



FEMP Re-tuning Challenge Overview

The FEMP Re-tuning Challenge provides no-cost support for your facility to reduce energy use, improve occupant comfort and realize significant energy cost savings.

WHAT IS RE-TUNING?

Building re-tuning is a part of energy management that optimizes existing operations and maintenance of the buildings, primarily through the Building Automation System (BAS) controls. Re-tuning is a systematic, data-driven process that aims to reduce energy consumption by identifying and correcting operational problems and has proven success across a large number of federal buildings in capturing savings that typically range from 5 – 25% with a simple payback of 0.3 – 3.5 years. Participants in the Re-tuning Challenge will receive training and assistance for re-tuning a building. Re-tuning consists of eight primary activities:

1. Collection of basic building information;
 2. Trend-data collection and analysis;
 3. Building walk down;
 4. Identification and implementation of re-tuning actions;
 5. Report of findings, recommended actions and recommendations implemented;
 6. Savings analysis;
 7. Continued use of re-tuning in operation and maintenance; and
 8. How re-tuning fits in to an effective overall energy management program (i.e. 50001 Ready)
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WHAT IS THE FEMP RE-TUNING CHALLENGE?

To support FEMP's mission in facilities optimization and the promotion of energy management programs, FEMP, supported by PNNL, is launching the Re-tuning Challenge to provide agencies with a no-cost opportunity to receive re-tuning training and support in a building in their portfolio. FEMP support to selected sites will include:

- Completed re-tuning of one building
- Re-tuning training for site staff
- Provide technical support for site staff to re-tune an additional building
- Results monitoring and presentation
- Support in adoption of 50001 Ready for interested agencies. Agencies can request 50001 Ready support directly through FEMP or through the 50001 Ready Navigator (<https://navigator.lbl.gov/>) request assistance buttons throughout the tool.
- Provide agency recognition for both Re-tuning Challenge participation and 50001 Ready adoption upon completion

HOW DOES THE RE-TUNING CHALLENGE WORK?

Chosen facilities will be selected by FEMP upon review of the following criteria: complete the screening and evaluation process, meet basic go/no-go criteria, support FEMP priorities, and explicitly commit to engage in the following three Re-tuning Challenge activities:

Activity 1. FEMP Team Re-tuning Site Visit: Re-tuning controls experts from the FEMP Team will visit the site for a 3-day re-tuning effort that will involve identification of controls improvement measures geared toward energy savings. FEMP Team will engage the site staff in discussions about each of the identified measures and settle on a list of measures that all interested parties agree should work in principle and that the site is interested in pursuing. Progress on implementing these measures may take place during the site visit. However, it is likely that there will have to be follow-up implementation effort, perhaps conducted by a local controls vendor.

Activity 2. Re-tuning Training: A Training session will be scheduled concurrently with the FEMP Team site visit. This will take the form of both classroom (PowerPoint-style) presentations, along with field demonstration of re-tuning principles at the selected agency site that is hosting the FEMP Team site visit. The applicant agency should send representatives to the re-tuning training that will be involved in the third step described below – the internal re-tuning effort.

Activity 3. Internal Re-tuning Effort: Representatives from the agency who attended the re-tuning training session will perform a re-tuning assessment at another building or site within the agency. FEMP Team will provide any ongoing (remote) assistance with this task as necessary, including review of recommendations and proposed control strategies.

WHAT'S THE FIRST STEP FOR PARTICIPATING IN THE RE-TUNING CHALLENGE?

The re-tuning site selection is comprised of the following 5 steps:

Step 1. Site/agency submits completed Screening Questionnaire (**Due date: 4/22/2019**).

Step 2. Screening Questionnaires are reviewed and site/agency point of contact is advised if the building is eligible for the next step. If a building is eligible to continue, an Evaluation Questionnaire will be provided to the site by FEMP on 5/6/2019.

Step 3. Site/agency point of contact submits Evaluation Questionnaire (**Due date: 5/28/2019**).

Step 4. Evaluation Questionnaires are reviewed, and site/agency point of contact is advised if the building is eligible for the next step by FEMP on 6/27/2019.

