Testimony of
Kelly Heffner
Deputy Secretary, Water Management
Department of Environmental Protection
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Flood Mitigation
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Chairpersons White, Yudichak and Erikson:

At the end of August, 2011, Hurricane Irene caused severe flooding and widespread power outages in eastern PA and some flooding in central PA. With the ground saturated and waterways at very high levels, Tropical Storm Lee arrived approximately one week later, causing historic widespread flooding in most of central and eastern PA.

To put these storms in perspective and to understand the amount of runoff our waterways and stormwater systems had to contend with here are some statistics. The city of Harrisburg established two new records; one for daily rainfall with 7.71 inches of rain in a 24-hour period, and also for monthly total rainfall in September 2011 of 18.43 inches. The city of Williamsport also saw new record totals with 6.76 inches for daily rainfall and a monthly total of 15.97 inches. All across the Commonwealth records were set for the month of September as the wettest on record. These storms and the amount of rainfall well surpassed the 100-year storm event and were within the averages of a 200-year storm event. The Swatara Creek set a new crest record of 26.8 feet, more than 10 feet over the previous record in 2006. The Swatara Creek was over flood stage for 5 days with 3 of those days being at major flood stage. The flooding on the Susquehanna River set or approached record levels at cities all along its path. The damage created by these intense storms was devastating. DEP staff along with PEMA and other state and federal partners were prepared, acted swiftly in the emergency, and continue to work to assist our citizens in repairing the damage.

DEP regulates water supply facilities, wastewater treatment plants, dams, water quality of PA waterways, landfills, nuclear power plants, and all types of environmental pollution. Some of the facilities regulated are considered critical infrastructure sites by the U.S. Department of Homeland Security.

DEP is either a primary or support agency for all Emergency Support Functions (ESFs) contained in the Commonwealth Emergency Operations Plan, administered by the PA Emergency Management Agency.

Throughout my testimony, I will briefly highlight areas where DEP acted with speed and coordination to provide services to the Commonwealth during the flood disaster to help mitigate the effects of the flood and will offer DEP's insights into flood mitigation issues that have been brought to our attention.

FUEL WAIVER

In an effort to prevent a fuel shortage crisis, local suppliers worked with the Commonwealth to request a temporary waiver of the gasoline volatility requirements [(*25 Pa. Code § 126.301*) in accordance with Section 211 (c)(4)(C) of the Clean Air Act (42 U.S.C § 7545 (c)(4)(C)] from the US Environmental Protection Agency. Secretary Krancer made the formal request to EPA Administrator Lisa Jackson and the waiver was granted within 24 hours.

WASTE MANAGEMENT

Recognizing the need to increase waste disposal services for health and safety reasons, the department took the following swift actions in partnership with local government and Pennsylvania's waste industry:

- Increased the daily tonnage limits at municipal waste landfills
- Extended operating hours for municipal waste landfills
- Approved centralized temporary collection facilities, with controls, for municipalities
- Waived Act 90 fees for flood-related debris
- Developed special forms to track the amount of flood-related debris going into landfills
- Provided financial assistance for a pre-scheduled County Household Hazardous Waste Collection event that received unexpected amounts of wastes from residents (Union County).
- Provided outreach tools on proper collection, separation and disposal techniques for the various types of wastes.

WATER AND WASTEWATER TREATMENT

Throughout Hurricane Irene and Tropical Storm Lee, many of the wastewater and water treatment plants were impacted by unprecedented flows. After the two storms, DEP's initial assessment identified 22 impacted wastewater treatment plants (not meeting discharge limits) and 14 impacted water treatment plants with boil water advisories (not providing safe drinking water). DEP's regional and central office staff responded immediately and provided technical assistance, advocated for streamlined review processes from EPA, and supported timely PENNVEST board meetings with the goal of getting as much financial assistance in a timely manner.

EMERGENCY PERMITS

While conducting the damage assessments, it became clear that the removal of obstructions from waterways had to be a top priority of private property owners, farmers, and municipalities. DEP issued over 1000 Emergency Permits. These authorizations were reviewed and issued within hours – not days.

EXPEDITED PERMIT REVIEW FOR TEMPORARY HOUSING

FEMA identified the need to provide emergency and temporary housing to individuals who had been displaced by the flood. As part of the initial siting process for temporary housing, FEMA prepared an environmental assessment for potential housing locations. DEP programs reviewed and commented on the Environmental Assessment within 48 hours. DEP technical staff also made themselves available to expedite any necessary Act 537 or Act 102 approvals for the sites.

