**Date last modified/updated:** Click here to enter a date. **Internal audit:** Click here to enter a date.

**Who last modified/updated:** Click here to enter text. **Management review:** Click here to enter a date.

**This part of the Navigator Playbook is completed when you have:**

1. **Identified the facilities, equipment, systems, and processes that can have significant impact on energy performance.**
2. **Incorporated consideration of energy opportunities and operational controls in design projects.**
3. **Included results of energy performance considerations in specification, design, and procurement activities, where applicable.**
4. **Retained records of the results of design activities related to energy performance.**
5. Identify the facilities, equipment, systems, and processes that can have significant impact on energy performance:

|  |  |  |
| --- | --- | --- |
| [ ]  | Facilities, equipment, systems and processes have been identified | We identify facilities, equipment, systems and processes that have significant impact on energy performance using building-level electrical meters. Using objective criteria definitions, we have identified the biofuel research wet lab, SEM research equipment, and the data center as significant users. (Task 9) |

For the energy uses associated with those mentioned above, the following items have been identified:

|  |  |  |
| --- | --- | --- |
| [ ]  | Management and operation of SEUs. | Facility Managers A-C ‘own’ these SEUs. (Task 9) |
| [ ]  | Achievement of energy objectives, targets and action plans. | We have defined relevant objectives and targets for these SEUs, and wrote action plans for top-priority improvement opportunities. (Task 12, 13) |
| [ ]  | EnPIs identified. | We monitor kWh/sq foot, kWh/use for SEM research equipment and other metrics. (Task 11) |

1. Incorporate consideration of energy opportunities and operational controls in design projects:

|  |  |  |
| --- | --- | --- |
| [ ]  | Energy opportunities and operational controls have been incorporated into design, renovation, and modification efforts. | Design team liaison coordinates with energy team leader about new projects as they arise. With support from top management, the energy team leader participates in design conversations to ensure this is prioritized appropriately in designs. This requirement is included in RFPs. |
| [ ]  | We have ensured that design projects include an operational control strategy to make sure that anticipated savings are achieved. | Energy Team Leader and Facilities Director are responsible for ensuring this strategy is included.  |

Energy performance improvement considerations:

|  |  |  |
| --- | --- | --- |
| [ ]  | Potential energy performance improvements have been considered. | Every design proposal sent to top management for approval contains a section detailing what was considered. |
| [ ]  | Necessary operational controls have been identified. | Operational controls are required to be specified in all proposed equipment design changes. |
| [ ]  | Management of energy performance impacts on designs. | Facilities team members review design proposals to ensure these goals are included and addressed sufficiently |

When evaluating opportunities for improving energy performance, the following items have been considered:

|  |  |  |
| --- | --- | --- |
| [ ]  | How will existing infrastructure and processes be modified?  | Click here to enter text. |
| [ ]  | What can be changed to improve energy consumption over time? | Click here to enter text. |
| [ ]  | What is the right energy source for the application?  | Click here to enter text. |
| [ ]  | What are the technological options? | Click here to enter text. |
| [ ]  | What operational controls are needed to achieve and sustain energy performance? | Click here to enter text. |

*The worksheet below can be useful in identifying and evaluating energy performance improvement opportunities and operational controls in design activities.*

Worksheet for Energy Considerations in Design

**Purpose**: To help the user identify and consider energy performance improvement opportunities and operational control in the design of new, modified and renovated facilities, equipment, systems and processes that can have a significant impact on energy performance.

|  |
| --- |
| **This design effort is related to: (Check all that apply)**[ ]  New facility(ies) [ ]  New equipment, systems or processes[ ]  Renovated or modified facility(ies) X [ ]  Renovated or modified equipment, systems or processes[ ]  Significant energy uses and associated controls [ ]  Objectives, targets and action plans [ ]  Energy performance improvement [ ]  Maintenance of the energy systems**Describe the Project:**  motion-sensor light switches in lab spaces  |
| **Prepared by:** Click here to enter text. | **Date:** Click here to enter text. |
| **Identify the facilities, equipment, systems and processes involved in this design effort that can significantly impact energy performance** (energy efficiency, use and consumption) | **What is the current energy source?** | **Is there another energy source option?** | **What are some technology and other options for improving energy performance?** | **Are new or additional operational controls needed?** (specify) | **Who is responsible for the design?** | **What improvements can be expected?**(Examples: energy savings; maintenance cost savings; environmental impact reduction) |
| Wet lab A | Fossil fuel-based electricity and natural gas heating | Not available | We will reduce wasted electricity used for lighting when the lab is empty.  | No | Wet lab facility manager is responsible for the design |  Reduced energy consumption in lab buildings, matched cost savings from Utility Program |
| Click here to enter text. | Click here to enter text. | Click here to enter text. | Click here to enter text. | Click here to enter text. | Click here to enter text. | Click here to enter text. |

1. Include results of energy performance considerations in specification, design, and procurement activities, where applicable:

|  |  |  |
| --- | --- | --- |
| [ ]  | Energy performance considerations detailed in the ‘Worksheet for Energy Considerations in Design’ (above) have been incorporated into our specifications, designs and procurement activities. | We have a procurement team liaison coordinating efforts related to procurement and the wet lab.  |

|  |  |  |
| --- | --- | --- |
| [ ]  | We have ensured that new energy efficient technology is specified, applied, and used correctly in order to avoid misapplications | Procurement team monitors purchases for the wet lab and ensures that specific pre-determined contracting language is used across contracts to maintain efficiency standards. |
| [ ]  | We have assigned roles and responsibilities to qualified personnel. | We have detailed these in the lighting action plan. |

1. Retain records of the results of design activities related to energy performance:

|  |  |  |
| --- | --- | --- |
| [ ]  | We continually maintain a record of the results of design activities and have recorded this data in a central location. | The project design proposal will be attached to the action plan.  |

The documentation we maintain includes:

|  |  |  |
| --- | --- | --- |
| [ ]  | Completed checklists | Click here to enter text. |
| [ ]  | Meeting minutes | Click here to enter text. |
| [ ]  | Design drawings | Click here to enter text. |
| [ ]  | Purchasing specifications | Click here to enter text. |
| [ ]  | Project records | Click here to enter text. |
| [ ]  | Click here to enter text. | Click here to enter text. |
| [ ]  | Click here to enter text. | Click here to enter text. |

Top Management Approval

|  |  |  |
| --- | --- | --- |
| [ ]  | Date approved: | Click here to enter a date. |
| [ ]  | Who approved: | Click here to enter text. |

Comments

Click here to enter text.