

EXECUTIVE SUMMARY OVERSIGHT REQUEST FOR KIRTLAND JET FUEL SPILL

Citizen Action is asking that the US Environmental Protection Agency 1). exercise oversight and furnish technical expertise for the Kirtland AFB jet fuel/aviation gas spill and/or 2). consider Kirtland for the National Priorities List as a Superfund site The Air Force has contaminated dozens of community water supplies around the nation and has 42 Superfund sites. <http://veteransinfo.org/epa.html> Citizen Action alleges that there are numerous violations of federal hazardous waste laws and environmental justice considerations for Albuquerque's surrounding minority, low income neighborhoods.

In year 2000, the Air Force claimed its fuel inventory was off a net 157,000 gallons and that the Air Force would spend \$400,000 investigating the spill. The estimate now is 24 M gallons (NMED Moats. 2012) with a clean up cost over \$100 M (NMED Curry 2010 for 8M gallons). The current Air Force contract for studies with Shaw Environmental is \$23 M. The Air Force contractor CH2M Hill claimed the spill was 37 years away from the nearest Albuquerque municipal well (2008). Now the estimate is 5 years. (NMED, Davis, 2012). In 1972, on the Massachusetts Military Reservation (MMR), located on western Cape Cod, a shallow and much smaller pipeline leak of 70,000 gallons of aviation fuel cost over \$35,000,000 for clean up (1998 dollars). At 24 M gallons, three times the size it was understood to be, at the time the Shaw contract was entered into in September 2010, remediation and/or studies may be grossly under funded. While touted as a "performance contract," in reality the contract is for studies, not a major clean up effort.

Not one gallon of the LNAPL liquid pool of jet fuel trapped beneath the aquifer has been removed since it was discovered in 1997. After 13 years, the Air Force still doesn't know how far the contamination has traveled toward Albuquerque's drinking water wells. The dissolved plume of Ethylene Dibromide (EDB) was determined to be closer to Albuquerque's Ridgecrest well field by another 1,200 ft in only 7 months in 2011 (ABQ Water Protection Advisory Board 2011 Annual Report).

The EDB plume may already have arrived at the municipal wells, but not yet be detected. Monitoring wells need to be installed close to the City's wells. The nearest groundwater monitoring well to the City's supply wells is planned to be 2,000 ft away. Drilling of the monitoring wells was delayed for 3 months because a drilling subcontractor went bankrupt. Shouldn't the Air Force have known and provided backup drillers? The 3 clusters were far fewer than the 11 clusters NMED requested.

The Air Force does not have the clean up plan that the New Mexico Environment Department ordered to be immediately produced -- 3 years ago. There is no remediation planned for the dissolved plume of the carcinogen Ethylene Dibromide (EDB) that is headed for the municipal drinking water wells.

There are no plans for water treatment facilities even though the EDB plume could hit the drinking water wells in under five years. The Air Force has ignored the New Mexico Environment Department's (NMED's) orders on four occasions to produce an Interim Measures Work Plan for full remediation of the Fuel oil plume sitting on the ABQ aquifer within 5 years. Plans submitted are repeatedly defective. Colonel Conley stated at his March 13, 2012 public meeting that the Air Force has no plans to remediate the dissolved plume. Col. Conley also stated at the same meeting that the Air Force's action plan if the fuel oil contamination reaches a Ridgecrest well is to "shutdown the well."

The Air Force is long on misleading the media and the public and short on effective action. Without any reliable data, representations are made to the public and Congress that “natural processes” (bio-remediation) will clean up the dissolved plume. EPA manuals clearly describe that Soil Vapor Extraction technology is not usable for diesel type fuels in the aquifer. Nevertheless, Shaw and the NMED have claimed continuously that SVE technology will remove the LNAPL. Soil Vapor Extraction technology cannot clean up the jet fuel trapped beneath the water table. “The trapped NAPL will be an ongoing source of dissolved groundwater contamination indefinitely.” (Shaw 4th Q 2011 report). Concerns were expressed by both NMED and the Water Utility Authority that the proposed on-site containment wells would draw the LNAPL plume closer to the production wells.

Shaw and NMED are proposing the design and use of a larger thermal oxidizer soil vapor extraction (SVE) system that will not be operative until at least the end of November 2012. Thermal oxidizers could have been ordered from many commercial vendors for use without the delays and expense inherent in the design, testing, and permit applications for use from Shaw. SVE units of the type now in use could have been readily provided as originally requested by the NMED.

In 2011, Xitech, Inc. environmental engineer, Dwight Patterson, informed the EPA Federal Facilities and Enforcement Office and EPA Region 6 that the fuel oil spill at Kirtland is the most difficult and threatening remediation site in the United States at this time. Patterson stated that major emergency response action with the most aggressive removal methods were necessary to remove the contamination. He stated reasons that:

- there is no hydraulic containment of the dissolved or LNAPL plumes at the aquifer;
- all current NMED approved interim measures (IM) were only studies;
- that a “tipping point” has been reached so that EDB is now accelerating toward the Ridgecrest production wells from the pumping of those wells;
- that only SVE technology is actively being used and that SVE cannot remove remove jet fuel according to NMED and EPA.

On April 13, 2012, NMED approved three additional monitoring well clusters that were proposed by KAFB nearly a year earlier. NMED called the March 2011 Work Plan for additional ground water monitoring wells “inadequate to fully characterize the Bulk Fuels Facility Spill within a reasonable time.” On July, 27, 2012, it was announced that the three new monitoring well clusters that KAFB was ordered to have installed by July 31, 2012 would be delayed until late November.

The Kirtland groundwater investigation is compromised by unreliable sampling methods. NMED found over 18 wells provided water samples compromised by the presence of air bubbles that destroy volatile organic compounds. Retesting was not performed. Shaw did not meet the sampling, shipping and analyses protocols required by EPA for volatile organic compounds (VOCs) in latest sampling. The laboratory sample checklist shows that seals on sample bottles were not intact upon arrival; temperatures were not within the correct range of > 0° C to 6° C; sample temperatures were not taken and recorded upon receipt; traffic report or a packing receipt was not present. VOC sample analysis took place weeks later. Mixed air samples in Tedlar bags could not be performed at all.