TBD
Asbestos	7 MFL	70 MFL
Barium	2	2
Cadmium	0.005	0.005
Chromium	0.1	0.2
Copper	1*	1.3
Fluoride	2.0	5
Lead	0.015	0.05
Mercury	0.002	0.01
Nitrate	10	10
Nitrite	1	1
Selenium	0.05	0.1
ORGANICS		
Acrylamide	TT	0.001
Alachlor	0.002	0.04
Atrazine	0.003	0.03
Benzene	0.005	0.01
Carbofuran	0.04	0.05
Carbon Tetrachloride	0.005	0.03
Chlordane	0.002	0.003
2,4-D	0.07	0.1
DBCP	0.0002	0.003
cis-1,2-DCE	0.07	0.4
trans-1,2-DCE	0.1	2
o-DCB	0.6	9
p-DCB	0.075	0.75
1,2 Dicholorethane	0.005	0.04
1,1 Dichloroethylene	0.007	0.07
1,1 Dichloroethane	0.005	0.05
Endrin	0.002	0.003
Epichlorohydrin	TT	0.07
Ethylbenzene	0.7	1
EDB	0.00005	0.00005
Heptachlor	0.0004	0.0008
Heptachlor Epoxide	0.0002	0.0004
Lindane	0.0002	0.002
Methoxychlor	0.04	0.05
Monochlorobenzene	0.1	2
PCBs	0.0005	0.0005
Pentachlorophenol	0.001	0.03
Styrene	0.1	1
Tetrachloroethylene	0.005	0.07
Toluene	1	2

Toxaphene	0.003	0.003
2,4,5-TP	0.05	0.07
1,1,1 Trichloroethane	0.2	1
Trichloroethylene	0.005	0.3
Vinyl Chloride	0.002	0.002
Xylenes	10	40

RADIONUCLIDES

Gross Alpha	15 pCi/L	
Man-Made Beta & Photon Emitters	4 mrem/year	4 mrem/year
Radium 226/228	5 pCi/L	22/26 pCi/L

* Secondary MCL

For contaminants not listed above, the High Risk Level will generally be determined as follows:

1. Group A and B Carcinogens

   Cancer Risk Level (CRL), provided this concentration prevents non-carcinogenic effects.

2. Group C Carcinogens

   Maximum Contaminant Level Goal (MCLG) times an uncertainty factor of 1 – 10 (usually 10)

3. Group D & E

   Longer-term Health Advisory for a Child

For contaminants that pose an acute health risk, such as nitrates, the High Risk Level will be any concentration in excess of the MCL or maximum unregulated contaminant concentration.

EXHIBIT H – 2
PENNVEST DRINKING WATER RATING FORM

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

PROJECT INFORMATION

1. Name and Address of Applicant

_____
_____
_____

2. Rating Type

☐ **New Rating**
☐ **Revised Rating - Old Project**
☐ **Revised Rating – Scope Change**

3. PWSID NO. _____

4. Project Location – Service Area

County (ies): _____ Municipality(ies): _____
DEP Region: _____ Village or Area: _____

5. Project Description: (Circle all applicable: SRC, TRANS, TREAT, WS, DIST, PS, M, OTHER)
(Brief problem description and project narrative)

_____
_____
_____

6. Estimated eligible assistance amount by needs category:

(1) Source Development	$ _____	(5) Distribution System	$ _____
(2) Transmission	$ _____	(6) Pump Stations	$ _____
(3) Treatment	$ _____	(7) Meters	$ _____
(4) Finished Water Storage	$ _____	(8) Other	$ _____
		TOTAL AMOUNT	$ _____

____ **TOTAL RATING POINTS**	____ **Environmental and Social Impacts**
____ **Public Health Benefits**	____ **Adequacy and Efficiency**
____ **Ability to Comply**	____ **Public Safety Improvements**

SIGNATURES:

_____ _____
DEP Project Manager / Technical Section Chief Date

_____ _____
Regional Water Quality Manager Date

_____ _____
DEP Central Office Coordinator Date

EXHIBIT H – 3
TECHNICAL RANKING FORM

PENNVEST AND SRF WATER SUPPLY PROJECTS

APPLICANT_____ PWSID NO._____

A. BENEFITS TO PUBLIC HEALTH

1. Eliminates critical or chronic health hazard

   a. Eliminates an acute, ongoing health hazard to the consumer (40 points) ___
   b. Eliminates a chronic health hazard to the consumer (30 points) ___

2. Eliminates periodic or potential health hazard

   a. Eliminates a periodic health hazard (20 points) ___
   b. Eliminates a potential health hazard (15 points) ___

3. Provides protection against significant potential health hazards (10 points) ___

Basis of Rating:_____

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_____

B. BENEFITS TO PUBLIC SAFETY

1. Eliminates critical or chronic safety hazard (5 points) _____
2. Eliminates periodic or potential safety hazard (3 points) _____
3. Provides protection against significant potential safety hazard (1 point) _____

Basis of Rating:_____

_____

_____

_____

C. ENVIRONMENTAL AND SOCIAL IMPACTS

1. Beneficial environmental impact (5 points) _____

2. Beneficial social impact (2 points) _____

3. No demonstrable negative environmental or social impact. (1 point) _____

Basis of Rating:_____

_____

_____

D. Improvement In Ability To Comply

Improves water system's ability to comply

1. Achieves compliance with existing laws, rules or regulations (20 points) ___
2. Improves compliance with existing laws, rules or regulations (10 points) ___
3. Provides protection against a significant problem (5 points) ___

Basis of Rating:_____

_____

_____

_____

E. IMPROVEMENT IN ADEQUACY AND EFFICIENCY

Increases available water (source, storage, pressure, etc.) provides water conservation, improves aesthetic water quality, improves Applicant's ability to operate and maintain the facility or increases the reliability of service through consolidation, where feasible.

1. Improvement provided through water system consolidation (5 points) ___

2. Improvement provided by means other than water system consolidation. (3 points) ___

3. Regional water system is considered but not available as a reasonable alternative (1 point) ___

Basis of Rating:_____

_____

_____

_____

Total Points_____