

The Department of the Air Force is conducting ERREs to determine if installation systems can meet mission-critical energy needs during loss of power events.



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

Energy Resilience Readiness Exercises

An Energy Resilience Readiness Exercise (ERRE) is an Office of the Secretary of Defense-mandate to determine how mission-critical energy needs are met during a base-wide loss of commercial electricity. Otherwise known as a “pull-the-plug” exercise, an ERRE assesses backup power capabilities at full operational load over the course of a multi-hour window. This verifies the resilience posture of installation energy, water and communication systems, as well as the capacity of an installation to recover from a long-term power outage. It also helps to identify performance gaps in key mission assets. Ultimately, ERRE results inform planning and infrastructure investment priorities to maintain and enhance installation readiness and responsiveness.

ERRE Objectives

By using the ERRE approach to assess the current energy resilience posture and identify performance gaps in primary and backup energy systems, the Department of the Air Force (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

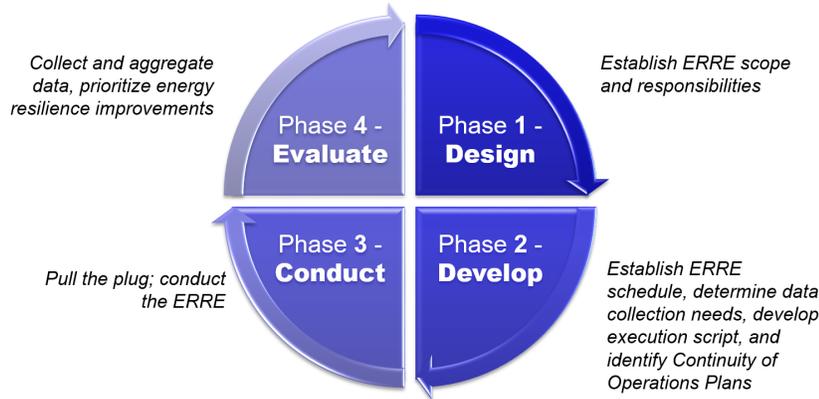
The purpose of an ERRE is to achieve greater mission assurance through energy and water resilience within the DAF. ERREs are – and will be – an essential component of the mission assurance strategy. The exercises help assess needs and requirements by identifying potential gaps and vulnerabilities in the primary and backup power generation systems, and they serve as a useful verification tool in determining the capacity of the installation systems to deliver mission-critical energy during a sustained power loss.



Energy Resilience Readiness Exercise

How Do ERREs Work?

ERREs can be broken down into four distinct phases: design, development, execution, and evaluation.



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

DEVELOP - Mature the details of the ERRE, to include creating an event timeline (beginning with ERRE conception and leading up to the exercise execution), a list of clearly identified roles and responsibilities, a list of data collection requirements, an exercise execution script, and a risk mitigation plan.

CONDUCT - Put the plan into action. The ERRE will be carried out over the course of four to 12 hours, depending on the selected scope. During the actual exercise, evaluators will collect data to track the performance of pertinent energy, water, and communication systems.

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 ability to withstand long-term denial of commercial electricity.

Moving Forward

Building on lessons learned from previously conducted exercises, the DAF is set to complete three additional ERREs by the end of the fiscal year 2021. In doing so, the Air Force continues to show its leadership amongst the Services in respect to ERRE execution.

FY20 Conducted ERREs

Hanscom Air Force Base (AFB)
Vandenberg AFB

FY21 Planned ERREs

Eielson AFB
Joint Base Langley-Eustis (JBLE)
Joint Base McGuire-Dix-Lakehurst (JBMDL)

Resources

1. The OSD Energy Resilience Readiness Exercise Methodology, "A Framework for Planning and Executing Energy Resilience Readiness Exercises"
2. The DAF Supplemental Guidance "Air Force Energy Resilience Readiness Exercise Guidance"

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:

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