

Product Bulletin

Technical Plant Assessment



Flexibility



Reliability






Efficiency



Technical Plant Assessment

Further optimize your power plant to match changing operational needs.

 <p>Flexibility</p> <ul style="list-style-type: none"> • Fuel Flexibility • Operational Flexibility 	 <p>Reliability</p> <ul style="list-style-type: none"> • Operational Reliability • Starting Reliability 	 <p>Efficiency</p> <ul style="list-style-type: none"> • Baseload Efficiency • Transient Efficiency
---	---	--

Summary

The energy market is transforming. Changing business conditions, an increasing renewable generation mix, and ageing equipment may lead to your plant’s functionality being mismatched with the current market demands. This may require specific operational improvements.

With the Technical Plant Assessment you get a tailored solution for optimizing the operation of your power plant. According to your specific objectives, recommendations are provided to help you exploit your plant’s future potential and realize your vision.

To answer this demand Siemens Energy developed the Technical Plant Assessment to evaluate the current demands on your plant, and develop specific solutions tailored to your needs. These solutions are based on our extensive OEM knowledge and decades of O&M experience.

Siemens Engineering, Process, and Plant Operations specialists conduct an in-depth analysis based on their domain know-how combined with professional expertise.

Carrying out a Technical Plant Assessment can provide you with prioritized recommendations that can give your power plant an economic advantage in today’s market.



Est. lead time
12 weeks



Min. event type
other



Fleet experience
> 60 units

Intended Benefits

An increase in profitability and competitiveness can be achieved through a holistic plant solution assessment focusing on:

- **Operational Flexibility** - Assess typical plant operation for enhanced flexibility, start up and shut down, low load operating capability and expanded operating ranges
- **Thermal Performance Recovery** - Evaluation of current plant performance against modeled design conditions and provide recommendations to address any gaps
- **Availability and Reliability Improvement** - Review of historic data/records to determine factors tied to availability & reliability
- **Plant Upgrade Capability** - Evaluation of equipment limitations and identification of solutions to help maximize plant upgrade potential

The technical plant assessment with customized improvement recommendations can help to optimize your power plant and increase competitiveness in the market. This in-depth plant assessment can help determine measures for:

- **Faster start-up and shut-downs time**
- **Improved load ramps / gradients**
- **Qualification for ancillary service markets**
- **Reduced minimum part load**
- **Fuel cost savings**
- **More economical use of available lifetime of plant components**

Our Solution

With the Technical Plant Assessment Siemens Energy has created a proven mechanism to help enhance customers business.

In general, the Technical Plant Assessment is conducted in 3 key phases with the support of the global network of Key Specialists in Engineering, Process and Plant Operations:

- **Identify and define objectives:** Together with customers we develop the operational goals, based on your value drivers and specific site conditions.
- **Technical Evaluation and Engineering Analysis:** Remote data collection and site visit through Siemens subject matter specialists. Analysis of plant baseline condition, Fleet Benchmarking and Assessment of Risks and Opportunities.
- **Tailored Solution:** Comprehensive final report with optimization recommendations, based on the asset condition and potential for improvements.

This technical plant assessment report may also provide useful information to help plant management assess the potential economics of recommended upgrade options.

Technical Background

Siemens Energy looks at the technical capability of your specific plant to deliver holistic improvement recommendations that align with your strategic goals.

The Analysis of technical capabilities involves:

- Identification of operational issues that can prevent customers from reaching their operational goals.
- Review of historical operational events that have impacted plant production
- Evaluation of design boundaries of the equipment: How can the remaining life of certain components be optimally used?
- Review of I&C system for modernization
- and conversion from manual to automated processes
- Frequency response capability
- Optional: more detailed assessment for HRSG, Water-Steam Cycle or Condenser

In combination with the technical analysis of the equipment, process, and operations, Siemens Energy also looks to engage with key stakeholders at the power plant to determine:

- Business vision
- Future operation plans
- Planned plant life.

With the output of this analysis and engagement Siemens Energy delivers a detailed recommendation for various modifications.

These could range from simple process logic/ operation changes to implementation of hardware upgrades and the benefits they could potentially deliver – short-, mid- and long-term.