PRIVATE DRINKING WATER SAMPLING

Throughout the recovery phase, DEP took several steps to ensure homeowners with private water wells were testing and properly disinfecting their water supplies. For several weeks, our regional offices also accepted water samples directly from residents – seven days a week - and forwarded the samples to our laboratory for immediate analysis. To date, DEP's lab has analyzed 3066 water samples.

VECTOR CONTROL

Floodwaters and heavy rains created breeding grounds for insects, leading to a dramatic rise in mosquito populations across the north-central, north-east and south-central regions of the state. 58,675 acres were sprayed after the flood to prevent a public nuisance and protecting public health.

STATE FLOOD PROTECTION PROJECTS

Since the flood events, DEP has contacted municipal sponsors of state flood protection projects in the affected counties to determine if flood protection projects were damaged. Thirteen state

DEP Bureau of Waterway Engineering has coordinated with the Federal Natural Resources and Conservation Service (NRCS) on their Emergency Watershed Protection (EWP) program. This program mainly consists of protecting homes, businesses, or utilities from an imminent threat due to streambank erosion but it also includes projects to remove debris or deposition where lives or property are threatened.

Funding for the program requires an authorization through Congress and NRCS pays 75% of the construction costs with a 25% non-federal cost share.

NRCS is still collecting information on potential sites from their district conservationists and has received information on over 300 potential sites across the Commonwealth.

DEP is also coordinating with NRCS on projects that would qualify for existing federal funding through the EWP urgent and compelling program. NRCS is applying for funding through Washington for 14 sites that must be done immediately to save homes or businesses and they cannot wait for the regular EWP program. DEP plans to provide the 25% local cost share and is working on details of an agreement with NRCS on what in-kind services DEP can also perform to support that cost share (possibly design, permitting, bid document preparation, and inspection).

DEP's flood protection program has received many requests from communities with significant damage during Hurricane Irene, Tropical Storm Lee, and other recent storm events to conduct site visits to determine what can be done to prevent flood damage in the future. Many

communities have requested flood protection feasibility studies. DEP is investigating the areas and providing recommendations or handing out flood damage assessment forms for the communities to fill out and return for an initial determination. DEP will do the initial determinations.

DREDGING

Throughout the flood, and during the restoration phase, DEP has received many legislative inquiries regarding dredging as a possible measure of mitigation for future flooding.

Dredging of streams will not prevent flooding.

In fact, un-engineered and random dredging, deepening, or widening of stream channels has been proven to be an ineffective tool to prevent nuisance flooding.

These types of activities often result in rapid deposition of sediment in the channel and can lead to channel instability, bank erosion, and further damage to the aquatic environments.

Dredging should not be confused with the removal of flood debris from the stream channel, which DEP issued over 1000 emergency work permits for work on streams, bridges, culverts, and other infrastructure. Work under these permits included bank stabilization and removal of accumulated silt and sediment from stream channels.

Removal of woody materials, propane tanks, manufactured homes, trailers, and other debris piled against bridge piers, trees and accumulated within the channel is necessary to recover the hydraulic efficiency of the waterway channel. Debris removal does not normally include the removal of deposited sediment, unless the sediment presents a major blockage at bridges or culverts which promotes additional scouring or erosion around piers and abutments or significantly reduces the waterway opening of the structure.

Stream dredging is a regulated activity which requires permits from both the Department of Environmental Protection and the US Army Corps of Engineers. The permit application for a dredging project must include detailed environmental and engineering analyses and engineering plans, as required by the Rules and Regulations of Chapter 105 and the Clean Water Act, Section 404.

While this process may be detailed, DEP feels that the tools needed to issue these permits are already clearly stated in law and regulation and no new legislation defining the process would be necessary.

While DEP does not see the need for legislation addressing dredging, carefully planned, engineered and constructed channel and stream restoration projects can significantly reduce flooding to adjacent properties, and restore the aquatic environments in the stream channel absent of new legislation.

The Department of Environmental Protection promotes stream restoration projects in lieu of stream dredging activities and is committed to working with stakeholders at facilitating the issuance of the required authorizations necessary for stream restoration projects.

Thank you for allowing me to present testimony before the committee on behalf of DEP and I would be happy to answer any of your questions.