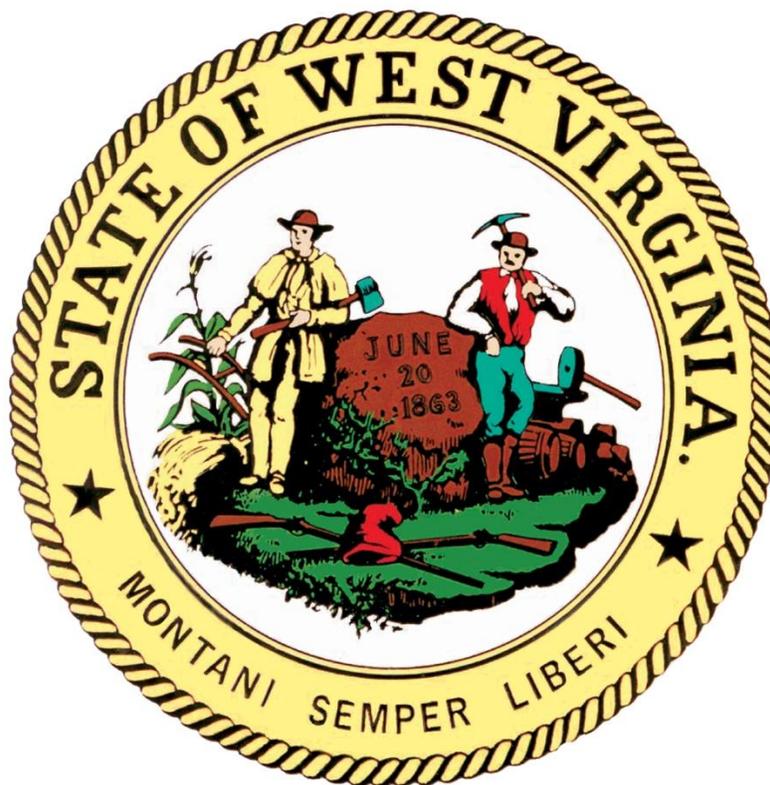


After Action Review

June 29, 2012 Derecho



Submitted to Governor Earl Ray Tomblin

By

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INTRODUCTION

On the evening of Friday, June 29, 2012, a violent, widespread band of rapidly moving wind and thunderstorms raced through the State of West Virginia, destroying trees, power lines, and poles, and leaving approximately 688,000 customers (between 1.4 and 1.6 million people) without electrical power. This powerful storm system, called a “derecho,” occurred with little advance warning and during a record-setting heat wave. Properties in fifty-three of West Virginia’s fifty-five counties sustained damage as a result of the derecho’s 70-plus mile per hour wind gusts. The damage to trees, residences, and businesses mirrored that of a hurricane or tornado.

West Virginia was not the only state targeted by the derecho. The band of storms, which originated earlier that day near Chicago, Illinois, carved a 1,000 mile path of destruction stretching from the Midwest to the Delmarva Peninsula. Nearly two dozen individuals died between Indiana and the Atlantic Ocean as a result of the derecho, including three West Virginians. Thousands of individuals lacked power for days in the life-threatening heat wave that persisted in the wake of the storm, particularly in West Virginia, Ohio, Virginia, and Washington, D.C.

In West Virginia, the widespread damage and extensive power outages were apparent immediately. Accordingly, Governor Earl Ray Tomblin declared a statewide State of Emergency on the night of June 29, just hours after the derecho struck. He also implemented the West Virginia Emergency Operations Plan and activated the Emergency Operations Center. Thereafter, state and federal agencies, county and local emergency management offices, utility companies, volunteer and charity organizations, the Office of the Governor, the West Virginia National Guard, and various other entities mobilized to safeguard the health, safety, and welfare of all West Virginians.

