



New Construction

Commissioning Service

The Challenge

Most new construction projects follow a stringent timeline for the opening of the facility which shifts the focus of participating vendors/service providers to a quick start-up of the equipment rather than ensuring that they are operating efficiently from an energy consumption perspective. This creates a facility that starts leaking energy right from day one. These energy inefficiencies largely go unnoticed until the facility performs a comprehensive energy audit or re-commissioning. Typically, the cost of retrofitting or attending to the inefficiencies at a later stage is much more expensive.

The Opportunity

Engaging a third-party commissioning (Cx) agent right from the start of the project helps in establishing the correct specification and performance standards. It also ensures that the equipment is both performing optimally for a longer operating life, saving energy and has a reduced maintenance cost profile. A properly commissioned facility is typically 7-10% more efficient.

How Star Energy can help you

Star Energy can assume the role of a commissioning agent on behalf of our clients. When engaged at the design stage, we participate in the design and development process, interact with the design engineering team, review the specifications, and establish a performance standard for each piece of energy-consuming equipment. We also perform functional testing to ensure that the equipment is performing as per design standards and is optimized for energy consumption. At the handover stage we document all the results and prepare a comprehensive package to help our clients in addressing any warranty issues that may arise during normal operation.

Issues

- Equipment is undersized or oversized resulting in frequent cycling and/or overheating.
- Equipment is missing key design features that would have helped in reducing operating costs and improving its useful life.
- Equipment is not supplied as per design specifications.
- Installation is missing key components or not installed as per design specifications.
- Operating strategies are not programmed properly, causing energy wastage and added maintenance cost.
- Warranty information is missing, and the facility is paying for repairs even though the equipment is under warranty.

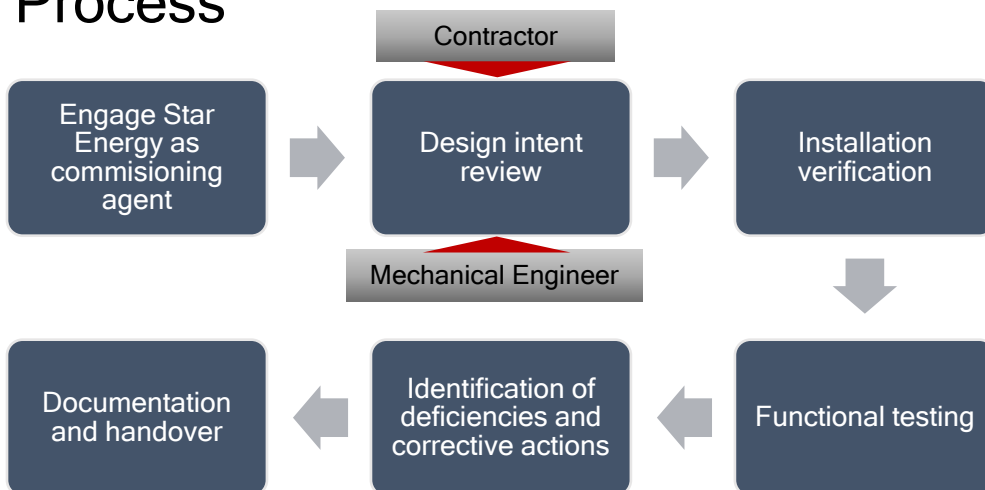
Service levels

<i>Activity</i>	Level 1	Level 2	Level 3
<i>Establishing Owner's Project Requirements (OPR)</i>	✓		
<i>Establishing performance criteria and design specifications</i>	✓		
<i>On-site verification of installation process</i>	✓	✓	
<i>Functional testing of each piece of equipment</i>	✓	✓	
<i>Listing of deficiencies and advising corrective actions</i>	✓	✓	✓
<i>Verification of the corrective actions</i>	✓	✓	✓
<i>Review and optimize the maintenance schedule</i>	✓	✓	✓
<i>Establishing Monitoring and Tracking (M&T) parameters</i>	✓	✓	✓
<i>Documentation and project hand-over</i>	✓	✓	✓

Key Steps

- Establish Owner's Project Requirements (OPR)
- Define specifications and expected performance standards of mechanical and electrical systems.
- Evaluate options available for efficiency and lower maintenance costs and incorporate appropriate features as applicable to the specific location.
- Perform functional testing and advise the corrections as required by the service providers.
- Review installation and prepare a deficiency list for each service provider and follow up to ensure that the installation is done as per the design specifications.
- Prepare a set of reference documents with all the test results, identified issues and warranty information for the operations and maintenance team.

Process



Star Energy is an energy management company specializing in delivering comprehensive energy cost reduction programs throughout North America. Our experience in working with major clients has helped us to develop customizable programs that not only maximize returns on retrofit capital but also improve asset values and the life of mechanical and electrical systems. We have worked with major utilities across the US and Canada to optimize the eligibility of our programs for incentives to reduce implementation costs and improve paybacks. Part of our program customization relates to our client's annual energy reduction targets and their available retrofit capital.

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