

“ Future load management initiatives should focus on aligning customer usage patterns to complement abundant day-time solar generation, and should consider more targeted, locational demand response strategies.

Lawrence Berkeley National Lab's
"2025 Demand Response Potential Study", 2017

California grid needs are driving new programs and opportunities that reward load flexibility strategies while California water agencies increasingly need to design flexible systems that allow them to be responsive to fluctuating climate, loads, and regulatory drivers and requirements. Many technologies and design strategies benefit both energy savings and demand flexibility and enhance opportunities for integrated demand side management.

Find the Practical Load Management Response

AESC's Flexible Load Management tool includes twenty-five load management response strategies for various process systems in water and wastewater treatment facilities. Any of these strategies, individually, will be met with hesitancy by most water and wastewater operators and facility managers across the sector, due to the regulatory and compliance requirements of the industry. However, when identifying the critical risk factors, mitigation strategies, and potential process benefits of these measures, and how they can be implemented holistically to improve energy cost savings, the likelihood of program participation will go up.

Each flexible load strategy is described narratively including:

- **Opportunity Description:** A brief description of the proposed opportunity synthesizing the overall intent, affected systems and benefits.
- **Process Impacts, Potential Risks & Failure Modes:** The implementation of DR opportunities has the potential to affect mission critical goals of regulatory, health & safety, as well as asset reliability. A brief narrative is provided for each to address these potential impacts and risks.
- **Complexity, Cost & Difficulty of Implementation:** The implementation of DR opportunities often can present a strain on operators, systems and capital expenditures. This portion of the matrix addresses these common and potential areas.

At the end of each narrative there is a summary table identifying not only the potential benefits within the unit process, but the benefits and impacts on ancillary and downstream systems. This provides a view to understand the cascade effect of unit process measures throughout the matrix of the treatment facility. This benefit list includes general expectation for energy, chemicals, maintenance reliability and off-sets to major capital improvements.

About AESC

Founded in 1994, Alternative Energy Systems Consulting, Inc. (AESC) is an energy engineering practice that drives solutions in energy efficiency, renewable energy, and software for utilities, regulators, public entities and private enterprises throughout the United States.