California SEM Design Guide For: Cycle 1, 2, and 3

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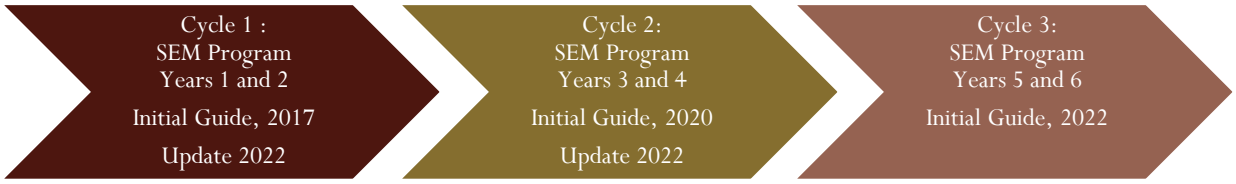
1.1 Introduction

California's Investor-Owned Utilities (IOUs), San Diego Gas and Electric (SDG&E), Pacific Gas and Electric Company (PG&E), Southern California Gas Company (SCG), and Southern California Edison (SCE) began administering Strategic Energy Management (SEM) programs as part of their respective industrial energy efficiency program portfolios in 2017. These SEM programs are regulated by the Energy Division (ED) of the California Public Utilities Commission (CPUC).

The programs were originally launched using a common design guide for the first two-year engagement, with an envisioned six total years of engagement divided into three two-year engagements[1] or "cycles." The initial California Industrial SEM Design Guide, commissioned by the aforementioned IOUs in 2017, focused on the first of these three cycles. A second guide, also commissioned by the IOUs, was developed for the second two-year cycle in 2020.

This document has two purposes: 1) to create a guide for the third cycle, and 2) to update the concepts and requirements of the previous two guides in order to align them all three cycles. This document has guidance for all three cycles and supersedes the two initial guides.



This document was developed with input from CPUC staff and evaluation contractors, SEM program administrators, and SEM program implementation contractors, and draws on materials and studies from energy management and SEM programs across North America.

1.2 Design Objectives

In this design, the SEM program is delivered to a customer through a progression of educational modules and site-specific activities that take place over each of the two-year cycles. The progression of educational modules and site-specific activities build upon each other within and between the cycles.

This long-term, six-year approach gives the program the ability to continually develop the customers' understanding, skills, and capabilities relative to energy while consistently delivering energy savings. The six-year duration also allows the program to elevate **activities** generally provided by other SEM programs (e.g. treasure hunts, energy maps, employee awareness) into

[1] California Industrial SEM Design Guide Version 1.0, 2017, Sergio Dias Consulting

well established and defined **business practices** that have the ability be continued by the customer without program support once their SEM engagement has ended. This approach means that the ability of a customer to manage their energy by the end of the program's sixth year should be much improved from their ability to manage energy at beginning of the first year.

The primary objectives of the SEM program design, looked through the six-year lens, are:

1. To cost-effectively acquire measurable energy efficiency savings ***by,***
2. Helping customers develop a *systematic* approach to managing energy ***while,***
3. Ensuring the customer can manage the system they have developed and continue saving energy after program completion

An additional consideration is that for many customers, "managing energy" will not necessarily mean only managing "energy efficiency", or energy consumption. Customers, especially as they mature through the SEM program, can and should use their energy management business practices as a means to manage all the energy-related objectives that might be important to them, such as energy consumption reduction, energy demand reduction, the time at which energy is consumed, and energy-related GHG emissions reductions, among others. This will become important as both customers and program administrators look to meet broader energy-related objectives such as the CPUC's Total System Benefits, Integrated Demand Side Management (IDSM), zero net-energy, decarbonization, peak load reduction, etc. Hence, secondary objectives of the SEM program design are to:

1. Integrate education on using energy management business practices to manage broader energy-related objectives ***and***,
2. Provide options for activities that give customer support for integrating those objectives into energy management business practices ***so that***,
3. Customers can strategically implement a wide-variety of demand-side opportunities.

1.3 How to use this document

This document is divided into four sections. The first section provides an overview of the document. The second section provides an overview of the elements that make up the design and context for why and how they are used. The third section provides the timing and requirements for each of the cycles. The fourth section provides details on supporting documents that complete the design, including a brief discussion on the program theory and logic model.

The guide is intended to be used by both SEM program administrators and SEM program implementation contractors and has requirements and recommendations for both. It is assumed that both the program administrator and the implementation contractor have experience with, and understanding of, SEM programs. Although this design leverages best practices from other SEM programs throughout North America, it integrates multiple new concepts, such as the intentional progression of business practices and education on Integrated Demand Side Management (IDSM), in a unique six-year approach. The guide should be read in its entirety prior to implementing Cycle 1 to ensure that the program theory and its application is well understood.

The Design Guide provides requirements for when education or site-specific activities should be introduced. PAs may provide some elements earlier than required based on customer needs or capabilities, SEM Coach expertise, or SEM Coach recommendations. Care should be taken to ensure that education and site-specific activities are considered and moved together and that the Cycle or Phase into which these education or site-specific activities are moved has a balance of activities and time to implement the activities.

This guide is not intended to be a customer-facing document. The program administrator and/or implementation contractor must ensure that the content, language, presentation, and format of any activities presented to customers are uniquely relevant and meaningful to each customer.

This document is intended to be used with the companion California SEM M&V Guide Version 3.0 (M&V Guide) or newer. The M&V Guide contains details on program reporting requirements that are referenced in this guide. Note that at the writing of this document, methods for calculating and reporting IDSM and GHG emission-related savings or benefits are not yet approved by the CPUC and are outside the scope of both this and M&V Guide scope. The M&V Guide does provide some discussion and context on the calculation of GHG emissions and demand savings and acknowledges that the shift to Total System Benefits will affect how both are valued and potentially determined.

2. DESIGN OVERVIEW

2.1 Key concepts included in the design

2.1.1 Three Cycle Approach

The approach introduced in this design guide can be thought of as a six-year curriculum broken down into three, two-year cycles. The three-cycle approach can be thought of as an overall journey of six years with three discreet steps that lead a customer from a basic level of ability to understand and manage energy in Cycle 1, to a moderate level of ability in Cycle 2, to an advanced level in Cycle 3. Each of the cycles builds upon the knowledge and experience gained in the last cycle, with the end goal of the third cycle being a customer that can manage and save energy with limited or no program support.

The two-year cycles are meant to provide both the customer and the program the ability to answer two questions before committing to another two-year cycle: 1) is the customer fulfilling the program's requirements and engaging in a way that justifies the program's continued investment in that customer, and 2) is the customer a good fit for the requirements of the upcoming Cycle?

For a variety of reasons, not all customers will be able to complete all three cycles while others may be able to progress more quickly. More details on the three-cycle structure can be found in the Cycle Specific Guidance section.

