A METHODOLOGY FOR ASSIGNING PRIORITY TO NON-COMPLYING SOURCES OR FEATURES

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Introduction –

The Public Water Supply Supervision Program (PWSS) has limited staff and financial resources to address all non-complying potential contamination sources or other features that are located within the inner wellhead management zone (IMWZ). Although non-complying sources or features are by definition, illegal, some likely present a greater public health risk than others. Therefore, assigning priority to non-complying sources and features based on their potential health risk should provide the PWSS with a means for directing staff and financial resources to address them that is both technically and politically defensible.

Priority Levels –

The IMWZ is defined as a 200-foot radius around a public water supply well. The purpose for the inner wellhead management zone (IWMZ) is to protect the users of a public water supply well from acute health effects caused by pathogen sources or releases of high levels of chemical contaminants. The methodology for assigning priority must make a clear distinction between a feature that may actually release a contaminant that is harmful to humans and one that will not. For example, a failing or improperly located on-site wastewater disposal system may present a risk to drinking water whereas; a natural gas pipeline or LP tank does not. Also, the susceptibility of the source of drinking water due to well construction practices and the inherent geologic sensitivity of the aquifer must be addressed.

The following priority levels could be used –

Priority Level 1 – Non-complying Potential Contamination Sources Identified by PWSS as Needing Immediate Removal or Remediation.

This category addresses1) potential contamination sources that may lead to the direct entry of contamination into a public water supply well or the aquifer that supplies it or 2) potential contamination sources that the PWSS has notified the owners of noncommunity systems are illegal. The following potential contamination sources must be addressed:

Un-used, un-sealed wells

Failing on-site wastewater systems

Class 5 automotive disposal wells (where the source of drinking water has been designated sensitive by the PWSS and the U.S. Environmental Protection Agency)

Well pits if they were constructed after May, 1993

Priority Level 2 – Non-complying Potential Contamination Sources or Other Features That Meet the Minimum Risk Evaluation Score Calculated by PWSS staff.

This category will include non-complying potential contamination sources or features that have not been identified under Priority Level 1. Potential contamination sources or features in Priority Level 2 present a significant risk to the health of the users of a noncommunity public water supply. PWSS will address these sources or features before others.

A standardized methodology for assigning screening points to a potential contamination source or feature will be developed that results in a risk evaluation score being assigned to it. PWSS staff will identify the minimum score value that is needed to place a potential contamination source into Priority Levels 2 or 3. (Question – Should all non-complying sources or features within an IWMZ be addressed at the same time if they are assigned different priority levels?)

Priority Level 3 – All Other Non-complying Sources or Features That Do Not Have a Risk Score That Places Them in a Higher Priority Level.

This category will have non-complying potential contamination sources or features that present the lowest risk to the health of the users of anon community public water supply. As such, they will be addressed as time and resources permit.

Evaluation Criteria –

The methodology for assigning risk may include several steps -

Step 1 – Assign a score based on screening criteria:

Step 2 – PWSS staff will determine if the screening criteria alone are sufficient to place priority on addressing the potential contamination source or feature;

Step 3 – Additional evaluation such as determining whether

1) The potential source or feature is located in the up-gradient direction of groundwater flow toward the well is warranted before a risk priority can be assigned;
2) Additional information about well construction and geology will reduce well construction and aquifer sensitivity; and
3) Contaminant movement from the potential source will actually reach the well.

The following criteria are offered for use in screening whether a non-complying potential contamination source or feature that is located within an IWMZ presents a high priority health risk:

Toxicity of the contaminants released –

Assign 10 points if pathogens
10 points if fuel or fuel breakdown products
10 points if chemicals

A maximum number of 30 points can be assigned because some potential sources such as sewers may release all of these contaminant categories.

Proximity to the well –

Assign 1 point for each foot that the source or feature is closer to the well than is specified under MR 4725.

Well Sensitivity –

Assign 10 points to the potential contamination source or feature if the public water supply well has been designated as sensitive because of its construction. This is based on the source water assessment results prepared by PWSS.

Aquifer Sensitivity –

Assign 20 points to the potential contamination source or feature if the aquifer has been designated as sensitive because of the local geologic setting. This is based on the source water assessment results prepared by PWSS.

Optional Criteria -

Affects more that one well –

Add the equivalent number of points determined for the first well for every other well that the source or feature is non-compliant.

Minimum Score Needed to Achieve Priority 2 Status –

The most direct approach to assigning this score is to break the possible scores into ranges. Once all of the potential contamination sources or features that have been addressed in one range, those in the next range will receive highest priority. For example –

The maximum score is 60 points without including the proximity from the well or the additive effects on other wells. The proximity score is difficult to consider up front because of the wide range in isolation distances that are specified in MR 4725 (Setbacks range from 150 feet to 3 feet and some double if the well has less than 50 feet of casing or does not penetrate at least 10 feet of clay). The decision to include the scores obtained from other wells could be optional because these wells may not be susceptible or are located in the up-gradient direction of groundwater flow from the potential contamination source or feature.

The following range in the score based on screening criteria may be used to assign priorities:

Risk Evaluation Score of	> 60 points is highest priority for action
	50 – 59 points is assigned second highest priority
	40 – 49 points is assigned third highest priority
	30 – 39 points is assigned fourth highest priority
	etc.

Sources or features within each range of scores could be addressed by using their point totals to ranking them. A potential contamination source or feature will be placed in Priority Level 3 until its “range number is up”.