

May 19, 2000

Ms. Christina M. Sames
Office of Pipeline Safety
U.S. Department of Transportation
400 7th Street, S.W., DPS-11
Washington, D.C. 20590

Dear Ms. Sames:

Thank you for the opportunity to participate in the Technical/Peer Review Workshop for the review of the definition for areas unusually sensitive to environmental damage from a hazardous liquid pipeline release. The Office of Pipeline Safety (DOT/RSPA) and the American Petroleum Institute (API) have done an excellent job in developing the pilot test and we are extremely pleased you have included drinking water considerations in the model.

The Public Drinking Water Section of the Texas Natural Resource Conservation Commission offers the following comments for your consideration:

- The aquifer vulnerability classification scheme (Pettyjohn et al., 1991) is an excellent tool. However, excluding certain aquifers such as "Covered Consolidated or Unconsolidated Aquifers (Class III)" is not appropriate. While this class includes those aquifers that are overlain by more than 50 feet of low permeability material, both the Pettyjohn classification as well as the DOT/RSPA and API model fail to take into consideration artificial penetrations. Abandoned wells, oil and gas production wells, wastewater or brine injection wells, seismic shot holes, improperly constructed domestic and irrigation water supply wells, and fault zones may penetrate or breach a confining unit above a confined aquifer. These wells may be poorly constructed or deteriorated and could allow vertical flow from the land surface through the confining unit into the water supply aquifer. However, data availability is an important issue in any attempt to identify the improperly constructed or improperly abandoned well penetrations. In many cases, this information is simply not readily available. In cases where the data is available and the data meets the appropriate data quality

standards and it is determined that a confining layer is no longer competent, then the "confined" aquifer classifications should be reviewed within the Unusually Sensitive Area (USA) context as Class II as opposed to Class III.

Most states which have developed a Source Water Assessment and Protection Program (including Texas) consider the surface area directly above the zone of contribution for a specific time-of-travel from a water supply well or spring as a contributing area even if this area is not within the outcrop of the confined aquifer. This contributing area is used in source water assessments to identify all potential sources of contamination, including those that may penetrate or breach the confining unit.

- Eliminate the term "Wellhead Protection" and replace with "Source Water Protection." "Wellhead Protection" focuses only on ground water sources. "Source Water Protection" is an all-encompassing term including wellhead protection, sole source aquifer, underground injection control, and surface water protection programs.

Using the term, "Source Water Protection" also provides consistency with the 1996 Amendments to the Safe Drinking Water Act and would include both ground and surface drinking water sources.

- DOT/RSPA should strongly consider consistency with the Federal and State Source Water Protection Programs. As an example, for public water supplies relying on surface waters, most states have adopted a policy that sets the delineation of the source water protection area upstream of the systems intake structure. In other words, the delineation of the source water protection area for these public water supplies would be the catchment basin that provides water to the intake structure.

It is recognized that designating an entire watershed as an unusually sensitive area is not practical or cost-effective. Most state Source Water Protection Programs have set up a buffer zone or area of primary influence (API) around the reservoir. This may be a 1000 foot area around the normal pool elevation of the drinking water reservoir or the 1000 foot area around a river intake, extending three miles up stream. This is the area that receives an intensive potential contaminant source inventory and many times serves as the area where implementation of best management practices are implemented at the local level. The API may also be based on spillway elevation and/or slope. The language in the filter

criteria should indicate that whatever the State Source Water Protection Program designates as the API shall be the buffer surrounding the surface water intake. In the cases where no API is designated, the buffer shall be five (5) miles upstream of the intake. The appropriate protection activities will continue to be based on the ability of a release to impact the USA water intake.

- An option the DOT/RSPA *may* wish to consider to avoid confusion on "Aquifer Vulnerability Categories" is to simply dismiss an aquifer classification system and rely solely upon Source Water Protection areas delineated by individual States. Although Source Water Assessments are not due to be completed until May 2003 in many States, most State programs are already able to provide delineated assessment/protection areas. Delineation of protection areas or "zones of contribution" have been underway in most states over the past ten years through efforts under the 1986 Amendments to the Safe Drinking Water Act. For states without designated protection areas, a default protection area could be used.