2.1.2 Business Practices

2.1.2.1 "Business practices" and "management systems"

Whether formal or not, documented or not, all businesses follow business practices to achieve intended outcomes. As an example, in the industrial sector, quality is one of the highest priority outcomes and one for which business practices or processes are developed. A site might have business practices for what types of inspections there should be, practices for where inspections should be placed, practices for what data to collect and how to analyze it, and practices for how to ensure inspectors are trained to conduct inspections, among many others. Those practices, when looked at together, make up that site's "quality management system". This system may have been consciously designed and documented or may be the result, over time, of various reactions to quality issues or customer requirements and may be implemented solely based on institutional knowledge. The rigor, effectiveness, and repeatability of the quality management system can vary greatly from company to company and site to site.

For energy, all facilities have some energy-related business practices, which can be as simple as paying energy bills or as complex as an ISO 50001-certified approach. However, beyond tracking energy consumption at some level, the vast majority of US facilities have not consciously developed a more holistic "system" to manage energy as energy is typically not one of the expenses they understand they can manage. The SEM program introduces customers to the concept that, like quality, energy is something that can be managed through business practices and that, similar to quality, those business practices can be consciously developed to create a system to manage energy.

In this paper, we use the term "business practice" or "energy management business practice" to describe one specific practice such as "identifying and prioritizing improvement opportunities." We use the term "energy management system" to describe the purposeful development and grouping of business practices to create a systematic approach to managing energy with a stated objective.

The design objective, relative to energy management, is to progress the customer's ability to manage their energy through the three, two-year cycles. Through this progression, each cycle introduces different business practices with different levels of rigor. The objective of defining the breadth and depth of the energy management system (EnMS) at each cycle are:

1. To provide clear minimum requirements for the EnMS for each of the program's three two-year cycles, **which then provide**
2. Clarity for implementation contractors and SEM Coaches on what business practices to focus on with the customers for each cycle, **which then provide**
3. Clarity for the customer on the business practice expectations for each cycle, **which combined provide**
4. Clarity on expected EnMS outcomes for each cycle.

One thing to keep in mind is that although the EnMS can be used to manage any energy objectives, the primary goal of the program is cost-effective energy efficiency savings and these savings should be the primary focus of program implementation.

2.1.2.2 EnMS Structure

Starting in Cycle 2, the SEM program used the EnMS structure provided by the US Department of Energy (US DOE) through its 50001 Navigator (Navigator) as the base for the business practices taught to customers. The full implementation of Navigator, US DOE 50001 Ready program recognition, or certification to ISO 50001:2018 is not mandated as part of the California SEM program design. Navigator is used as the base structure for the EnMS for the following reasons:

1. It is publicly available and maintained,
2. It is provided at no cost,[2]
3. It provides a defined structure for a complete EnMS, and
4. It is based on the internationally recognized and accepted ISO 50001:2018 standard.

It is important to not confuse the fact that the design uses the Navigator "structure" and does not "require" that customers adhere to all the Navigator guidance.

50001 Navigator is a US DOE developed tool, presented through a website, that separates concepts from the ISO 50001 standard into 25 tasks, which are further divided into 114 "getting it done" actions. The website explains how to complete each of those actions, provides templates for documenting the tasks and actions, and allows a customer to manage their progress through the site. A customer that completes the 25 tasks and their accompanying actions can optionally self-attest and get "recognized" by US DOE. That site would be "ready" to pursue an ISO 50001 certification with limited additional work if they choose to seek one.

50001 Navigator translates the *requirements* of the ISO 50001 standard into *guidance* and organizes the materials into manageable tasks and suggested actions. However, at this time, it does not:

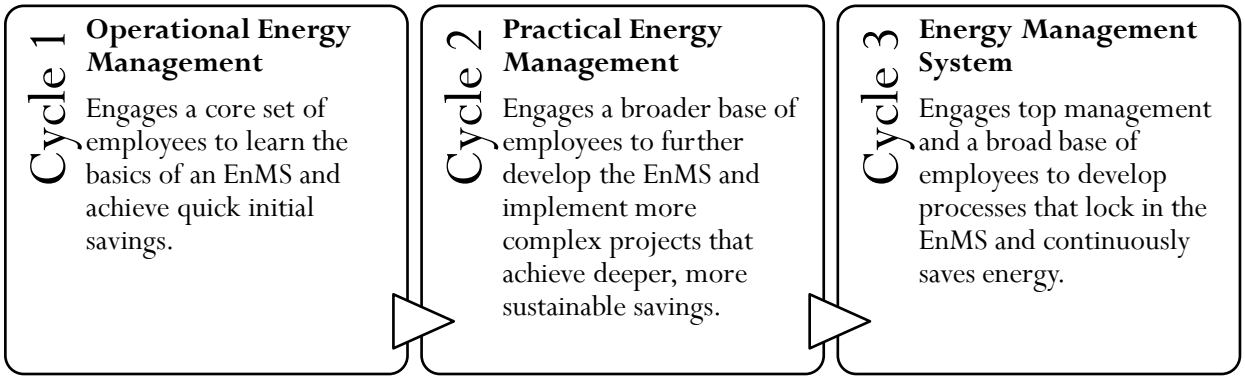
1. Group a subset of the tasks into simpler or partial energy management systems.
2. Prioritize the tasks or order them in a logical sequence for SEM program implementation.
3. Provide guidance for developing the tasks over time.
4. Provide guidance for using the tasks in a program.

This guide addresses the above items by 1) grouping the tasks into simpler management system definitions that are relevant to customers as they continually develop their EnMS during the three 2-year cycles, 2) prioritizing the tasks so that they are presented in an order that fits the energy management system defined at each cycle, 3) discussing the partial completion of

[2] Navigator guidance is held in perpetuity in the public domain under a no cost creative commons license and is available at https://navigator.lbl.gov.

tasks so that they can be fully developed over time as the EnMS progresses, and 4) providing details for using the tasks in each cycle.

At a high level, the intent of the EnMS at each cycle is described below:



Tasks are introduced or enhanced in each cycle to support the intent of each cycle and build on the experience developed in the previous cycle. The Appendix shows a summary of the sequence in which tasks are introduced and provides an overview of the development of each task. The guidance provided in each cycle provides the details of when and how the tasks should be introduced or enhanced, through educational modules or site-specific activities, depending on the task. Most educational modules and site-specific activities list the Navigator tasks that pertain to that module or activity for reference.

