



PRESS STATEMENT

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Report: Worker Exposures and Health Effects Resulting from Toxic Vapor Exposures Causally Linked; Hanford's Program Not Protective of Workers

Richland, WA: Another expert panel has released a report on the issue of toxic vapor exposure at the Hanford nuclear site in southeastern Washington State, finding that “the weight of testimony and evidence strongly suggests that a causal link exists between chemical vapor releases from Hanford waste tanks and subsequent adverse health effects, particularly upper respiratory irritation, experienced by Hanford tank farm workers and that those adverse health effects are likely caused by acute, transitory exposures to relatively high concentrations of chemicals.”

Hanford Challenge raises the question: “In light of these very serious findings, what is the contractor doing to protect its workforce *today* and into the future?”

The report, led by Savannah River National Laboratory, was commissioned in May 2014 by contractor Washington River Protection Solutions (WRPS), to determine the adequacy of their program to protect workers. This report was compiled after numerous workers received medical evaluation and treatment following toxic vapor exposures at Hanford.

“The current number of workers sent for evaluation has risen to over 56 since March 2014”, said Tom Carpenter, Executive Director of Hanford Challenge. There have been some 30 reports by experts over the past 25 years on the Hanford toxic vapor issue, according to Carpenter.

“Hanford management has responded to the toxic vapor exposures by claiming in July that there were *no* vapor exposures,” said Carpenter, “and here we have Hanford’s own experts stating that ‘field measurements at the source found irritants at concentration far exceeding the OEL [Occupational Exposure Limit]’. Hanford’s program falls far short of where it needs to be in order to protect workers, or even detect vapor exposures at all.”

The report offered numerous recommendations, including asking Hanford site contractor and Department of Energy (DOE) management to “actively demonstrate commitment to improve the current program and ultimately resolve the vapor exposure concerns.” The report called on Hanford management to make the chemical vapor program as important and well-funded as the programs currently in place to control radiological hazards. Other recommendations include:

1. Establish a program to proactively sample the headspace of tanks to validate and enhance chemical characterization.
2. Accelerate development and implementation of a revised IH [Industrial Hygiene] exposure assessment strategy that is protective of worker health and establishes stakeholder confidence in the results for acute as well as chronic exposures.

3. Reduce the impacts of bolus exposures, by utilizing real time personal detection and protective equipment technologies specifically designed to protect individual employees.
4. Accelerate implementation of tailored engineering technologies to detect and control vapor emissions and exposures experienced in the Hanford tank farms.

The report stated that Hanford contractor WRPS' program is not designed to account for the fact that exposures occur in sudden, unpredictable releases in large amounts, but short in duration. The report referred to these releases as "bolus exposures." It noted that Hanford contractors do not have the capacity, processes, personnel, or instrumentation in place to either react to or prevent such exposures, much less be able to detect the chemicals that might be present in those vapors, or in what concentrations.

Other recommendations include providing workers with modern equipment, such as ten-minute escape-pack respirators, which could be donned in 9 seconds and used by workers to escape the tank farm area quickly without fear of exposure. This would have to be combined with gas flow meters on stacks and openings into the tanks, as well as other monitoring methods, to detect when a gas release event is occurring.

"Dozens of employees have experienced preventable vapor exposures severe enough to merit medical evaluation since mid-March of this year," said Carpenter, "and nobody knows what they were exposed to or what health effects might result. No provisions were made to protect the workforce on the flawed assumption that the exposures weren't serious. Hanford should not be allowed to continue to play Russian roulette with workers' health," said Carpenter.

Hanford Challenge has [called upon](#) the Washington State Attorney General's office to enforce existing provisions in hazardous waste laws already in effect at Hanford to require Hanford to protect its workforce. "The Savannah River report is just the latest in a long string of such reports since 1992," said Carpenter. "They all say the same thing, with various levels of detail. The fact is that management has failed to heed recommendations for improvement. We see no reason why this won't happen again. External oversight is urgently needed to break the cycle."

There are some 1,800 toxic chemicals detected in the headspace of Hanford's tanks, though the report stated that methods used to arrive at this number were flawed. Over the years, there have been serious injuries and illnesses among workers that have resulted from toxic vapor exposures, including brain damage, lung disease, nervous disorders, and more.

Hanford Challenge was pleased with the Savannah River report, yet also cited several areas that were missed, and should be included in the final report:

- There were no recommendations to WRPS on immediate steps to take to protect workers.
- Hanford is using individual worker's sense of smell as the first line of defense to tell when there has been a vapor exposure, despite the presence of odorless toxic chemicals. Unless a worker reports smelling an odor and/or reports symptoms of exposure, then Hanford says there is no exposure. Hanford also claims there is no exposure when odors are reported and symptoms are observed. DOE fights every claim for compensation from workers, leaving many injured workers without a remedy.

- Adverse health effects may be long-term in nature, or if felt immediately, are likely to be dismissed as symptoms of a cold, a stomachache, or some other cause. Hanford employees report that supervisors have been quick to dismiss symptoms following a vapor exposure as due to the employee’s lifestyle or a cause other than chemical vapors.
- The report does not identify or discuss the system drivers that result in the site’s refusal to deal with vapor exposures leading to health effects, including –
 - A broken safety culture that punishes disclosures of issues, even reporting symptoms of illness;
 - This includes ongoing denial of the scope and severity of the problem, as related to the public in media statements, to stakeholders like Hanford Challenge, and to the workforce.
 - Failure of the Department of Energy to prioritize solutions to the vapor issue, despite numerous reports documenting the severity of the issue since 1987.
 - Peer pressure on workers to not report vapor-related symptoms because to do so would be to slow down work, or be seen as a complainer. This extends to peer-to-peer harassment and systemic barriers to upgrading protective equipment such as supplied fresh air.
 - Performance Based Incentives for the contractor, which reward meeting deadlines at the cost of worker health and safety. The incentive fees amount to tens of millions of dollars, and dealing with an issue like chemical vapor exposures slows down the work and threatens the ability of the company to meet the deadline, and thus earn the fee.
- The report fails to acknowledge the dozens of serious cases of injury and illness that have resulted from past chemical vapor exposures, beyond “irritation.” For instance, there are numerous diagnoses by qualified medical personnel of brain damage and lung disorders resulting from chemical vapor exposure. (See, for example, the [publicized decision in the case of Diana Gegg](#)). Some of these workers have been profiled in [numerous media reports](#), yet there has been no site follow-up with these workers.
- The report does an inadequate job of comparing the numerous past findings from reports dating back to 1992 that had similar findings to this report. The Hanford site’s failure to have implemented past recommendations is a systemic issue that bears attention. (See: [Selected Past Findings from Past Reports on Vapor Exposures.](#))

“Why should DOE or the contractor react differently this time than it has in the past, i.e., give lip service to the panel, but ignore the findings and move on as if nothing has happened,” asked Carpenter. “The public and workforce deserve better. We are calling for external oversight to ensure that DOE and the contractor protect the workforce from future vapor exposures and support workers who have suffered injury from past exposures.”

Useful links: (all found at www.hanfordchallenge.org)

- (1) Findings from Past Vapor Reports
- (2) Diana Gegg decision in vapor exposure case
- (3) Hanford Challenge’s “Get Well Plan”
- (4) Letter from HC to WA State Attorney General on state oversight