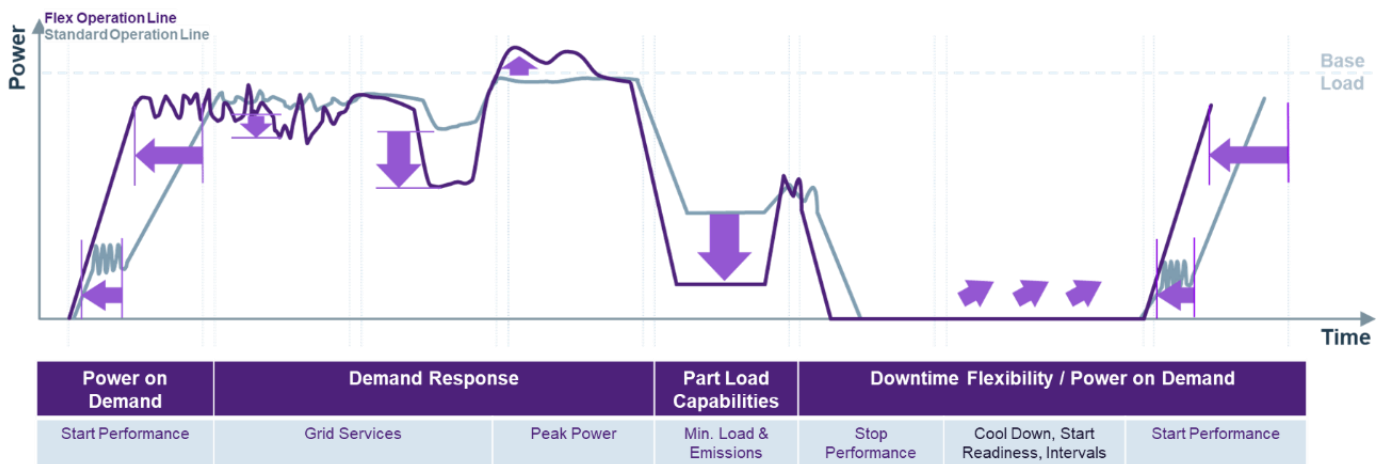
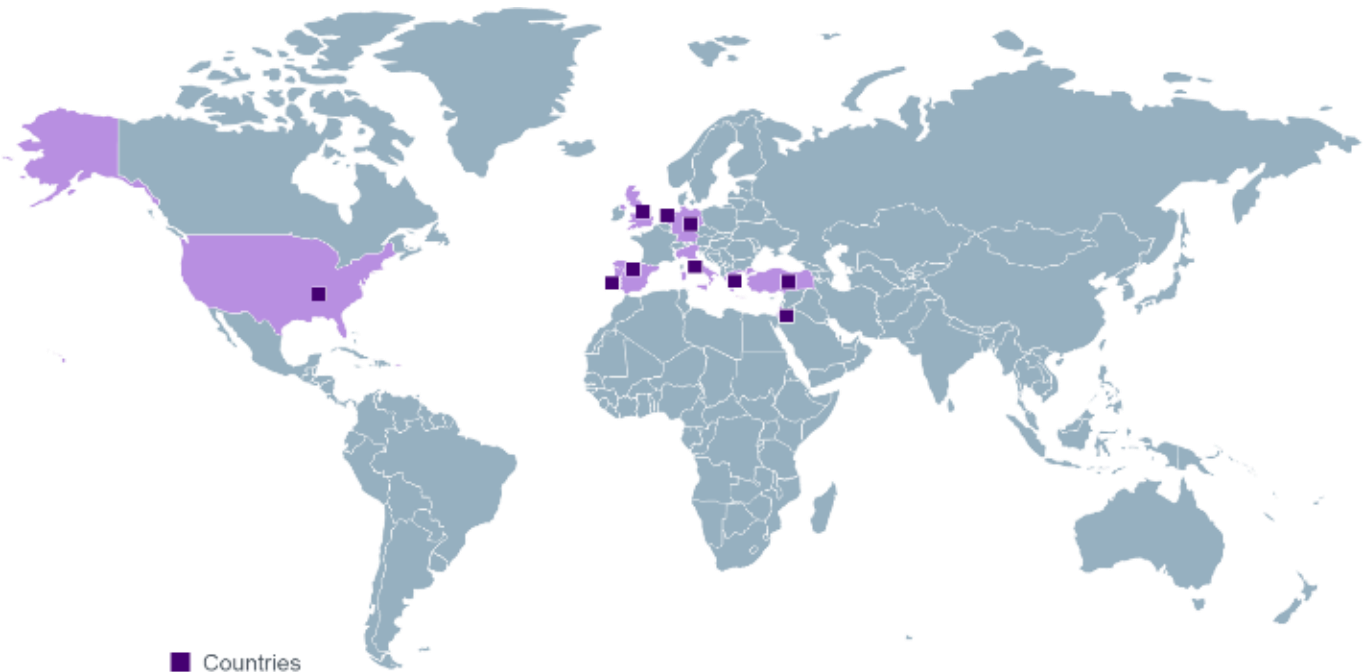