2.1.3 IDSM

Integrated Demand Side Management, or IDSM, has been a high priority for the CPUC and energy efficiency program administrators (PAs) for many years. IDSM was included in the CPUC's 2008 and 2011 Strategic Plans, with the 2011 plan stating the IDSM vision as:

> *"Energy efficiency, energy conservation, demand response, advanced metering, and distributed generation technologies are offered as elements of an integrated solution that supports energy and carbon reduction goals immediately, and eventually water and other resource conservation goals in the future."*[3]

A March 2013 CPUC fact sheet[4] defined IDSM Customer Strategies and Impacts as:

> *"Ultimately, customers do not think in terms of regulatory proceedings. When it comes to energy, they think in terms of energy savings, cost reductions, operational improvements, greenhouse gas reductions and return on investment. IDSM offerings can lead to a smoother decision making process for customers,*

[3] The 2011 Strategic Plan is available at https://www.cpuc.ca.gov/-/media/cpuc-website/files/legacyfiles/c/5303-caenergyefficiencystrategicplan-jan2011.pdf

[4] https://www.cpuc.ca.gov/-/media/cpuc-website/files/legacyfiles/2/5417-2013-14-idsm-program-fact-sheet.pdf

allowing customers to lower their costs, maximize incentives, and optimize their return on investment. IDSM is an important strategy for utility customers and utilities alike.

Integration can be accomplished through marketing and delivery of the right combinations of programs and messaging at the right time to the right customer. Implementation of integrated projects is driven by the customer who understands and values a holistic program approach to energy savings. Ultimately, it is important to educate customers, regulators, program designers, and implementers on integrated economics, approaches, successes, and drivers."

CPUC decision 12-11-015 clarified that PAs can "utilize appropriate EE funds as "backstop" funding of IDSM tools to ensure that they provide customers with information that supports all demand-side resources (such as marketing, emerging technologies, integrated audits, piloting of integrated projects, etc.), consistent with IDSM objectives." Additionally, an Assigned Commissioner's Ruling (ACR) issue on October of 2008 identified "priorities for implementation of IDSM activities: 1) comprehensive and coordinated marketing, packaging and delivery including outreach and education of customers and presentation of program options in a unified fashion to customers, 2) operational improvements including offering integrated audits and recommendations, combining EE, DR, DG, and other applicable incentives in the same project, and 3) optimization including equipment that enables multiple DSM options (EE, DR, etc.) and provide synergy across DSM program types" (p.7).

Although the term "IDSM" is commonly used to refer to specific offerings that combine different demand side technologies (e.g., energy efficiency, demand response, on-site generation, energy storage, etc.), the SEM program will focus on ensuring that education on energy management business practices includes a view that is broader than just energy efficiency, although the focus of the program and education remains on energy efficiency. Our objective is that:

1. By providing customers with education on why and how to integrate broader energy concepts into their energy management business practices, ***customers will,***
2. Strategically integrate those concepts throughout their energy management system, ***which will allow them to,***
3. Make and manage decisions to implement energy efficiency and IDSM offerings.

The key is for customers to manage all their objectives and opportunities in an integrated manner, considering the various economic and business impacts of their actions relative to each other.

The guidance for each cycle includes details on how those broader energy concepts should be introduced through the educational modules and outlines options for the PAs to provide technical support through site-specific activities. As mentioned earlier, the primary focus for program implementation is energy efficiency and both educational modules and site-specific activities should focus on energy efficiency savings with broader energy concepts being secondary.

2.1.4 GHG

For over 15 years, the state of California has had aggressive GHG reduction goals. One early source of these goals was the California Global Warming Solutions Act of 2006 (Assembly Bill 32). The 2011 update to the California Energy Efficiency Strategic Plan referenced that bill and recognized the importance of energy efficiency in meeting those GHG goals. The plan stated that, according to the California Air Resources Board, energy efficiency could be the second largest component in meeting the state's emissions reduction goals.[5] The reason for this is that in California, the consumption of energy is the biggest source of GHG emissions, accounting for nearly 80% of all emissions.

In California, transportation is the biggest source of all emissions, accounting for nearly 40%, followed by the industrial sector (21%, including process emissions) and the electricity sector (14%). The commercial and residential sectors combined account for 11% of emissions.[6] Except for a few subsectors (refineries, oil and gas, cement, agriculture), the majority of California's economy's primary source of emissions is through its consumption of energy.

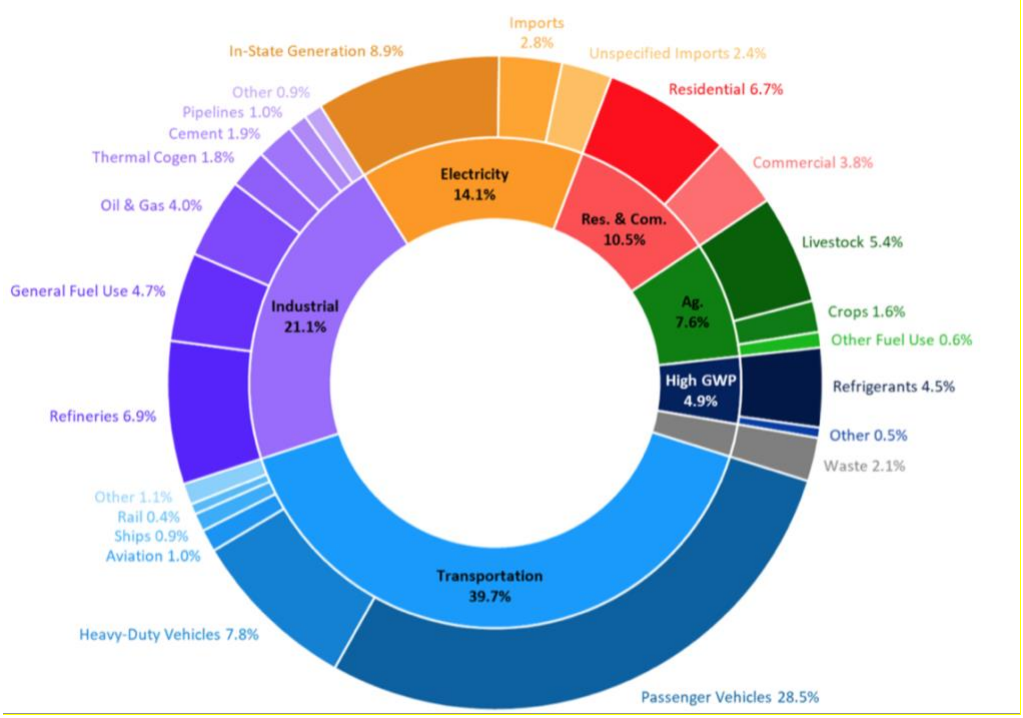


Figure 1- California 2019 GHG Emissions[7]

Currently, any company in California that emits over 10,000 metric tons of CO_2 equivalent (CO_2e) annually falls under the mandatory reporting of GHG emissions required by AB 32 and overseen by California Air Resources Board (CARB). In addition, CARB also manages an

[5] https://www.cpuc.ca.gov/-/media/cpuc-website/files/legacyfiles/c/5303-caenergyefficiencystrategicplan-jan2011.pdf
[6] California Air Resources Board *"California Greenhouse Gas Emissions for 2000 to 2019, Trends of Emissions and Other Indicators"*
[7] California Air Resources Board *"California Greenhouse Gas Emissions for 2000 to 2019, Trends of Emissions and Other Indicators"*

emissions trading program for companies that emit over 25,000 metric tons of CO_2e (about 450 entities) that started in 2013 and decreases allowable emission levels by each year.[8]

Companies that fall under either of CARBs GHG schemes as well as companies that have internal GHG reduction goals are likely interested in understanding how the SEM program aligns with their GHG emissions reduction efforts. In addition, companies that may not have GHG emissions reductions as a key objective ***today*** are likely to be considering them or are likely concerned about when they will have to include GHG emissions reductions as an objective.[9]

The SEM program's GHG emissions objective, similar to that of IDSM, is to focus on education and:

1. By providing customers with education on why and how to integrate energy-related GHG emissions concepts into their energy management business practices, ***customers will,***
2. Strategically integrate those concepts throughout their energy management system, ***which will allow them to,***
3. Make and manage decisions to implement energy efficiency and IDSM offerings to reduce their GHG emissions.

