

Electromagnetic Pulse Working Group Work Plan

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NERC Electromagnetic Pulse Working Group (EMPWG), in collaboration with industry, will follow the work plan presented below.

EMPWG Work Plan				
Task	Description	Deliverables	Lead	Estimated Completion
1. Scope Document, Work Plan	Develop and recommend a multi-year work plan for NERC to pursue. This in support of NERC BOT recommendations from February 2020. Develop Scope Document	Work Plan and scope document	NERC and EMPWG	Q4, 2020
2. Expand Membership	Solicit additional membership	Expanded list	NERC and EMPWG	Q1, 2021
3. Technical workshop	NERC to host EMP Technical Workshop	Publicly available EMP workshop	NERC and EMPWG	Q1, 2021
4. Team Leader(s) Selection	Selection of five (5) team leaders, including individual team membership.	Appointment of Team Leaders	NERC and EMPWG	Q1, 2021
5. BPS Performance Expectations¹	Establish performance expectations for all sectors of the BPS regarding a predefined EMP event. NERC staff will work with other agencies on areas that require coordination	Report of findings	Team 1	2021-2022

¹ Items that NERC staff has identified with highest priority, and that need to be addressed in the near term, are provided in **bold**

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6. Industry and Public Education	Develop (or reference) educational material about EMPs and their impact to intelligent electronic devices and BPS reliability to inform industry and general public	Technical reference document Publicly available webinar(s) Workshop	Team 1	2021-2022
7. Coordination with Other Sectors	Develop guidance to the electricity industry on how to coordinate with interdependent utility sectors	Report of findings	Team 1	2021-2022
8. Research Gaps	Support additional research to close existing knowledge gaps into the complete impact of an EMP event to understand vulnerabilities, develop mitigation strategies, and plan response and recovery efforts	Report of findings	Team 2	2021-2022
9. Monitor Current R&D on National Initiatives	Communicate to the industry research pertaining to EMP and EMP-related national security initiatives that impacts the BPS	Technical workshop (yearly)	Team 2	2021-2022
10. Industry Specifications for Equipment	Support efforts to design equipment specifications for the electric sector utility industry around EMP hardening and mitigation strategies	Report of findings	Team 2	2021-2022
11. Tools and Methods	Support development of tools and methods (and make available) for system planners and equipment owners to use in assessing EMP impacts on the BPS.	Report of findings	Team 3	2021-2022
12. Critical Assets Identification	Develop guidance to the industry on how to identify and prioritize hardening of assets that are needed to maintain and restore critical BPS operations	Report of findings	Team 3	2021-2022
13. Hardening of Critical Assets	Develop guideline for industry to use in developing strategies for mitigating the effects of a high-altitude EMP on the BPS	Technical report	Team 4	2021-2022

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14. Strategies for Supporting Recovery	Develop guidance for supporting systems and equipment (including spare equipment strategy) needed for BPS recovery in a post-EMP event	Report of findings	Team 5	2021-2022
15. Establish National EMP Notification System	Evaluate whether it would be feasible and useful to partner with the appropriate agencies to develop a real-time national notification system for the electric sector to System Operators and Plant Operators pertaining to an EMP event and its parameters.	Report of findings	Team 5	2021-2022
16. Response Planning	Develop response planning guidelines for electric utility industry members for pre and post-contingency of an EMP event that aligns with plans of applicable regulatory authorities.	Report of findings	Team 5	2021-2022
17. Enhance Operating Plans and Procedures	Work with industry to develop criteria to incorporate into operating plans and procedures and system restoration plans pertaining to EMP event.	Report of findings	Team 5	2021-2022
18. Incorporate EMP Events into Industry Exercises and Training	Develop training for system and plant operators about EMP events and what to anticipate and incorporate EMP events in industry exercises to test response planning and system restoration recovery efforts.	Technical reference document Training material (recorded webinars) Incorporate into Grid Security Exercise	Team 5	2021-2022