Downstream Strategies
building capacity for sustainability
295 High Street, Suite 3, Morgantown, WV 26505

Testimony of Evan P. Hansen

Before the Committee on Environment and Public Works
United States Senate

March 6, 2014

Hearing on Preventing Potential Chemical Threats and Improving Safety: Oversight of the President's Executive Order on Improving Chemical Facility Safety and Security

Chairman Boxer, Ranking Member Vitter, and members of the committee, thank you for the opportunity to testify.

I am president of Downstream Strategies, an 11-person environmental consulting firm based in West Virginia. Since 1997, we have offered environmental services that combine sound interdisciplinary skills with a core belief in the importance of protecting the environment and linking economic development with natural resource stewardship. Our projects typically include elements of science and policy related to our Water, Energy, and Land Programs. Our tools include Geographic Information Systems, Monitoring and Remediation, and Stakeholder Involvement and Perspectives.

Our firm works successfully with many government agencies. At the federal level, we provide services to the Department of Veterans Affairs, Fish and Wildlife Service, Environmental Protection Agency, Department of Agriculture, and Appalachian Regional Commission. We also completed numerous projects for state agencies, local governments, nonprofit organizations, attorneys, private businesses, and individuals. Our projects commonly include elements of the Safe Drinking Water Act, Clean Water Act, Surface Mining Control and Reclamation Act, and other federal acts that strive to protect our environment and foster economic pursuits.

Background on the January 9 spill

On January 9, 2014, the West Virginia Department of Environmental Protection (WVDEP), in response to an odor complaint filed by a citizen, discovered a chemical leak about 1.5 miles upstream from the intake for the state's largest public water system. The leak was occurring from Freedom Industries, Inc., a chemical storage facility located on the bank of the Elk River, just outside of the Charleston city limits. Secondary containment had failed, and a reported 10,000 gallons of chemicals were leaking into the river.

The statewide spill alert hotline had not been notified, and the public water system, which is run by West Virginia American Water, a private company, had not shut its intake. Chemicals were drawn into the plant, passed through the plant without proper treatment, and contaminated the distribution piping network. This system serves more than 300,000 people in Charleston, the state capital, and the surrounding nine-county area. That day, Governor Tomblin declared a state of emergency with instructions not to use the water other than to flush toilets and fight fires. The state of emergency remained in effect until February 28.

The impacts of the spill have been significant. Without clean water, normal life could not continue. Businesses were closed, and schools were shut down. Marshall University produced an early estimate of the economic impact of the spill: $19 million for each day that the water ban was in place, for a very conservative economic impact of $61 million. According to this report, approximately 24% of the workforce in the affected area was impacted.

Almost immediately after the spill, the Centers for Disease Control and Prevention (CDC) announced a 1 part per million screening level for 4-MCHM to prevent adverse health effects based on the limited amount of information available at the time. On January 15, after new information came to light, CDC warned that pregnant women should not drink the water. Then, on January 21, Freedom Industries disclosed that a second chemical mixture, PPH, had been stored in the same tank that leaked. This disclosure further complicated efforts to determine safe levels. These events, combined with the fact that CDC did not initially provide justification for its 1 part per million screening level and that state officials implemented this screening level as a “safe” level, undermined public confidence.

Hundreds of residents sought medical attention after ingesting, washing in, or inhaling vapors from the water. Even today, almost two months after the spill, many affected residents refuse to drink or bathe in the water. While the official emergency is over, the region is still significantly impacted by the spill, and many residents and business owners have lost faith in public officials who have overseen the spill response.

This spill highlighted failures at the federal, state, and local levels of government, as well as in private industry. At the federal level, chemicals that spilled were grandfathered under the Toxic Substances Control Act; insufficient data and studies were available to quickly set scientifically defensible health-based thresholds for safe water after the spill. Also, the Safe Drinking Water Act did not require public water systems to undertake rigorous source water protection planning, relying instead of voluntary efforts.

