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Five-Year Review Interview Questions

Name: Laura Olah

Title/Position: Executive Director

Organization: Citizens for Safe Water Around Badger (CSWAB)

Date: December 18, 2008

Location: E12629 Weigand's Bay South, Merrimac, WI 53561

In addition to being the Executive Director of CSWAB, I am also a rural neighbor of the Badger Army Ammunition Plant (Badger) and my family's drinking water well is located downgradient from the Deterrent Burning Grounds (DBG) which I understand is the focus of this Five-Year Review. I represent CSWAB on the Badger Restoration Advisory Board and am Chair of the RAB's Technical Assistance for Public Participation Committee. CSWAB was organized by rural neighbors of Badger in response to the discovery of groundwater contamination in private drinking water wells in 1990. Rural residents and the nearby village of Prairie du Sac rely on groundwater for their drinking water.

1. What is your overall impression of the project?

   - The remedy at the DBG is not meeting all expectations.
   - Contaminants from the DBG are present in groundwater at levels that exceed drinking water health advisories.
   - Groundwater monitoring wells remote from the source area have detected Dinitrotoluene (DNT) at concentrations above health advisory levels.
   - Groundwater monitoring wells that previously did not detect DNT are now affected.
   - Groundwater contaminants have moved beyond the plant boundary.
   - Groundwater contaminant movement is toward nearby private residential wells.

2. What effects have site operations had on the surrounding community?

   Groundwater and drinking water quality have been compromised. Exposed populations, especially infants and children, are at increased risk for cancer and other disease.

3. Are you aware of any community concerns regarding the site or its operation and administration? If so, please give details.

Yes. Please note that my comments are specific to the DBG which is the focus of this questionnaire.

The Army and regulators are monitoring the site closely however the discovery of DNT, classified by EPA as a probable human carcinogen, in groundwater monitoring wells remote from the source indicates that the remedy may not be performing as expected. The complex hydrogeology in the northeast quadrant of Badger makes predicting contaminant movement and the remediation of contaminants that migrate beyond the source exceedingly difficult. For these reasons, the community is especially keen that proactive steps are taken to assure that additional contaminants do not reach groundwater, that existing contamination is remediated, and that nearby residential wells remain clean and safe. Local Army officials have taken steps to respond to community concerns by conducting additional private well sampling for DNTs. However, this is not a remedy.

Rural neighbors are increasingly concerned that the installed remedy as specified in the remedial design is not protective as contaminants associated with the DBG and the neighboring "Existing Landfill" are still detected in groundwater not only at the source but in monitoring wells more than 2,500 feet away at the plant boundary.

In response to concerns expressed both by regulators and the public, the Army recently installed additional deeper monitoring wells at ELM-9501 (a remote single groundwater monitoring well located at the plant boundary). Total concentrations of DNT in these new wells exceed Health Advisory Levels established by the Wisconsin Division of Public Health. Initial sampling results suggest that contaminant concentrations may increase with depth. A fourth deeper well is planned.

Another contaminant 1,1,2-trichloroethane has been detected in groundwater near the DBG. The adjacent capped "Existing Landfill" is the suspected source however I am not aware of any studies that have firmly established this.

It is also important to note that at least one member of the RAB has expressed concern that visible "veins" of DNT that migrated through subsurface soils (visible during excavation of surface soils) and away from the principal source areas may have not been completely removed and/or are not covered by the landfill cap. There is concern that residual subsurface contaminants may still pose a risk to groundwater.

4. Are you aware of any events, incidents, or activities at the site such as vandalism, trespassing, or emergency responses from local authorities? If so, please give details.

   No.

5. Do you feel well informed about the site's activities and progress?

   To the degree that we have access to information. Obtaining certain reports and correspondence has sometimes been difficult. Improved access to information

requested by the RAB and affected community members would help improve public confidence in the project. For example, this summer the Army tested private wells near the NE corner of Badger and we asked for a list of the residential wells that were tested and a map of where they were located. (My drinking water well was among those tested.) The Army chose not to share this information making an already difficult situation (i.e. private wells were being tested for potential explosives contamination) unnecessarily more difficult.

The more open and readily accessible the Army can be about environmental information, especially that which affects nearby residents, the more confidence the public may have in site activities and progress.

6. What do you feel is the best way to communicate with you and the community?

   The RAB continues to be an important and productive forum for communications and discussion. In addition to current activities, making environmental documents and correspondence available and archived through a public website would be efficient and save resources.

7. Do you have any comments, suggestions, or recommendations regarding the site's management or operation?

   - A thorough evaluation of the DBG remedy is needed to determine if subsurface contaminants are migrating to groundwater.
   - A thorough evaluation of the performance of the in-situ bioremediation system is needed.
   - A comprehensive list of potential degradation products of DNT in soil and groundwater should be developed in consultation with health officials and environmental regulators to help protect human health and the environment and to assist in evaluation of the remedy.
   - A thorough evaluation is needed to identify possible data gaps in groundwater quality in and around the site.
   - A thorough evaluation of the existing groundwater monitoring well network is needed to identify optimal placement of new monitoring wells to (1) monitor groundwater quality and movement at the site, (2) characterize groundwater quality and movement outside the facility, (3) establish the current margins of groundwater contamination, and (4) help assure that contaminants are detected and prevented from reaching nearby private drinking water wells.
   - A thorough evaluation is needed to identify actions that may improve the performance of the remedy.
   - Proactive steps should be taken to assure that groundwater contaminants do not move beyond the plant boundary.
   - Compliance with Health Advisory Levels and Wisconsin Preventative Action Limits for groundwater should be achieved and maintained.

- The source of 1,1,2-trichloroethane contamination in groundwater and the potential for higher concentrations at depth should be investigated.

- The RAB should be advised and consulted throughout the evaluation process.

- The Army and its contractors at Badger have developed and implemented improved test methods for all isomers of DNT in groundwater and drinking water. This is a significant accomplishment that has directly benefited the environment, public health, and contributed to the body of knowledge on this contaminant. We hope that this will continue and that resources will be made available to develop test methods for all isomers of DNT in soils and other media. Improved methods are also needed for nitrotoluenes and other degradation products of DNT as well as other munitions constituents that pose a risk to human health and the environment. Such efforts will help protect workers, soldiers, and communities everywhere that are affected by similar activities and sites.

Thank you for the opportunity to submit comments. We hope that this same invitation will be extended to all members of the RAB, including local and tribal government, who are also stakeholders in this important decision-making process.

<u>As a condition of participating in this questionnaire, we require that this complete response be included in the Army's final report</u>. This requirement is made to assure that comments made on behalf of CSWAB and the communities that I represent are accurately represented.

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