

The Department of the Air Force is conducting ERREs to determine if installations can meet mission objectives during loss of power and water events.



An unarmed Minuteman III intercontinental ballistic missile launches during an operational test at Vandenberg Air Force Base, California. Like these tests, ERREs offer an operational test of the energy system to ensure continued support to mission operations.

Energy Resilience Readiness Exercises

As the Department of the Air Force (DAF) strives for mission assurance through energy assurance, energy resilience readiness exercises (ERREs) will help installations assess mission readiness during a power outage. An ERRE intentionally cuts incoming commercial power to a base (typically over 8 to 12+ hours), testing onsite backup power systems and identifying gaps in energy and water supplies and mission capabilities. Mission owners are expected to fight through the outage, by exercising their continuity of operations plans and continue their missions in the degraded environment, just as they would in a real-world scenario.

As the 2021 National Defense Authorization Act requires a minimum of five black start exercises per military department per year, and the Air Force Instruction 90-1701 calls for black start exercises as a part of installation assessments, DAF Installation Commanders must conduct ERREs and incorporate their findings into Installation Energy Plans (IEPs) and take corrective actions as necessary.

ERRE Objectives

By using the ERRE approach to assess the current energy resilience posture and identify performance gaps in primary and backup energy systems and subsequent mission vulnerabilities, the DAF aims to:

- Assess whether an installation can maintain a state of constant mission readiness during adverse conditions
- Verify backup generation configuration and assess technical performance of energy, water, and communication systems in the event of an outage
- Identify backup power capability gaps between the installation infrastructure and mission requirements
- Determine infrastructure improvement opportunities in order to ensure operational mission readiness

ERRE Resources

1. The OSD Energy Resilience Readiness Exercise Methodology, “A Framework for Planning and Executing Energy Resilience Readiness Exercises”
2. The DAF Supplemental Guidance “Department of the Air Force Energy Resilience Readiness Exercise Guidance”



How Do ERREs Work?

DESIGN

Outline the organization-level, exercise scope, and roles and responsibilities for ERREplanning. Garnering MAJCOM and installation leadership buy-in is important at this stage to encourage full participation of key stakeholders in the planning and execution of the ERRE.

DEVELOP

Determine the scope of the exercise and create a thorough risk mitigation plan. Establish an ERRE planning timeline to keep efforts on track, gather data and information prior to and during the site visit interviews in order to inform exercise scope decisions, create an ERRE execution script with switching sequences, and develop a risk mitigation plan.

CONDUCT

Put the plan into action. The ERRE will be carried out over the course of 8 to 12+ hours, depending on the selected scope. During the actual exercise, observers will gather pertinent information to track the performance of energy, water, and communication systems, as well as the ability of the base to carry on in a degraded environment.

EVALUATE

Analyze results based on the data collected, stakeholder feedback, and participant observations. The goal is to determine gaps or vulnerabilities in infrastructure, processes, or personnel that impact the installation's and mission's ability to withstand long-term denial of commercial and/or primary energy and water.

Moving Forward

Building on lessons learned from previously conducted exercises, the DAF was able to complete six ERREs by the end of the fiscal year (FY) 2021. In doing so, the DAF continues to show its leadership amongst the Services in respect to ERRE execution. In accordance with the FY21 National Defense Authorization Act, the DAF will plan and execute five ERREs per year, including one ERRE at a Joint Base, through FY27.

FY20-21 Conducted ERREs

- Hanscom Air Force Base (AFB)
- Vandenberg AFB
- Joint Base McGuire-Dix-Lakehurst (JBMDL)
- Eielson AFB
- Wright Patterson AFB
- Springfield-Beckley Air National Guard Base

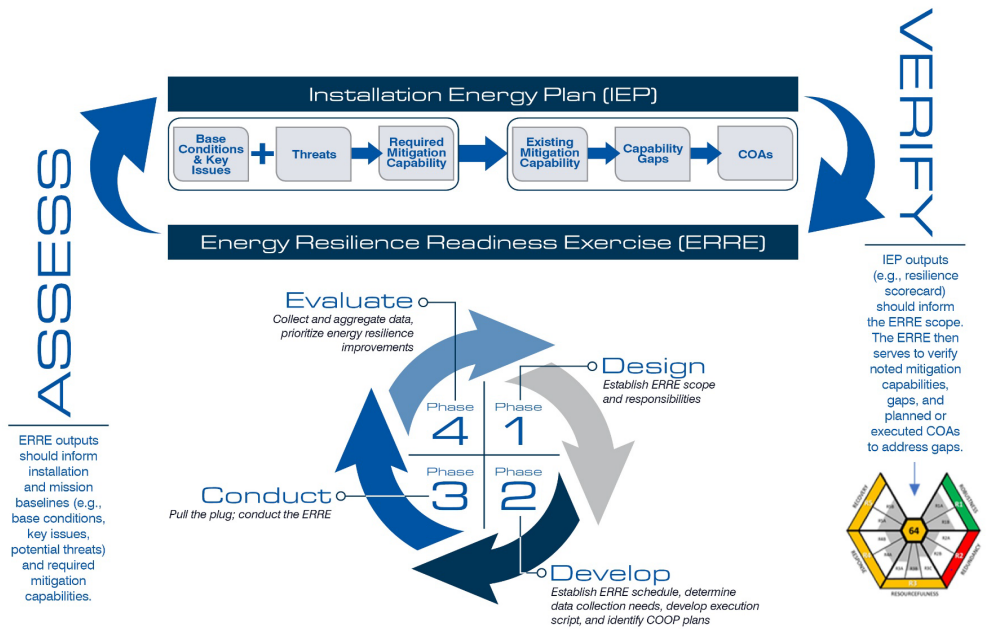


Figure 1: To ensure continued resiliency in the evolving threat environment, mission readiness is assessed and verified in a cyclical process of IEPs and ERREs.



The Department of the Air Force is taking a resilience-focused approach to future energy and water projects concentrated on providing strategic agility for missions and installations.

For more information:

- safie.hq.af.mil/InstallationEnergy
- [AirForceEnergy](#)
- [@AFEnergy](#)