At the state level, the Freedom Industries site was covered under a National Pollutant Discharge Elimination System (NPDES) permit under the Clean Water Act. Although WVDEP issued this permit and has primary enforcement responsibilities, it did not inspect this site under NPDES and did not review or have copies of the

Storm Water Pollution Prevention Plan (SWPPP) or Groundwater Protection Plan (GPP). The NPDES permit specifically required that these two documents be reviewed by WVDEP during the first permit cycle and that they become enforceable provisions of the permit, in order to limit the potential release of chemicals to the environment and to perform timely response actions in the event of a release. To date, it appears that only one of these plans was ever even created—the SWPPP—and it was outdated, in draft form, and inconsistent with current site activity.

At the local level, the Local Emergency Planning Committee appeared to have been unaware that large quantities of harmful chemicals were stored at the Freedom Industries site and appeared not to have planned for the potential event that a leak would occur—even though Freedom Industries filed its Tier II forms under the Emergency Planning and Community Right-to-Know Act. Further, the Freedom site is highly conspicuous, in plain view of travelers along two major interstates near Charleston.

In the private sector, Freedom Industries failed to properly implement its NPDES permit by allowing pollutants to discharge into the Elk River and by failing to immediately call the spill alert hotline.

West Virginia American Water failed to engage in source water protection planning efforts. While this may not have been required under the Safe Drinking Water Act, it would have been prudent to be aware of the potential significant contaminant sources upstream from the intake and to have put systems in place to minimize risks posed by the facilities that stored the largest quantities of the most dangerous substances. Had such procedures been in place, Freedom Industries certainly would have been on the top of the list.

Downstream Strategies efforts since the spill

In response to the spill, Downstream Strategies released a report in partnership with the West Virginia Rivers Coalition entitled "The Freedom Industries Spill: Lessons Learned and Needed Reforms" on January 20. This report reviewed how the Clean Water Act, Safe Drinking Water Act, and Emergency Planning and Community Right-to-Know Act intersected with the spill itself, and the spill response. It also provided recommendations related to each law for preventing public water systems from being contaminated in the future.

One month later, on February 23, we released a second report entitled "Potential Significant Contaminant Sources above West Virginia American Water's Charleston Intake: A Preliminary Assessment." In this report, we documented a range of potential significant contaminant sources upstream from the Charleston intake and compared these against the existing public inventory, which was compiled in 2002.

Also, in an attempt to fill a critical gap left by state and federal spill responders, we have been performing in-home tap water testing for 4-MCHM and other relevant constituents. In our preliminary results, we found that four of 10 homes still had polluted water delivered by West Virginia American Water from January 18-

27, even after the "Do Not Use" order was lifted and flushing was performed according to the recommended procedure. Our most recent sampling has not detected MCHM in delivered water.

Existing federal authorities

The President's Executive Order on Improving Chemical Facility Safety and Security set a number of efforts in motion. The Chemical Facility Safety and Security Working Group, among other things, is investigating existing authorities that can be used to help manage chemical safety risks.

I would now like to address three existing federal authorities and their relevance to preventing chemical risks to our drinking water supplies: (1) Spill Prevention, Control, and Countermeasure (SPCC) requirements under the Clean Water Act; (2) source water protection planning under the Safe Drinking Water Act; and (3) NPDES permits under the Clean Water Act for facilities directly upstream from public water systems.

Spill Prevention, Control, and Countermeasure requirements

The Freedom Industries site was not subject to SPCC requirements because these regulations only apply to oil facilities. It is interesting to note that a previous site owner stored oil products in the same tanks, and presumably would have been subject to SPCC requirements.

If SPCC had included all types of chemical storage, and not just oil facilities, the risk of the Freedom Industries leak occurring would have been significantly reduced. If a leak did occur, specific planning would have already existed to respond very rapidly and appropriately. Under SPCC, Freedom Industries would have been required to install and maintain equipment to specific performance standards, conduct and document specific types of inspections, and train employees in both spill prevention and contingency measures should a spill occur.

As contemplated by the Executive Order, new regulations using existing authorities could widen the applicability of the SPCC regulations to include not just oil facilities, but all facilities with aboveground storage tanks, including chemical facilities.