For the better part of the next two weeks, as thousands of West Virginians lacked electrical power with temperatures exceeding 90 degrees Fahrenheit, these emergency responders worked tirelessly in a variety of capacities. For example, they transported ice and generators to hospitals and nursing homes; fed and sheltered the hungry and overheated at local cooling stations; and removed downed trees and limbs from roadways. Power companies worked around the clock to restore electricity to homes and businesses. Citizens checked on their elderly neighbors and donated bottles of water and food at local collection centers. The

West Virginia National Guard and other organizations delivered these necessities to those in need. These are only a few illustrations of how our citizens, utility companies, businesses, and government agencies responded to the unique situation in an aggressive, coordinated manner. In addition to the initial storm, the state continued to be impacted by subsequent storms for several days, making it difficult for power companies to fully restore power.

Given the intense heat wave, West Virginia's sizable elderly population, and the lack of any serious health emergencies, the response was a success and beneficial to many. But as in any major emergency response, problems did surface. Among other things, thousands of West Virginians lacked electrical power for over two weeks. Many experienced difficulties in receiving emergency communications due to the widespread power outages. There was, at least initially, a panicked rush by citizens to obtain gasoline at the pumps, which made it a challenge to fuel priority vehicles and generators. Ice was hard to obtain and deliver. Hospitals and nursing homes had difficulty refrigerating medicine. Prisoners on "lock down" became rowdy in the heat and darkness; some of them did not have an adequate supply of water. Although these and many other unique situations were handled admirably by the public and private sectors, our emergency response can be improved.

GOVERNOR TOMBLIN ORDERS A REVIEW OF THE EMERGENCY RESPONSE

On July 11, 2012, as the emergency response efforts were winding down, Governor Tomblin directed Peter Markham, General Counsel to the Office of the Governor; Jimmy Gianato, Director of Homeland Security and Emergency Management; and Major General James Hoyer of the West Virginia National Guard to conduct a comprehensive After Action Review of the response. In requesting the After Action Review, Governor Tomblin emphasized it was important that "we learn from this experience" so that "we are prepared should the state ever face an even greater emergency in the future."¹ In the past year the State has implemented many of the suggestions outlined in this report.

¹ While the instant Review was being conducted, the state faced yet another major emergency—a statewide winter storm courtesy of Hurricane Sandy. Like the derecho, the storm knocked out power throughout the state. Temperatures were, again, extreme—but this time of the cold variety. Fortunately, the state was even better

During the months of July and August 2012, the Review Team encouraged all participants in the emergency response to engage in collaborative, roundtable-type discussions to assess the strengths and weaknesses of their actions. Using written questionnaires, the Team solicited information and feedback from these individuals, agencies, and organizations to better understand the particular roles they played, the responsibilities they managed, and the successes they achieved. The questionnaires also asked the emergency responders to identify and analyze the problems they encountered, and requested them to pinpoint concrete solutions they can implement to improve their emergency responses going forward. In short, the Review Team’s inquiry was threefold. It sought to understand: What actually occurred in the emergency response? What went well and why? What can be improved and how?

PARTICIPANTS IN THE REVIEW

Among many others, the following entities provided information and recommendations to the Review Team:

American Red Cross	Tab 1
Appalachian Power Company	Tab 2
County Commissioners’ Association of West Virginia	Tab 3
FirstEnergy Corporation	Tab 4
Frontier Communications	Tab 5
Monongahela Power Company and Potomac Edison Company	Tab 6
Morgantown Utility Board	Tab 7
West Virginia American Water	Tab 8
West Virginia Association of Counties	Tab 9
West Virginia Auditor	Tab 10
West Virginia Bureau of Senior Services	Tab 11
West Virginia Broadcasters Association	Tab 12
West Virginia Department of Administration	Tab 13
West Virginia Department of Agriculture	Tab 14
West Virginia Department of Commerce	Tab 15

prepared to respond to the storm because this Review was well underway and information had been collected and reviewed, and new emergency protocols had been implemented. Indeed, many of the recommendations that appear in this Review were incorporated into the Hurricane Sandy response.