Step 5. The re-tuning training and process begin. (Expected Jul/2019)

For questions or to submit the *completed* Re-tuning Challenge Screening Questionnaire, email:

FEMPRetuningChallenge@pnnl.gov

FEMP Re-tuning Challenge

Screening Questionnaire

This document is a screening questionnaire for the FEMP Re-tuning Challenge that is designed to gauge any proposed candidate site/agency's basic suitability for participation in the Challenge. If the site/agency meets the requirements of this screening, the Evaluation Questionnaire will be sent to gather more specific details about the proposed site for final determination regarding participation.

For consideration submit this completed form to FEMPRetuningChallenge@pnnl.gov by **April 22, 2019**.

SECTION 1: SITE INFORMATION

1. Federal Agency:

2. Site/Building Name:

3. Site/Building Location
(City/State and/or Military Installation or Campus):

4. Site Energy Uses/Utilities
(e.g. Electricity, Natural Gas, District Steam, District Chilled Water):

5. Building Gross Square Footage (GSF):

6. Has the site previously received re-tuning support?

Yes No

7. Are most HVAC systems in the building controlled by a centralized Building Automation System (BAS)?

Yes No

8. BAS vendor and version (or date of last upgrade):

9. Please note if boilers, chillers, and/or lighting are controlled via the BAS:

10. a) List the energy utilities for which there is a reliable building-level interval meter(s) that report consumption at the hourly or more frequent interval level:

b) Indicate for which energy utilities at least 12 months of building-level interval meter data are available prior to the site visit:

c) Does the site pay for the metered amounts of these utilities?

SECTION 2: SUPPORT FEMP PRIORITIES

11. Will the site/agency commit to the **FEMP Team Re-tuning Site Visit** taking place before December 20, 2019?

Yes No

12. Will the site/agency commit to complete implementation of all identified measures that are agreed upon by site staff by January 24, 2020? (With the assumption that the site visit occurs prior to December 20, 2019, and may require the assistance of a local controls contractor?)

Yes No

13. Will the site/agency commit to send representatives to the **Re-tuning Training** conducted during the **FEMP Team Re-tuning Site Visit**?

Yes No

14. Will the site/agency commit to attempt re-tuning based upon the principles and methods demonstrated in the training session and during the **FEMP Team site visit** at a different building owned or leased by the site/agency (**Internal Re-tuning Effort**) prior to January 24, 2020?

Yes No

15. To meet the Challenge requirements, can the site/agency identify additional candidate buildings (same site or other sites) for re-tuning by site/agency staff that: a) have building-level meters for energy sources used in the building, b) are on a BAS, and c) will be available for re-tuning, including implementation of identified measures, should they be selected? Yes No

16. FEMP's priority is to build the federal-wide capability for sites to complete their own building re-tuning efforts. In support of this objective, is the site, if selected, able to host other agency staff participation in the onsite re-tuning classroom training? Yes No

And able to host other agency staff in the onsite field demonstration of re-tuning principles in the host's facility? Yes No

17. FEMP's priority is to promote energy management systems through DOE's 50001 Ready program (<https://betterbuildingssolutioncenter.energy.gov/iso-50001/50001Ready>). Is the site energy lead and relevant manager willing to commit to pursuing 50001 Ready attainment (with free support available from FEMP in doing so)? Yes No

18. Please provide the name, title, and contact information for a point of contact at the site/agency that will serve as a “champion” for this Re-tuning Challenge. This person will be responsible for controlling the site and building-level logistics for all three tasks, keeping the project on-schedule, and overseeing the team that will lead the internal re-tuning effort.

Name: _____

Title: _____

Contact information: _____

Completed Screening Questionnaires will be evaluated by the DOE Team. Sites/agencies will be notified of the outcome of the selection screening review. Sites that pass the Screening process will be asked to complete an Evaluation Questionnaire that requests more detailed site/building information.

Submitted by (name): _____ **Date:** _____

Agency: _____

Contact Information: _____

For consideration submit this *completed* form to FEMPRetuningChallenge@pnnl.gov by **April 22, 2019**.

NOTE: FEMP is establishing an **O&M Problem Solving Team (Working Group)**. Are you, or somebody at your site, interested in joining the O&M Problem Solving Team (Working Group)?

Yes **No** If yes, please provide contact information:

Name: _____

Title: _____

Contact information: _____