This change would certainly provide a more simple and less confusing model/strategy for all stakeholders and at the same time provide consistency for all public water systems, both ground and surface water supplies. It would also provide consistency between the federally mandated Source Water Assessment & Protection Program and the federally mandated pipeline safety statute.

- The Sole Source Aquifer Protection Program is authorized under Section 1424(e) of the Safe Drinking Water Act. This provision allows EPA to declare that an aquifer is a "sole or principal drinking water source" for an area if contamination of the aquifer could create a significant hazard to public health. For areas which have been designated as sole source aquifers, no commitment of federal financial assistance may be made for projects "which the Administrator (of EPA) determines may contaminate such (an) aquifer." The entire aquifer is considered, not just contributing areas to a specific water supply.

It is our recommendation that in sole source aquifers, specifically those which are karst in nature, the entire aquifer must be considered to be unusually sensitive and filter criteria should not be applied.

Travel times and flow direction are usually unknown and the karst aquifer is many times considered one large zone of contribution or protection area. Extreme caution must be exercised when considering a "reliable and

adequate alternative source" of water in a karst system. In such karst systems, specific aquifer-wide rules may even be applied. For example, in 1975, the Edwards Aquifer in Texas was the first aquifer in the United States to receive the EPA sole source status. Comprehensive rules, specific to the Edwards Aquifer, have been developed and apply to the entire aquifer, not just specific areas surrounding individual water suppliers.

- It is currently recommended within the model that an area twice the radius of the wellhead protection area be designated as an unusually sensitive area. It is our belief that state programs currently base their delineations upon good science as well as site-specific information. Therefore, doubling the protection area is unnecessary. It is also our belief that arbitrarily extending a delineated area may potentially have legal consequences.
- It is agreed that the "alternative source" issue focuses on the water supply systems that are the most vulnerable to an oil spill incident. However, the drinking water filter criteria "alternative source" should be revisited. Unless site-specific contingency plans have been developed by the local water supplier, it is difficult at best for the local representative to have a complete knowledge and understanding of alternative supplies which may potentially be utilized. DOT/RSPA may wish to contact drinking water program coordinators within each State and obtain a list of sole source water supplies. This information may prove to be more comprehensive than the current method utilized (calling all water suppliers within the state). At a minimum, DOT/RSPA should ensure that site-specific contingency plans have been developed before it employs the alternative source criteria. The recommended "Adequate Alternative Drinking Water Supply" protocol is as follows:
 - Contact the State Drinking Water Supply Division or equivalent and request the appropriate data set for sole source water supplies for the State.
 - If the State does not have data available, contact the local water supply system to determine if an adequate alternative water supply exists.

In tying these concerns together, our views can perhaps be best demonstrated by an example. This spring in the north central Texas area, a pipeline ruptured, releasing approximately 500,000 gallons of reformulated gasoline into a creek which ultimately

feeds Lake Tawakoni –a water source for Dallas and five system intakes who have no alternative source of drinking water. Using the current model and filter criteria, DOT/RSPA conducted a pilot test on Lake Tawakoni. Based on current techniques and parameters, the model failed to recognize the spill area as an unusually sensitive area. However, utilizing source water protection techniques, the pipeline would have been included within the watershed protection area as part of the Source Water Protection Program. Following the protocol outlined above, the State database for sole source water supplies would have identified a number of the sole source water intakes; therefore, an Unusually Sensitive Area would have been identified in the area. The operators would have been required to conduct a risk assessment to determine the potential for a spill to impact the USA surface water intakes. The Source Water Protection Program data would have made a significant impact on how the final USA maps would have appeared in this area and therefore where risk assessments would have been undertaken. The Source Water Protection Program would not have prevented a spill, but the systems would have been made more aware of the potential, developed a contingency plan, and the operators of the pipeline would have realized the importance of immediate notification to the public drinking water systems utilizing Lake Tawakoni.

DOT/RSPA has done an excellent job in developing a definition for areas unusually sensitive to environmental damage. It is felt that with additional fine tuning, the model will serve as an excellent tool in the multi-barrier approach to protecting local public drinking water sources. I want to once again thank you for including our drinking water program in the review process and I hope that you will include us on future components of establishing risk management activities. Should you have any questions, please feel free to contact me at (512) 239-6020.

Sincerely,

Brad L. Cross
Source Water Assessment and Protection Program
Public Drinking Water Section

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