

Critical Infrastructure Protection and Electromagnetic Pulse Preparedness Report

Texas Division of Emergency Management

Required by Chapter 44, Texas Utilities Code

Executive Summary

The Texas Division of Emergency Management (TDEM), under the authority of Chapter 44, Texas Utilities Code, in 2025 initiated a statewide assessment of vulnerabilities, gaps, and operational readiness across all critical infrastructure sectors and local governments. Major deliverables include expanded cross-sector engagement, and publication of the first comprehensive capability dataset derived from a comprehensive statewide survey.

The current findings reflect unparalleled collaboration across state agencies, local jurisdictions, university partners, and private-sector owners and operators.

Survey data confirms strong participation from all sixteen critical infrastructure sectors, with 78% of respondents reporting identified cyber response personnel and 42% citing policy or regulatory challenges. Across respondents, state agencies and partners identified advanced core missions in infrastructure hardening, cybersecurity workforce development, cross-discipline information sharing, and local capacity-building. Concurrent to these efforts, the state advanced coordinated quarterly meetings focused on a multi-year Electromagnetic Pulse (EMP) response and recovery strategy, laying the groundwork for statewide EMP standards, sector-specific hardening recommendations, and Texas-based research capabilities in partnership with higher education institutions and federal agencies.

Together, these initiatives reflect a maturing statewide posture toward all-hazards with an emphasis on EMP hazards. Continued investment, expanded policy authority, and sustained collaboration are essential to ensuring that Texas can prevent, prepare for, respond to, and rapidly recover from all-hazard disruptions that threaten the continuity of lifeline systems, public safety, and economic stability.

Key Updates

The Texas Division of Emergency Management (TDEM), continues to advance its statewide mission to assess, protect, and strengthen Texas's critical infrastructure systems. TDEM has broadened its operational scope to address evolving threats, integrate new partners, and bring forward a more comprehensive understanding of statewide vulnerabilities. This report reflects those efforts, incorporating robust stakeholder engagement, and an analysis of capabilities and challenges identified through the statewide infrastructure readiness survey.

Over the past year, TDEM deepened its engagement with state agencies, local governments, institutions of higher education, regional emergency management organizations, and owners and operators of critical private-sector infrastructure. This broadened collaboration reflects the recognition that recovery depends not only on state-level systems, but on the collective capacity of all partners that manage, operate, or rely upon essential services. More than 750 participating local entities, as well as 50 state, higher education, and private sector partners, contributed time, data, and expertise to support vulnerability assessments, technical gap identification, shared planning assumptions, and the refinement of data sharing and information exchange protocols. These partners represented every major

lifeline sector, including energy, water, telecommunications, emergency services, transportation, and local and state government facilities. Their involvement strengthened the accuracy of statewide assessments and will accelerate the adoption of cross-sector infrastructure protection strategies.

Key Findings – EMP Planning

- Texas has launched a multi-year EMP strategy integrating existing executive order mandates.
- Five implementation pillars are underway: definitions and governance; vulnerability assessments; research and testing capabilities; federal integration; and statewide training.
- Focus sectors include electricity, water, communications, government services, health systems, and emergency response infrastructure.

Policy Recommendations – EMP Preparedness

- Require all state agencies and utilities to integrate EMP annex elements.
- Expand formal intelligence-sharing channels between state agencies and federal partners.
- Develop EMP hardening standards for critical systems.
- Grow testing and research capabilities through university and federal partnerships.
- Build local capacity through technical assistance, grants, and mutual-aid frameworks.

Texas is building one of the nation's strongest models for EMP preparedness, mitigation, response, and recovery. Continued investment and legislative support will ensure the protection of lifeline systems, safeguard economic continuity, and strengthen statewide preparedness for emerging technological threats.

Chapter 44, Texas Utilities Code EMP Strategy

Building on the insights gained through statewide infrastructure evaluations as well as previous multi-agency, multi stakeholder engagements the following are key recommendations to strengthen statewide protection from EMP events.

Texas faces a rapidly evolving threat from EMP events, whether originating from naturally occurring geomagnetic disturbances or from deliberate, human-caused acts. These hazards present a unique challenge because of their ability to disrupt, degrade, or completely disable the lifeline systems upon which Texans depend: electric power, water and wastewater treatment, telecommunications, emergency services, transportation networks, and government operations.

Over the past year, TDEM has continued to advance a statewide EMP strategy, expanding its work from initial assessment towards structured long-term planning, technical development, and coordinated interagency operations.