Safe Drinking Water Act

The Safe Drinking Water Act provides a useful planning process to identify and address the most serious risks to drinking water. As required by the 1996 amendments, public water systems were required to create Source Water Assessment Reports. These Assessment Reports delineate zones of critical concern (ZCCs) for each intake: corridors along rivers and tributaries providing raw water to the system that warrant more detailed management because spills that occur in this zone would reach the intake very quickly. These

Assessment Reports inventory potential significant contaminant sources within the ZCCs. Finally, they identify the susceptibility of each intake to contamination.

More than 300 such reports were created across West Virginia, including one for the Charleston intake, which was published in 2002. This report delineated the ZCC, identified 51 potential significant contaminant sources within the ZCC, and determined that the Charleston system was highly susceptible to contamination. Because the plan is 12 years old, the list of potential significant contaminant sources is out of date. The Freedom Industries site, for example, was listed, but in 2002 the site was under different ownership and stored different types of materials. Further, the list of potential significant contaminant sources is not consistent with the current inventory of NPDES and other WVDEP-issued water resources permits in the ZCC.

The Safe Drinking Water Act does not mandate that public water systems take the next step to develop Source Water Protection Plans. Protection Plans build upon the Assessment Reports and require planning for alternative water sources, contingency planning should contamination occur, and management planning to identify and minimize the risks identified in the Assessment Reports.

While many Source Water Protection Plans have been written for public water systems across West Virginia, no such plan has been written for the Charleston system.

The Chemical Safety and Drinking Water Protection Act of 2014 (S. 1961), cosponsored by Senators Manchin, Boxer, Rockefeller, and Durbin, would amend the Safe Drinking Water Act to require additional oversight and inspections of certain chemical storage facilities. An inventory of facilities would be created. Inspections would be required every three years for facilities within ZCCs, and every five years for other facilities. It also mandates information sharing with downstream water systems. These are all important steps toward improving chemical safety, and the bill provides useful minimum standards for state programs such as the one now under consideration in West Virginia. However, this bill focuses only on chemical storage facilities—one of many types of potential contaminant sources upstream from drinking water intakes.

I would encourage additional measures to be taken to protect intakes against all potential risks. It should be mandatory for public water systems to create Protection Plans that are based on broad stakeholder involvement, as contemplated in existing guidance. In addition, Assessment Reports and Protection Plans should be periodically reviewed and updated. Potential contaminant sources change, and source water protection efforts must be based on current information to be effective. Finally, I encourage a requirement that all facilities upstream from public drinking water intakes be required to share SWPPPs, GPPs, SPCC plans, and other similar documents with downstream public water systems.

Clean Water Act

Under the Clean Water Act, industrial stormwater NPDES permits are typically required for operations such as those with aboveground storage tanks. These can be either individual or general permits. Even general permits include some site-specific information and requirements, which are documented in SWPPPs and GPPs. These plans outline a series of management practices that, among other things, should prevent spills, and, if a spill should occur, should ensure that it is handled appropriately. In addition, these NPDES permits require immediate spill reporting. NPDES permits, like any permits, are only effective if they are enforced.

Freedom Industries held a general industrial stormwater NPDES permit for the site at which the leak occurred. They did not appear to follow the management practices required by this permit, nor did not they immediately report the spill. In addition, this permit was not enforced by WVDEP. It was not inspected under NPDES, and WVDEP did not review the SWPPP and GPP as required.

I encourage the use of existing authorities to make individual permits mandatory for facilities within ZCCs that are already regulated under NPDES. Unlike general permits, individual permits must undergo public notice and comment and would allow state regulatory agencies to include site-specific conditions that tie directly into Protection Plans. In addition, existing authorities could be used to mandate annual inspections at NPDES-permitted facilities within ZCCs.

Conclusions

Both the federal and state governments play important roles in minimizing the risk of chemical threats to drinking water. The federal government can take steps using existing authorities, as contemplated by the President's Executive Order. When necessary, new legislation such as the Chemical Safety and Drinking Water Protection Act of 2014 may also be required. Federal actions can complement those now under consideration by the West Virginia Legislature, which is debating a bill that would establish a new aboveground storage tank permitting system, mandate the creation and periodic updating of Protection Plans, require individual NPDES permits within ZCCs, and mandate annual inspections of such facilities.