Figure 1: Possible Improvement recommendation for advanced operational Flexibility based on Flex-Power Service™
 Example for illustration only; not to scale; actual may vary

Customer References

Over 60 Technical Plant Assessments have been conducted successfully worldwide.



Recommendations

It is recommended to perform a Technical Plant Assessment at least 24 months prior to a Major Inspection. This is intended to allow adequate time for evaluation of our report, to engineer any hardware modifications that may be recommended and develop an implementation plan with minimal disruption to the existing maintenance schedule.

The Technical Plant Assessment is one module out of the Siemens Energy Technical Consultancy Services toolkit. The Technical Consultancy Services can identify potential business opportunities and assist in the transformation of power generating facilities.

Technical Consultancy Services offers a wide range of assessments address customer needs, such as Plant Optimization, Decarbonization, and Digitalization.

For more information about the Technical Consultancy Services, please visit

[siemens-energy.com/technical-consultancy](https://www.siemens-energy.com/technical-consultancy)

Notes

Our experienced service team is ready to assist you in deciding which solution is the right one for you. With our experts in engineering, manufacturing and/or field service in close collaboration, we can offer optimum service solutions for your power plant to match your specific demands.

Please do not hesitate to contact your local Siemens Energy representative for further information.

Visit our Customer Energy Portal [siemens.force.com/cep](https://www.siemens.force.com/cep) or our webpage [siemens-energy.com](https://www.siemens-energy.com)

Confidentiality; Disclaimer

This Bulletin is confidential to Siemens Energy. It is to be used solely by the user for the purpose for which it is furnished, to advise the user of the availability and intended features of the products and/or services described. Neither this document nor any information contained in it or obtained from it is to be reproduced, transmitted, disclosed to any third party, or used otherwise in whole or in part without the prior written authorization of Siemens Energy.

No representation, warranty or guarantee, express or implied, is made or shall be deemed to be made whether regarding the merchantability, fitness for purpose, adequacy, accuracy, completeness, usefulness or otherwise regarding the products or services described herein or the information, recommendations and descriptions contained in or provided through this bulletin.

To the fullest extent permitted by law, neither Siemens Energy nor any of its affiliates, nor any of their respective contractors, subcontractors or suppliers will be liable in contract, tort (including negligence or strict liability) or otherwise for any special, indirect, incidental, or consequential damage or loss whatsoever, or for: a) Loss of, damage to property, equipment, power system or plant, b) Loss of use of equipment, power system or plant, c) Cost of capital, infringement of intellectual property rights, loss of profit or revenues, cost of purchased or replacement power, loss of data, additional costs and expenses in the use of existing power facilities, or claims against the user by its customers.

Published by

Siemens Energy 2021

Siemens Energy Global GmbH & Co. KG
Freyeslebenstr. 1
91058 Erlangen, Germany

Siemens Energy Inc.
4400 Alafaya Trail
Orlando, FL 32826-2399, U.S.

For more information, please visit our website:
www.siemens-energy.com

The information given in this document contains only general descriptions of potential features, capabilities and benefits which may or may not apply in each case, which are not warranted or guaranteed, or binding, and are subject to change.