In carrying out these directives, TDEM has practiced a comprehensive, whole-of-government approach rooted in partnership and shared responsibility. Infrastructure in Texas is diverse and highly interconnected, and EMP preparedness and recovery cannot be achieved by any one agency, sector, or jurisdiction alone. TDEM has therefore deepened coordination with state agencies to include the newly created Texas Cyber Command, federal partners, university research institutions, military partners, utilities, and private sector operators to build coalitions to work towards a unified posture. Protecting Texas from EMP disruptions requires not only strengthening of physical systems, but also cross-jurisdictional planning processes and continuity strategies leveraging the state's collective capacity to prevent, mitigate, and rapidly recover from EMP-driven impacts.

To guide this work, TDEM and the Texas Emergency Management Council (TEMC) have developed a long-term implementation plan covering the years 2025 through 2030. The first phase of this plan, foundational planning, focuses on building a common operating picture. This includes establishing standardized definitions of critical systems, identifying recovery baselines, cataloging existing research, and consolidating guidance from federal agencies and national EMP standards. A key component of this foundational phase is the development of recommended statewide EMP hardening standards for critical systems. These recommended standards will provide best practices and the technical framework needed to guide sector-specific mitigation efforts and ensure that protective measures are consistent, scalable, and aligned with national best practices. As part of this phase, TDEM will complete development and incorporate EMP annex elements into emergency response, continuity, and infrastructure protection plans.

This ensures that EMP preparedness becomes a routine, embedded component of statewide and local planning.

The second phase centers on detailed system assessments and the further identification of vulnerabilities across priority infrastructure sectors. The TEMC and its partners will evaluate asset-level risks, interdependencies, failure modes, and the projected impacts of EMP scenarios. These assessments inform both the development of hardening priorities and the integration of EMP considerations into planning documents.

The third phase focuses on expanding Texas's capacity for EMP testing and validation. TDEM is collaborating with state universities, including the Texas Tech System and Texas A&M System institutions, to grow the state's testing and research ecosystem. These partnerships support the modeling, simulation, and real-world evaluation needed to refine hardening strategies and validate protective measures. In addition to university partnerships, TDEM is working closely with federal partners to strengthen technical capabilities and ensure Texas has access to emerging EMP science, national laboratories, and advanced modeling systems. Enhancing testing and research capacity is essential for producing evidence-based guidance and informing future infrastructure upgrades.

The fourth phase emphasizes integration with federal agencies and strengthening information-sharing processes. EMP response and recovery depends on timely intelligence, threat awareness, and access to classified and unclassified federal reporting. TDEM has

begun expanding formal intelligence-sharing channels between state agencies and the federal government and has ongoing relationship building efforts with critical infrastructure operators. These improved information flows support real-time situational awareness during incidents and help align Texas's preparedness posture with national-level risk assessments.

The fifth and final phase operationalizes EMP preparedness statewide, moving the focus from planning and assessment to implementation, ongoing exercises, and capacity-building. TDEM is prioritizing efforts to support local governments, rural utilities, emergency service districts, and small entities that may lack the technical resources to prepare for EMP hazards. Through targeted technical assistance, grant support, regional workshops, and mutual-aid frameworks, TDEM is working to ensure that effective preparedness is the standard and that communities of all sizes can strengthen their efforts. This focus on local capacity-building reflects the understanding that EMP impacts are statewide, but local jurisdictions are often the first to experience and respond to system failures.

Together, these integrated efforts represent a substantial advancement of Texas's EMP preparedness and recovery posture. By combining strong governance, evidence-based standards, improved intelligence-sharing, expanded recommended testing capacity, and local support, TDEM is developing one of the nation's most comprehensive and forward-leaning EMP preparedness strategies. Through sustained implementation of this long-term plan, Texas will continue to lead nationally in protecting lifeline infrastructure and ensuring continuity through even the most severe technological disruptions.

Conclusion and Outlook

In summary, the progress outlined in this report demonstrates the State of Texas's continued commitment to safeguarding critical infrastructure and enhancing statewide capabilities and readiness against electromagnetic threats. Through expanded cross-sector collaboration, exercising, strengthened data and intelligence sharing partnerships, and the development of long-term implementation strategies, TDEM and its partners have built a foundation that positions the state well to navigate an increasingly complex risk environment. The measures already taken and highlighted above not only illustrate the dedication of hundreds of local and state stakeholders, but also Texas's forward-leaning posture to evolve its capabilities as technology, threats, and operational demands continue to change. Continued investment, legislative support, and sustained multi-agency coordination will ensure that Texas remains a national leader in preparedness, able to prevent, withstand, and recover from disruptions that threaten public safety, economic stability, and the essential services on which communities rely.