West Virginia Department of Education and the Arts	Tab 16
West Virginia Department of Environmental Protection	Tab 17
West Virginia Department of Health and Human Resources	Tab 18
West Virginia Department of Military Affairs and Public Safety	Tab 19
West Virginia Department of Revenue	Tab 20
West Virginia Department of Transportation	Tab 21
West Virginia Department of Veterans Assistance	Tab 22
West Virginia Division of Forestry (included in Tab 15)	
West Virginia Division of Homeland Security and Emergency Management (included in Tab 19)	
West Virginia Ethics Commission	Tab 23
West Virginia Municipal League	Tab 24
West Virginia Public Service Districts	Tab 25
West Virginia National Guard	Tab 26
West Virginia Higher Education Policy Commission	Tab 27
West Virginia Secretary of State	Tab 28
West Virginia Treasurer	Tab 29
Miscellaneous Reports Submitted	Tab 30

KEY FINDINGS AND RECOMMENDATIONS

In September and October 2012, the Review Team analyzed the information it collected from the foregoing entities. That information is included in the Appendix to this Review. The Review Team conducted a follow-up meeting with the participating entities on December 7, 2012, to discuss and strengthen its preliminary conclusions. The Review Team’s key findings and recommendations are as follows:

1. Emergency Communications—This was a problematic issue given the lack of electrical power and the magnitude of the storm damage. Many residents were literally and figuratively “in the dark” without television and landline service. Numerous radio stations were knocked off the air completely. Roads were blocked, making newspaper delivery impossible. In short, it was difficult for West Virginians to obtain information about the weather situation and relief efforts.

- The Public Alert System could be enhanced by ensuring that local radio stations have backup power for the delivery of emergency information. It was recommended stations analyze their emergency power and generator needs and take necessary action.
- State and utility communication with first responders must be improved to collect information from and transmit information to the field in a more timely manner.
- Alternative communications capabilities (*e.g.*, battery powered radios, texting, *etc.*) between state and local officials should be developed and implemented.
- The Division of Homeland Security and Emergency Management's E-Team requires internal examination and further training as it was not utilized to its full potential and was unreliable.
- Suggestions also included utility representatives be present at, or in direct contact with, emergency management centers to improve communications. Utilities would identify such representatives and provide their contact information to emergency management centers forthwith.
- Explore possibilities associated with mobile cellular towers or signal boosters in the event of disrupted cellular service.
- State agencies, particularly those with emergency management roles, were urged to consider carrying backup cellular service in the event primary service fails.
- Agencies may consider providing key essential personnel with satellite phones.

- Improve communication both interagency and with outside entities that provide emergency assistance (*e.g.*, the Red Cross).
- Revise or create agency communication strategies to set forth: who is authorized to communicate; who is authorized to receive communications; the delivery channels to be used; and the identification of back-up personnel authorized for each function. Such strategies should be submitted to and approved by the Communications Director of the Office of the Governor.
- Each division, agency or commission should maintain and periodically update contact lists of essential personnel. These lists can then be shared with utility companies so they can continue to send updates to key public officials and emergency managers.
- It is recommended regularly scheduled public briefings from a designated source be conducted during large-scale emergencies—on both the state and local levels.
- Highway message boards were not fully functional and could have provided useful information to travelers. Consider dedicating back-up power supplies to the message boards.
- The statewide interoperable radio network must be fully implemented as an alternative communications method.
- Templates for public health messages should be developed for the various emergency scenarios that are most likely to affect West Virginians (*i.e.*, snowstorms, heat-waves, flooding, tornadoes, *etc.*).
- Implementation of the new statewide emergency text messaging system, including training relating to the use of the system.