Similar to IDSM, each cycle includes details on how GHG emissions concepts should be introduced through the educational modules and outlines options for the PA to provide technical support through site-specific activities for the implementation of those concepts. Also similar to IDSM, the primary focus for program implementation is energy efficiency and both educational modules and site-specific activities should focus on energy efficiency savings with GHG emissions concepts being an important but secondary topic.

2.2 Key Activities included in the design

2.2.1 Educational Modules

Educational modules provide the structure for the knowledge and understanding the customer should achieve through an educational activity. The modules are structured with four sets of learning objectives based on the topic, which is usually a task from Navigator. The objectives are described as questions which the customer should be able to answer after the educational activity that includes the topic. The four sets of learning objectives are:

1. Program related objectives. These objectives help the customer understand the program related context for the topic or task. The focus of program related objectives should be on energy efficiency with IDSM and GHG related objectives being secondary.
2. The EnMS related objectives. These objectives relate to the task itself and are based on the Navigator task. The focus of the EnMS should be on energy efficiency, with the IDSM and GHG related objectives being secondary.

[8] https://ww2.arb.ca.gov/our-work/programs/cap-and-trade-program/about
[9] Further details and resources on GHG and SEM can be found at www.sergiodiasconsulting.com/ghg.

3. IDSM related objectives. These objectives help the customer understand how to apply the learning on the topic or task to broad energy-related objectives. This includes teaching the customer how to make decisions on how and when to implement varying demand side technologies to meet those objectives.
4. GHG related objectives. These objectives help the customer understand how to apply the learning on the topic or task to energy-related GHG emissions.

These learning objectives are detailed in each cycle in the Educational Modules section following an overview of all the modules. The sequence for each module is outlined at the beginning of each cycle in the Cycle Sequence table.

Turning the educational modules into educational activities will be up to the Program Administrator and implementation contractor staff. This includes the format (i.e., on-line or face-to-face), the delivery (e.g., pre-recorded, live, interactive, mix), the participants (i.e., one-on-one or cohort or mix), the number of activities (e.g., one session or multiple sessions), and the length of each educational activity. This approach allows for some flexibility in program implementation that can be tailored to different sectors and customer cohorts.

Educational modules follow the sequence specified in the Cycle Sequence table provided within each Cycle. If changes are made to the sequence, the changes shall consider the effect to both educational modules and site-specific activities. Examples or cases where a change in the sequence could be considered include highly seasonal participants (e.g., food processors), or a participant experiencing a dramatic event (e.g., temporary site shut down).

2.2.1.1 Requirements for All Educational Modules

Requirements for all educational modules are:

1. Educational modules shall follow the sequence specified in the Cycle Sequence table provided within each Cycle. Changes to the sequence are allowed in special cases and shall be approved by the PA.
2. Educational Modules shall be introduced and completed within the Phase specified in the Cycle Sequence table provided within each Cycle. Modules or elements of the module can be repeated through any of the Cycles but shall be introduced at least once in the required Phase.
3. The Energy Champion or an appropriate Energy Team representative shall attend each module. It is recommended that any site staff who are affected by the content covered in each module attend that module. The SEM Coach shall make a recommendation on which Energy Team members and/or site staff are recommended to attend each module.
4. Feedback shall be gathered from the participants and a summary of the module and feedback must be documented as outlined in the summaries and reporting section of this document. Refer to the M&V Guide for requirements on how to report the educational module summary.
5. The requirements of the modules can be met through multiple educational activities. Those activities can be either on-line or in person, live or pre-recorded/on-demand, individual or cohort, or a mix of any of these. There is no requirement for a minimum or maximum duration for the educational activities.

6. Educational activities shall meet the learning objectives for the educational module they are supporting,

2.2.1.2 Deliverables for Educational modules

All educational modules must be documented per the requirements below.

1. Educational Module Summary. See the Summaries and Reporting section of this document for summary requirements. See the M&V Guide for including Educational Module Summaries in reports.

2.2.2 Site-Specific Activities

Site-Specific Activities are activities that are implemented individually with one site. The majority of these activities help the site apply what they have learned in an Educational Module to their specific situation and needs. This support can vary significantly from participant to participant and may depend on a variety of factors, including the customer's objectives, priorities, expertise, infrastructure, available resources, etc.

Each cycle outlines the sequence for each activity at the beginning of the cycle in the Cycle Sequence table. As mentioned earlier, changes to the sequence are allowed in special cases and shall be approved by the PA. If changes are made, the changes shall consider the effect to both educational modules and site-specific activities. An overview of each activity for each cycle is provided in the Site-Specific Activities section, with the requirements, objectives, and deliverables for each activity provided after the overview. There is no requirement for the Site-Specific Activities to be held in person or on-line. If needed, Site-Specific Activities can be repeated throughout a cycle or in following cycles.

Optional site-specific activities are at the discretion of the PA. These activities should not be offered to a customer unless the PA has explicitly made a decision to provide them.

2.3 Key Roles

The following roles are referenced throughout this document.

2.3.1 SEM Program Roles

Program Administrator

The SEM Program Administrator (PA) ensures that the SEM program is delivered by the implementation contractor as expected. The PA oversees all aspects of the SEM program and has the following key roles:

1. Coordinates activity between the sponsoring utility's staff (e.g., account executives) and contractors and the implementation contractor.
2. Is responsible for ensuring the proper review, approval, and of reports and key documents to ensure program progress, influence, and quality is properly documented.
3. Is responsible for ensuring customer issues and implementation contractor issues are resolved.

4. Decides whether or not the SEM program will offer optional activities.
5. Is responsible for ensuring implementation schedules and commitments are kept.

The PA should ensure any relevant utility staff are involved where needed.

One important utility role is the Account Executive, which can function to: a) help manage customer expectations for the SEM program participation including (but not limited to) recruitment, commitment (e.g., signing of any MOUs) and continued participation, b) provision of customer data including interval data, site level access for audits and treasure hunts, etc., c) any optional activities such as rate analysis for time of use (TOU) rates, peak/net peak demand considerations, IDSM or GHG opportunities, other program participation (e.g., Building Electrification, Transportation Electrification, Demand Response, TOU, PSPS, Resiliency, etc.).

