Office of the Deputy Assistant Secretary for
Environment, Safety, and Infrastructure

AIR FORCE ENERGY

The Department of the Air Force's mission-driven installation energy plan (IEP) process integrates applicable installation- and higher-level strategic guidance, plans, and policies into a holistic roadmap to help an installation work constructively towards its energy assurance goals.

Installation Energy Plans

Why it Matters

With the increased prevalence of large-scale natural disasters and the recognized threat of physical and cyber-attacks on our utilities, coordinating installation planning for energy and water resilience has never been more important. To address these threats, the Department of the Air Force (DAF) is developing IEPs to employ strategies to improve installation energy and water resilience. By planning for the future, the DAF is better equipped to identify and execute energy and water projects to achieve mission assurance.

Key Focus Areas

IEPs will address Air and Space Force installation missions, existing plans (e.g., Installation Master Plan), particular circumstances, priorities and constraints. They will include:

- Avenues for and means to meet projected future energy and water demands to achieve mission assurance
- Alignment of goals set by Congress
- Concerns that hinder stakeholders' cooperation on energy and water management including industrial control system and cybersecurity

An aerial view of Edwards Air Force Base, one of the original seven pilot installations with an IEP completed in FY 2019. Photo courtesy of DoD.

Installation Energy Plans

Energy Resiliency Dashboard

The Energy Resiliency Dashboard is the interface that enables data entry and management and provides a visual representation of an installation's energy resilience posture. Installations will enter information about the energy resilience strategies that are currently in place, and the Dashboard will generate a corresponding energy resilience score. The score will be shown on a radar chart (below), with individual scores indicating progress toward meeting each of the 5Rs as well as the overall resilience of the installation. Crucially, the Dashboard is not static. Airmen will use the Dashboard to simulate resilience strategy implementation to evaluate the impact on the installation's resilience score and overall posture.

Each installation has different mission capabilities and threats and the dashboard will be specific to the unique aspects of that installation. For this reason, numerical scores cannot be compared among installations, as each installation has unique resilience requirements.

The 5Rs of Resilience

Robustness
Can the energy and water systems withstand a variety of scenarios?

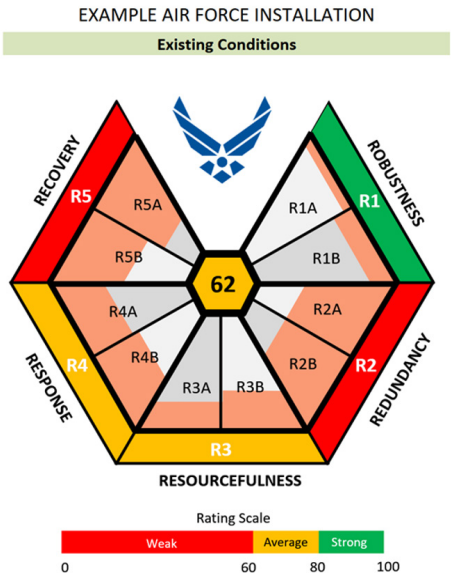
Redundancy
Are there multiple alternative systems and sources to avoid single points of failure?

Resourcefulness
Is energy efficiently managed and delivered?

Response
Is the installation prepared to respond to an emergency or disruption?

Recovery
How quickly can the installation restore normal conditions?

THREATS ADDRESSED	PROBABILITY - SEVERITY
Earthquake	Low - Low
Tsunami	Low - Low
Malicious - Cyber	**Moderate - High**
Malicious - Physical	Moderate - Moderate
Utility Blackout	Low - Moderate
Winter Storm	Low - Low
High Winds	**High - High**
Flooding - Minor	**High - High**
Flooding - Major	**Moderate - High**
Volcanic Eruption	Low - Low
EMP	**Moderate - High**
Lightning	**High - Moderate**
Wildfire - Major	Low - Low
Environmental Corrosion	**Moderate - High**



The Energy Resilience Dashboard operationalizes the definition of each resilience attribute by identifying specific strategies an installation can apply to move into the green levels for all five attributes. For example, the fourth resilience attribute (R4) response is defined as the ability to adapt to crises, respond flexibly and transform negative impact into positive.

The Department of the Air Force Installation Energy Program is committed to developing and deploying policies and guidance to ensure the enterprise is prepared to deliver energy and water whenever and wherever it is needed.

For more information:

safie.hq.af.mil/InstallationEnergy
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