- Local officials must identify locations in each community where citizens are likely to gather during an emergency and advise state emergency managers of the same. Emergency response status updates need to be provided at these locations when other communications strategies fail.
- Deploy agency representatives to the Office of the Governor to establish a joint operations center to assist in fielding constituent calls and streamlining communications during a state of emergency.
- Make better use of social media (*e.g.*, Facebook, Twitter, *etc.*) to facilitate emergency communications—referencing official communications for correct information.
- Create a communications plan for each state agency to streamline the approval process for press releases and statements during an emergency.
- Explore the possibility of contracting with GovDelivery or a like public information provider, and develop a hotline for constituents to call for emergency response status updates.
- It was suggested all 911 centers develop Continuity of Operations Plans (“COOP”) for dealing with electrical outages and explore the possibility of purchasing or sharing generators for each center, where practicable.
- County emergency managers were encouraged to have periodic planning meetings with local first responders and elected officials.
- It was proposed the Division of Homeland Security and Emergency Management host periodic workshops with county emergency management officials to review their county plans and provide additional training on the E-Team system. Representatives from utility companies were encouraged to attend.

2. The Division of Homeland Security and Emergency Management's Emergency Operations Plan—The Division needs to conduct a thorough review of the Plan's shortcomings and revise it accordingly. Some state agencies had certain responsibilities under the Plan, but either did not follow through or lacked the necessary knowledge to fulfill their responsibilities. On the other hand, some agencies were capable and willing to lend a hand, but were not even included in the Plan. Emergency contact lists were woefully out of date; state employees did not know whether they were "essential" and therefore required to assist.

- A complete review of the State Emergency Operations Plan should be undertaken. Agency roles and responsibilities should be strictly scrutinized.
- Agencies should review and revise their COOPs, paying particular attention to identifying essential personnel and defining lines of decision making and succession. Cross-agency audits should be considered.
- The E-Team functions should be reviewed and additional training is necessary.
- A comprehensive statewide continuity and recovery procedure for technology and data resources should be developed.
- The Plan must be **reviewed, revised, and rehearsed**. Practice makes perfect.

3. Power Restoration—This was a major issue given the extended duration of the power outages, the number of individuals affected, and the severity of the heat wave.

- Power restoration efforts need to be prioritized to ensure preservation of life, public safety, and restoration of power to the largest service areas first, and in that order.
- Utility companies must have a designated contact in the Emergency Operations Center. Clear lines of communication are essential to restoring power quickly and efficiently.
- It was suggested the state collaborate with utilities to determine how it may be able to better assist utilities in restoring power. Workers at the Division of Forestry, for example, used their chainsaws to help clear blocked roadways and critical infrastructure. This was of significant help to the utility companies. Efforts could have been better coordinated had the foresters known ahead of time where in the state to concentrate their efforts in times of great emergency.
- During Hurricane Sandy, the state merged workers from the National Guard, the Division of Highways, and the Division of Forestry to create specialized emergency response teams to tackle multi-faceted challenges. The state paired these teams with utility companies to assist in clearing roadways to get to areas most in need of repair. These teams were very helpful. It was proposed such synergy be expanded to include non-profit groups, which would be able to help clear debris on private property where state workers cannot assist.
- The utility companies and emergency management officials must keep open lines of communication to ensure downed lines are not activated when chainsaw crews venture into the field.

- The utility companies require lodging and feeding advanced planning for out-of-state workers. Many of the colleges and universities opened their doors during this storm, but may not be able to do so during the school year.
- The Higher Education Policy Commission and the Community College Systems should work with their institutions to devise emergency housing plans. These intuitions might also consider identifying volunteers interested in assisting if the need arises.
- Utilities must increase vegetation management efforts.
- Consider making four-year public colleges and universities a priority for power restoration, behind other key government, health and safety facilities. Public colleges and universities have critical facilities that can meet the needs of large numbers of citizens.
- Encourage agencies and entities to acquire prepaid emergency fuel delivery contracts to ensure critical facility equipment remains operational if power is lost.
- Ensure that designated Continuity of Operations locations have alternate power sources.
- Public service districts lack alternate power supplies and play a critical role in water distribution and waste removal. This must be remedied.
- The Division of Homeland Security and Emergency Management was encouraged to explore the possibility of sharing staging areas with utility companies.
- The telecommunications companies need to create plans for generator failures and system relocation.