SEM Coach

The Implementation Contractor is responsible for ensuring participants meet the SEM program objectives, all progress and projects are properly documented, and energy savings are properly modeled and documented. Although the Implementation Contractor may have a team that consists of multiple individuals supporting participants, the expectation is that there is one customer-facing individual responsible for supporting participants and communicating progress with the PA. This individual, called the SEM Coach, will:

1. Maintain regular communication with the PA regarding participant progress and issues.
2. Maintain regular one-one communication with participants, including performing site visits as necessary, to ensure all program expectations are met.
3. Develop and review with the PA all educational and activity material and content.
4. Ensure educational and site-level activities are properly facilitated and meet program requirements, including any learning objectives.
5. Ensure proper technical support is provided during Treasure Hunt and for any resulting projects.
6. Ensure all energy consumption models and M&V documentation is delivered on-time and to the requirements of the M&V Guide.
7. Ensure all program data, documentation, and contact information meets program requirements.

2.3.2 Customer

The customer must designate a member of staff for each of these roles.

Data Owner

The Data Owner is responsible for ensuring that a plan is created for collecting energy data and relevant variable data, that the plan is followed, and that data is properly screened and documented.

Energy Champion

The Energy Champion is responsible for the success of the SEM program at the site. This individual is responsible for coordinating both with the SEM Coach and internally with any site staff, including the Energy Team, Data Owner, and Executive Sponsor.

Energy Team

The Energy Team is typically a cross-functional team (i.e. management, production, procurement, maintenance, HR) that meets regularly to manage and develop any energy management-related business practices and activities.

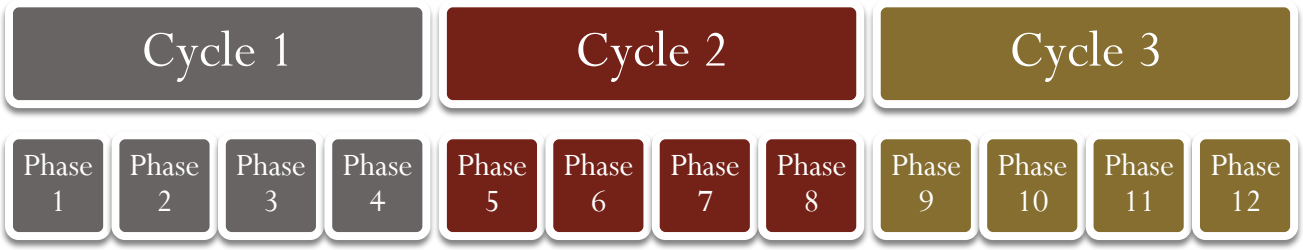
Executive Sponsor

The Executive Sponsor should be the highest-level manager available at the site (typically the site or facility manager) and is responsible for ensuring the Energy Team has the resources it needs to succeed during the SEM program.

3. CYCLE SPECIFIC GUIDANCE

3.1 Three Cycle Overview

All cycles are broken down into four six-month "phases" and the phases are numbered sequentially through all three cycles.



Activities, both educational and site-specific are presented in a phase and meant to be completed within the six-month window for that phase and in the sequence outlined. Changing the sequence or timing of educational or site-specific activities is not recommended but it is ultimately the responsibility of the program administrator to approve and document any suggested changes in any special cases. Examples or cases where a change in sequence could be considered include highly seasonal participants (e.g., food processors), or a participant experiencing a dramatic event (e.g., temporary site shut down). Acceleration of specific activities or tasks (e.g., EMIS, employee awareness, operational controls) that may be of special interest to the PA or SEM Coach, either within a cycle or between cycles, is allowed but care should be taken to understand the impact to the overall design.

Each cycle contains details for educational activities and site-specific activities. To avoid duplication of requirements, M&V and reporting requirements are discussed in the M&V Guide and are generally not included in this guide.

Each of the cycles builds on the previous cycle's educational and site-specific activities to progress the customer's ability to manage energy as well as their experience identifying, planning and implementing energy projects. At a high level, each cycle has the following focus:

1. Cycle 1 focuses on building energy management experience and creating savings quickly. The focus is on developing informal, technical (e.g., engineering, operational, and maintenance) business practices. Activities are meant to be hands-on, with a somewhat short-term view of saving energy. Energy saving focus is on identifying and implementing quick, low- or no-cost, and easy-to-implement opportunities.

2. Cycle 2 focuses on deepening savings and more deeply engaging employees. It builds on the experience developed in Cycle 1 to expand beyond the initial core of employees targeted in Cycle 1. Cycle 2 helps customers work with top management, purchasing, and design and ensures there is management commitment, employee awareness and operator competence. Business practices begin to get defined and documented so they can be repeated. Energy saving focus is on identifying and implementing more complex

opportunities that may require more investment of resources (financial or human) and involvement from employees outside the energy team.

3. Cycle 3 focuses on locking in business practices so the customer can continuously improve energy performance beyond their engagement with the SEM program. In this cycle, the customer builds on their experience in Cycle 2 to ensure their business practices bring continuous improvement and savings beyond their engagement in the SEM program. Cycle 3 ensures that top management, the energy team, and the site's staff have the commitment and business practices to continually manage and improve the energy management system's performance.

Progression of a specific customer from cycle to cycle must be at the discretion of the PA with input from the SEM Coach. The PA shall make the final decision on whether a customer advances to the next cycle. Each cycle includes an activity to develop a brief transition plan, either to help the customer advance to the next cycle, or to help the customer exit the SEM program.

3.2 Cycle 1

3.2.1 Cycle 1 Overview

Cycle 1 is critical in that it sets the customer's expectations and understanding of the program as well as their experience with an energy management system, not only for this first Cycle, but for the customer's entire potential six-year engagement. Cycle 1 sets the technical, educational, and inspirational foundation that the other cycles will rely on.

As mentioned earlier, it is important that the sequence in Cycle 1 be followed as the design is meant to ensure that early in the program customers:

1. Both at the executive and energy-team level, understand and commit to the program and Cycle 1 structure, approach, goals, and expectations. This includes an understanding of the objectives of each of the three cycles.
2. Realize low-effort and low-cost savings so that the customer's commitment is positively reinforced with cost-effective savings while identifying projects for future implementation.
3. Gain practical experience that can be used later to develop and improve business practices.

Phase 1 begins the participants' journey with the SEM program and starts to build the relationship between the participant and the program staff as well as between the various participants in the cohort (if being implemented in a cohort delivery approach). During this phase expectations, roles, and timing should be clearly defined and any potential issues should be identified.

3.2.2 Cycle 1 Sequence

Changing the sequence of educational or site-specific activities is not recommended but it is ultimately the responsibility of the program administrator to approve any suggested changes. As mentioned earlier, specific cases may call for changes in either the timing or sequence of activities. The sequence presented in the table below should be followed in order from top to bottom. This means, for example, that Site-Specific Activities #1 and #2 (Kick-off Meeting, Year 1 and EMA, Year 1) are completed before Educational Modules #1, #2, and #3.

Phase	Educational Modules	Site-Specific Activity
Phase 1		1- Kick-off Meeting, Year 1 2- Energy Management System Assessment (EMA), Year 1
	1- General Information, Year 1 2- Getting Started 3- Improving Performance, Year 1	
		3- Energy Map/SEU Selection Support 4- Treasure Hunt, Year 1 5- Action Plan- Support
Phase 2	4- Measuring Success	
	5- Planning for Year 2	
		6- Planning for Year 2- Support
Phase 3	6- Improving Performance, Year 2	
		7- OPTIONAL: Treasure Hunt, Year 2
	7- EMIS, Year 2	
		8- EMIS Support, Year 2
Phase 4		9- EMA, Year 2 10-Cycle 1 Completion and Next Steps, Year 2- Support
	8- Celebration and Next Steps, Year 2	

Table 1- Cycle 1 Sequence

3.2.3 Cycle 1 Site-Specific Activities

3.2.3.1 Overview of Site-Specific Activities

As described before, Site-Specific Activities are activities that are implemented with an individual site. Site-Specific Activities labeled as "support" can vary significantly from participant to participant and may depend on a variety of factors, including the site's objectives, priorities, expertise, infrastructure, available resources, etc. An overview of each activity is provided below, with the requirements, objectives, and deliverables of each activity provided following this section.

References to Navigator tasks are provided for anyone wishing to understand more about the topic being discussed and are primarily given for context for the PA and SEM Coach. It is not a requirement to show the customer the details of the task or of the Navigator tool itself.

3.2.3.1.1 Site-Specific Activity #1: Kick-off Meeting, Year 1

The Kick-off Meeting begins a site's engagement with the SEM program and introduces the SEM Coach to the site's team. This meeting has multiple purposes:

1. Introducing the Executive Sponsor and Energy Champion to the general approach and requirements of the program, including energy saving and EnMS goals in both Cycle 1 and in the three Cycles.
2. Ensuring that there is a connection between the site's high-level strategies, such as sustainability, cost reduction targets, or resilience, and the SEM program, with a focus on energy efficiency.
3. Articulating the required commitment to the SEM program, including resources and goals necessary for a successful engagement.
4. Introducing the Data Owner to the program data needs, the timing for delivering data, and the Data Collection Plan (see the M&V Guide for details).
5. Documenting the customer's existing energy efficiency project plans.

As with the other site-specific activities, the Kick-off Meeting is meant to be held with an individual site and not in a group or cohort environment.

OPTIONAL ACTIVITIES:

1. **IDSM Data Collection Plan**- At the program administrator's discretion and based on customer needs, the program may provide additional support for customers that want to track energy performance metrics beyond energy consumption (e.g. energy generated and/or stored, demand, time of use) by helping them develop an expanded Energy Data Collection plan that includes data for those metrics. Similar to the Energy Data Collection Plan, the IDSM Data Collection Plan is an agreement between the Data Owner and the SEM Coach on what data is necessary to collect and expectations (e.g. responsibility, frequency, process for transferring data, etc.) for data transfer.
2. **GHG Data Collection Plan**- At the program administrator's discretion, the program may provide additional support for customers that want to track their energy-related GHG emissions by helping them develop a GHG data collection plan. Similar to the Energy Data Collection plan, the GHG Data Collection Plan is an agreement between the Data Owner and the SEM Coach on what data is necessary to collect and expectations (e.g.

responsibility, frequency, process for transferring data, etc.) for data transfer. The PA and SEM Coach shall determine which sources of energy are in-scope for this activity.

3.2.3.1.2 Site-Specific Activity #2: Energy Management Assessment, Year 1

The objective of the Energy Management Assessment (EMA), Year 1 is to provide the program a baseline of the site's energy management practices relative to the business practices that will be introduced in Cycle 1. The EMA shall consist of questions for the tasks listed below from the 50001 Ready Energy Management Assessment:[10]

Task #	Navigator Task Name
Task 1	**An EnMS and Your Organization**
Task 3	**Scope and Boundaries**
Task 6	**Energy Team and Resources**
Task 8	**Energy Data Collection and Analysis**
Task 9	**Significant Energy Uses (SEUs)**
Task 10	**Improvement Opportunities**
Task 11	**EnPIs and Energy Baselines**
Task 12	**Objectives and Targets**
Task 13	**Action Plans for Continual Improvement**
Task 21	**Monitoring and Measurement of Energy Performance**

Table 2- Tasks for Questions to be asked in EMA, Year 1

The EMA is not intended to be a customer-facing assessment, the primary purpose is to document the customer's existing capabilities and to be able to assess, for the program, their EnMS progress through Cycle 1. A customer-facing EMA is listed in the optional activities. A sample of the questions are available in the Appendix. At this point the EMA is used for program purposes but in Cycle 3 it will support Task 20- Monitoring and Measurement of the EnMS. The SEM Coach shall ask the EMA questions to the Energy Champion or the Energy Team and can optionally share the EMA summary with the Energy Champion or the Energy Team.

OPTIONAL ACTIVITIES:

1. **Customer-Facing EMA**- At the program administrator's discretion, the program may provide a customer-facing, facilitated EMA at any time during this Cycle. It is recommended that the EMA use the same questions as the required EMAs.

3.2.3.1.3 Site-Specific Activity #3: Energy Map and SEU Selection Support

The objective of the Energy Map/SEU Definition Support activity is to help the customer start with Task 8 Data Collection and Task 9 Significant Energy Uses (SEUs). There are two related but separate activities that should take place:

[10] The 50001 Ready Energy Management Assessment is available at https://industrialapplications.lbl.gov/energy-management

1. Energy Map: the energy map is akin to an energy end-use breakdown chart. It helps the Energy Team visualize the relative scale of energy use for different locations and/or systems in their site. It provides a snapshot of energy use that will be reviewed in future planning sessions. Energy Map requirements are provided in the M&V Guide.
2. SEU Selection: SEU Selection is based on the Energy Map and is a documented decision of which energy uses the site will focus its efforts on. At this point in the SEM program, the selection of SEUs may be informal and may simply be based on the largest energy-consuming systems or areas. In future cycles, the selection may be based on multiple criteria (e.g., energy consumption, energy costs, ***and*** savings potential). The SEU selection helps the Energy Team make decisions on where to focus limited resources. This selection will be reviewed in future planning sessions. A notation of the SEUs selected and the criteria used shall be made on the Energy Map (see the M&V Guide for details).

Either the SEM Coach or the Energy Team may develop the Energy Map, using the tool provided by the program, to the customer's preferred level of detail. If the Energy Team develops the Energy Map, the SEM Coach shall be available to assist the customer in both developing the energy map and choosing criteria for selecting the SEUs.