- A number of generators powering distribution stations were stolen following the derecho. Utility companies should coordinate with law enforcement to have patrols in the areas of these generators, where practicable. State Police patrolled these areas after Hurricane Sandy, and the number of generators stolen dropped significantly.
- The Department of Health and Human Resources should work with healthcare facilities and senior centers to develop plans for preserving medications that require refrigeration in case of a power outage.
- The Division of Homeland Security and Emergency Management should coordinate an effort to identify the specific generator needs for all critical care and corrections facilities. This list should be kept up-to-date in case of widespread power outages.

4. The State Emergency Operations Command Center (“EOCC”)

- A review of the capabilities, space, technology and staffing of the state’s EOCC should be undertaken.
- It was recommended consolidating central commands of several agencies be considered to improve information sharing and task distribution.
- Integration of Federal Emergency Management Agency (“FEMA”) direct assistance resources into state response plans should be considered.
- Ensure better coordination with the Department of Health and Human Resources’ Health Command Center.

5. Fuel Access—Contrary to popular belief, there was not a gasoline shortage in West Virginia. There was, instead, a perceived shortage because West Virginians rushed to the pumps in a panic, exhausting the supply on hand before it could be restocked.² This caused difficulties for some emergency workers who needed gasoline to operate emergency vehicles and generators for critical-care facilities.

- To prevent panic, the Office of the Governor, the West Virginia Division of Homeland Security and Emergency Management, and the Division of Energy must do a better job of communicating to the public about the status of gasoline supplies.
- Private retailers of gasoline were encouraged to consider adopting procedures that would designate certain pumps for the limited purpose of fueling emergency vehicles and public use generators.
- The Division of Homeland Security and Emergency Management should consider implementing gasoline rationing measures (*e.g.*, citizens with even numbered license plates may purchase gasoline on Monday, Wednesday, Friday) during a statewide state of emergency.
- Consider requiring fueling stations to be equipped to receive alternate power sources (*e.g.*, generators) or to have alternate power sources of their own.
- It was suggested the Office of the Governor and the Division of Banking encourage banks to offer low interest loans to fueling

² A real shortage did exist in some locations where stations were overwhelmed because of the panic. In these locations, the panic caused the shortage.

stations, individuals, critical care facilities, and businesses to incentivize the purchase of generators.

- The Division of Homeland Security and Emergency Management were encouraged create a comprehensive list of bulk stations.
- Law enforcement officers should be on standby to assist directing traffic at fueling stations in the event of long lines.
- The state should develop partnerships with private companies who may have their own fuel supply and would be willing to assist in times of emergency.
- Electronic highway message boards need to be used to direct drivers to stations where gas is available.
- Public entities are encouraged to have agreements with local school boards, Department of Highway's fueling stations, etc. to purchase fuel during a State of Emergency.

6. Education and Training—These components are the key to a successful emergency response. All public and private emergency response plans must be reviewed, revised, and rehearsed.

- Enhance training for County Emergency Operation Center Directors on roles, responsibilities, and capabilities of National Guard liaison officer (LNO) assistance.
- National Guard LNOs should work with local directors recognize local needs and provide options and services.
- The state and its primary utilities were encouraged to provide better public education on the importance of self-help and preparation.

- The Division of Homeland Security and Emergency Management should conduct periodic emergency training sessions for agencies.
- Additional emergency training and coordination with counties is necessary.

7. Processing/Delivering/Tracking Resources—Distribution of food, water and other supplies was initially delayed due to coordination difficulties.

- Some supply orders were redundant or unfilled. Protocols need to be developed to ensure proper coordination and quick time response. It was suggested northern and southern distribution points be established and developed.
- Equipment in some areas of the state was not accountable or adaptable to receive or handle supplies. Coordination with local entities could be improved.
- A primary vehicle dispatch and tracking center should be designated and maintained by National Guard and state agency personnel to facilitate coordination of supplies and other resources.
- There must be better coordination between state and local agencies, on the one hand, and outside entities (*e.g.*, the Red Cross), on the other hand, to provide emergency services and supplies. Again, better advance planning is necessary.
- Develop and maintain contact lists of essential emergency suppliers (*i.e.*, ice, water, oxygen, etc.) and consider implementing emergency purchasing agreements.