OPTIONAL ACTIVITIES:

1. **IDSM Map**- At the program administrator's discretion, the program may provide a tool and support for customers that want to "map" energy beyond consumption. This tool would include elements such as self-generation, demand, time of use, etc. Similar to the Energy Map, the IDSM Map should help the Energy Team visualize these different elements for different locations and/or systems. Customers that develop an IDSM Map should consider using IDSM metrics as one of the criteria for selecting SEUs.
2. **GHG Map**- At the program administrator's discretion, the program may provide both a tool and support for customers that want to "map" their energy-related GHG emissions. Similar to the Energy Map, the GHG Map should help the Energy Team visualize the scale of GHG emissions for different locations and/or systems. Customers that develop a GHG Map should consider using GHG emissions as one of the criteria for selecting SEUs.

3.2.3.1.4 Site-Specific Activity #4: Treasure Hunt, Year 1

The objective of any Treasure Hunt is to identify energy waste and energy saving opportunities so that participants can make changes that save energy, which supports Task 10- Improvement Opportunities. A successful outcome of the Treasure Hunt is the identification of opportunities to meet Cycle 1 objectives. A primary focus of this first Treasure Hunt is to identify simpler low- or no-cost opportunities with the identification of other opportunities being a secondary focus.

The SEM Coach must plan and facilitate this event, in coordination with the Energy Champion. The SEM Coach must work with the Energy Champion in advance to determine the scope of the Treasure Hunt. Generally, the entire site is the focus rather than individual systems. This can be adapted and narrowed as needed in specific situations and should be done using the Energy Map and SEU Selection. Although rare, some sites are so large that the Treasure Hunt

must be focused on a single system or a specific engagement boundary, rather than being all-encompassing.

After the Treasure Hunt concludes, the SEM Coach shall help the site's energy team estimate energy savings for projects identified during the Treasure Hunt.

All projects, including O&M, retro-commissioning, and Capital projects identified in the Treasure Hunt must be documented in the Opportunity Register. The Coach must ensure that capital projects identified be documented in accordance with any additional PA requirements, which may require documentation outside of the opportunity register. Opportunity Register requirements are provided in the M&V Guide.

The *Energy Star Treasure Hunt Guide*[11] or a similar guide shall provide additional detail for conducting a Treasure Hunt.

OPTIONAL ACTIVITIES:

1. **IDSM calculation for opportunities:** At the program administrator's discretion, the program may provide additional support for customers that want to estimate IDSM-related calculations for each energy saving opportunity and use that value as part of the prioritization exercise. This could be either a numerical value (e.g. estimates on demand reduction for each opportunity) or a relative ranking (e.g. high impact on demand). If provided, the IDSM calculations should be integrated into the Treasure Hunt prioritization activities and in the Opportunity Register.
2. **IDSM Treasure Hunt:** At the program administrator's discretion, the program may provide additional support for customers that want to identify IDSM-related opportunities beyond energy efficiency (e.g. demand response opportunities, load shifting opportunities, etc.) and include those opportunities as well as the consideration of IDSM-related data in the prioritization exercise. The scope and responsibilities (e.g. use of other resources) for the IDSM Treasure Hunt should be defined by the program administrator and SEM Coach prior to the event.
3. **GHG Calculation for opportunities:** At the program administrator's discretion, the program may provide additional support for customers who want to calculate GHG emissions for each energy saving opportunity and use that value as part of the prioritization exercise. If provided, the GHG emissions calculations should be integrated into the Treasure Hunt opportunity prioritization activities and in the Opportunity Register.
4. **GHG Treasure Hunt:** At the program administrator's discretion, the program may provide additional support for customers who want to identify energy-related GHG emissions opportunities beyond energy efficiency (e.g. electrification of propane forklift trucks) and include those opportunities as well as the consideration of GHG emissions reductions in the prioritization exercise. The scope and responsibilities of the GHG Treasure Hunt should be defined by the program administrator and SEM Coach prior to the event.

[11] https://www.energystar.gov/industrial_plants/treasure_hunt

3.2.3.1.5 Site-Specific Activity #5: Action Plan Support

After identifying and prioritizing opportunities, the Energy Team will need to select and implement projects. The objective of this activity is to ensure the Energy Team selects, creates action plans, gets any necessary approvals, and implements opportunities to meet their energy objectives.

To be useful, an action plan should contain:

- The activities to be completed to implement the project and achieve energy performance improvement
- The resources needed to complete the activities
- The time frame for completing the activities
- The person or persons responsible for completing the activities
- A description of the method for verifying project results
- A description of the method for verifying the energy performance improvement

Some simpler projects may not need all these elements. See Navigator Task 13, Action Plans for Continual Improvement for further details and templates for developing action plans.

3.2.3.1.6 Site-Specific Activity #6: Planning, Year 2 Support

The objective of this activity is to review key items that might affect the site's approach for SEM Program Year 2 and make any appropriate changes. The Energy Team should review their year 1 actions (e.g., implemented projects, energy savings, objectives, performance indicators, SEUs, and data collected) and determine if any significant changes need to be made for SEM Program Year 2 based on the Navigator Tasks discussed in Educational Module #5- Planning, Year 2. This includes adjusting any objectives and targets, making any changes to EnPIs or the Data Collection Plan, making sure the Energy Map and SEUs selected are still relevant, ensuring opportunities and action plans will meet objectives, etc.

This activity creates an experience and expectation for annual planning that will be repeated and expanded through the remaining four years of the program. Although the Energy Team should eventually lead their own planning, in this initial planning session the SEM Coach should provide significant support.

The SEM Coach and Energy Champion should use this planning session to determine if another Treasure Hunt is needed, or not, to identify opportunities to meet the Cycle's objectives.

3.2.3.1.7 OPTIONAL Site-Specific Activity #7: Treasure Hunt and Action Plan Support, Year 2

As previously stated, the objective of any Treasure Hunt is to identify energy saving opportunities so that participants can make changes that save energy, which is an element of Task 10- Improvement Opportunities. A successful outcome of this Treasure Hunt is the identification and prioritization of opportunities to meet SEM Program Year 2 and beyond (e.g. Year 3 and 4) objectives. A primary focus of this Treasure Hunt is to identify more complex or resource (capital or human) intensive opportunities that, because of capital expenditure or scheduling reasons, may or may not be implemented in this cycle.

As in all Treasure Hunts, the SEM Coach must plan and facilitate this event, in coordination with the Energy Champion. The SEM Coach must work with the Energy Champion in advance to determine the scope of the Treasure Hunt. After the Treasure Hunt concludes, the SEM Coach will teach the site's energy team how to estimate energy savings for projects identified during the Treasure Hunt.

All projects, including O&M, retro-commissioning, and capital projects identified in the Treasure Hunt must be documented in the Opportunity Register. The SEM Coach must ensure that capital projects identified be documented in accordance with any additional PA requirements, which may require documentation outside of the opportunity register.