- Those making E-Team requests need to recognize there could be a delay in transporting goods, especially during a major weather event. Therefore, once the initial situation has been identified, it was recommended life support supplies be ordered forthwith. Cancelling an order that is not needed is much preferred to last-minute urgent requests.
- County officials should be informed of the procedures for requesting supplies through their county emergency managers.
- E-Team access should be given to an individual in the Office of the Governor so status updates can be communicated to public officials who make inquiries.
- Distribution plans need to include fueling needs and identification of the vehicles to be utilized.
- Counties without electricity had a critical need for oxygen tanks. It was suggested the 911 centers be allowed to refill these tanks.
- The State should review and assess its existing pharmaceutical inventory and supplement as necessary.
- Explore the possibility of providing oxygen concentrators at emergency shelters.

8. County and Local Issues

- Counties, cities, and municipalities should consider implementing 72-hour self-sustainability plans.
- Develop or maintain alternate communication methods if cellular or telephone communications fail, including use of interoperable radios and transistor radios, to transmit information.

- Counties must address the need to have generators at essential facilities, or at the very least generator hook-ups to allow for emergency power.
- Improve communication and coordination with FEMA's Office of Intergovernmental Affairs.

9. Safety/Roads/Transportation

- The Division of Homeland Security and Emergency Management, working in conjunction with the Department of Highways and other state agencies, must develop a road clearing priority plan for trees, debris, *etc.*
- Consider allowing agencies that cooperate to share radio signals to foster better communication.
- Review interagency cooperation, roles and relationships and pinpoint ways to maximize cooperation.
- Assist utilities with access to critical areas through traffic control and usage of maintenance roads normally unavailable to the public.
- It was recommended the Division of Homeland Security and Emergency Management should create a credentialing program that validates response personnel to provide access to a disaster area.
- Improve relations with utilities and ensure priority agencies have direct access to utility key contacts or help lines.

10. Public Awareness

- The Office of the Governor and the Division of Homeland Security and Emergency Management should establish more defined roles during an emergency and centralized communications strategies to provide more effective status updates.
- Local emergency management offices need to be more visible to the general public. Marketing materials such as refrigerator magnets with key emergency contact information were recommended.
- Ready.wv.gov must be better utilized. Volunteer West Virginia, the site manager, must reach out to both state agencies and private entities to identify useful information that could be posted.
- It was suggested utility safety continue to be emphasized—including safety tips with utility bills and implementing other safety communication strategies.
- The Division of Homeland Security and Emergency Management was encouraged to create a smartphone application to better communicate emergency information to the public.
- All emergency workers need to have official identification.

CONCLUSION

We believe the foregoing general findings and recommendations will be beneficial to the citizens, businesses, utilities, and leaders of West Virginia as we work to improve the effectiveness of future emergency responses. More specific emergency response information is included in this After Action Review's Appendix, which contains the written responses of the participating entities to the Review Team's questionnaires.

The Review Team encourages the Governor to empower it to host a series of regional public meetings to address these findings and recommendations, take questions, and receive additional input. In addition, the Review Team believes the Governor should direct the Division of Homeland Security and Emergency Management and the West Virginia National Guard to coordinate with state agencies, volunteer organizations, critical care facilities, and utilities to ensure that these findings and recommendations are implemented to the extent practicable. The Division and the Guard should each designate an appropriate individual to supervise such efforts.

Many of the findings and recommendations included in this Review are common sense conclusions that can be implemented with ease. Often it is the "easy fixes" that can make the most difference. The path forward requires immediate action to ensure that the lessons of the past will contribute to the successes of the future. We must not only improve overall efforts to strengthen communication, education, and preparation for future emergencies, but we must also emphasize the unique and important role of each agency, entity, utility, and individual in creating the necessary teamwork to confront future challenges.