Once opportunities have been prioritized, the SEM Coach should help the Energy Team select opportunities to implement that meet their objectives for the Cycle. The SEM Coach should then help the Energy Team develop action plans to ensure those opportunities are implemented.

OPTIONAL ACTIVITIES:

1. **IDSM calculation of opportunities:** At the program administrator's discretion, the program may provide additional support for customers that want to estimate IDSM-related calculations for each energy saving opportunity and use that value as part of the prioritization exercise. This could be either a numerical value (e.g. estimates on demand reduction for each opportunity) or a relative ranking (e.g. high impact on demand). If provided, this should be integrated into the Treasure Hunt activities.
2. **IDSM Treasure Hunt:** At the program administrator's discretion, the program may provide additional support for customers that want to identify IDSM-related opportunities beyond energy efficiency (e.g. demand response opportunities, load shifting opportunities, etc.) and include those opportunities as well as the consideration of IDSM-related data in the prioritization exercise. The scope and responsibilities (e.g. use of other resources) for the IDSM Treasure Hunt should be defined by the program administrator and SEM Coach prior to the event.
3. **GHG Calculation for Opportunities:** At the program administrator's discretion, the program may provide additional support for customers that want to calculate GHG emissions for each energy saving opportunity and use that value as part of the prioritization exercise. If provided, the GHG emissions calculations should be integrated into the Treasure Hunt opportunity prioritization activities and in the Opportunity Register.
4. **GHG Treasure Hunt:** At the program administrator's discretion, the program may provide additional support for customers who want to identify energy-related GHG emissions opportunities beyond energy efficiency (e.g. electrification of propane forklift trucks) and include those opportunities as well as the consideration of GHG emissions reductions in the prioritization exercise. The scope and responsibilities of the GHG Treasure Hunt should be defined by the PA and SEM Coach prior to the event.

3.2.3.1.8 Site-Specific Activity #8: EMIS, Year 2 Support

The objective of this activity is to ensure the customer applies the principles introduced in Educational Module #7- EMIS, Year 2 in looking at simple ways to enhance and visualize energy data. In this activity, the SEM Coach will assist the customer in analyzing how existing

data, data processes, and data systems can be used to right-size and prioritize where energy data can be integrated into existing control and reporting systems. Future EMIS activities will look at potentially more complex enhancements to data processes and systems.

OPTIONAL ACTIVITIES:

1. **EMIS Audit:** At the program administrator's discretion, the program may provide additional resources to develop a more formal "EMIS Audit" using Natural Resources Canada's EMIS audit process.[12] An alternative process may be used with the program's administrator's approval. The objective is to have a clear business plan for implementing a complete EMIS solution.
2. **IDSM EMIS Support:** At the program administrator's discretion, the program may provide additional support for customers that want to visualize IDSM-related data (e.g. demand, time of use, self-generation and/or storage, etc.) as part of their EMIS activity. The program administrator and SEM Coach should define the scope and responsibilities of this activity prior to the activity.
3. **GHG EMIS Support:** At the program administrator's discretion, the program may provide additional support for customers that want to visualize energy-related GHG emissions as part of their EMIS activity. This can be as simple as converting energy data to GHG data using conversion factors or more complex depending on the customer's needs and abilities. The program administrator and SEM Coach should define the scope and responsibilities of this activity prior to the activity.

3.2.3.1.9 Site-Specific Activity #9: EMA, Year 2

The objective of the Energy Management Assessment (EMA), Year 2 is to provide the program an end-of-cycle assessment of the site's energy management practices relative to the business practices that were introduced in Cycle 1. The EMA shall consist of questions from the 50001 Ready Energy Management Assessment for the tasks listed below:[13]

Task #	Navigator Task Name
Task 1	**An EnMS and Your Organization**
Task 3	**Scope and Boundaries**
Task 6	**Energy Team and Resources**
Task 8	**Energy Data Collection and Analysis**
Task 9	**Significant Energy Uses (SEUs)**
Task 10	**Improvement Opportunities**
Task 11	**EnPIs and Energy Baselines**
Task 12	**Objectives and Targets**
Task 13	**Action Plans for Continual Improvement**

[12] https://www.nrcan.gc.ca/energy/efficiency/energy-efficiency-industry/energy-management-industry/energy-management-information-systems/20403

[13] The 50001 Ready Energy Management Assessment is available at https://industrialapplications.lbl.gov/energy-management

Task 21	**Monitoring and Measurement of Energy Performance**

Table 3- Tasks for Questions to be asked in EMA, Year 2

Similar to EMA, Year 1, this EMA is not intended to be a customer-facing process, the primary purpose is to document the customer's EnMS progress through Cycle 1. The SEM Coach should have been working closely with the Energy Champion and Energy Team on these business practices and should have the knowledge to complete the EMA without their input. Optionally, the SEM Coach can engage with the Energy Champion and/or Energy Team to complete the EMA. The results of the EMA can optionally be shared with the Energy Champion and Energy Team.

3.2.3.1.10 Site-Specific Activity #10: Cycle 1 Completion and Next Steps, Year 2 Support

This activity has two objectives: 1) to help the site understand and summarize their achievements and issues throughout their involvement in Cycle 1, and 2) help the site decide whether or not to advance to Cycle 2. Achievements and issues should be presented to the Executive Sponsor. The Executive Sponsor and Energy Champion shall decide whether or not the site would like to continue to Cycle 2.

Based on that decision, the Energy Champion and SEM Coach will document a transition plan to address anything the customer should address, either as they exit the SEM program or as conditions to entering Cycle 2. The SEM Coach can optionally request the Executive Sponsor's and Energy Champion's commitment to address any key issues before Cycle 2 begins.

764 *3.2.3.2 Cycle 1 Site-Specific Activity Requirements, Objectives, and Deliverables*

Activity Name	Requirements	Objectives	Deliverables
1- Kick-off Meeting, Year 1	1. The Kickoff Meeting, Year 1 shall be held prior to any other educational or site-specific activities. 2. The meeting shall include at least: a. From the program: the SEM Coach. The Account Executive is optional but highly recommended b. From the customer: The Executive Sponsor, Energy Champion, and Data Owner. 3. The meeting can be held in multiple parts, for example one meeting with the Executive Sponsor and the Energy Champion to discuss high-level activities and another with the Data Owner and the Energy Champion to discuss data needs and timing. 4. The meeting shall be held with only one site (i.e. not with other facilities in the same cohort). 5. Where possible, the meeting(s) shall be held in person. 6. The SEM Coach shall ensure the meeting meets the listed objectives. 7. The meeting shall be summarized and documented in the Scoping Summary.	1. Executive Sponsor and Energy Champion understand: a. The SEM program's 3-cycle approach and the general goals for each cycle. b. The Cycle 1 goals, expectations, roles, and requirements for their site's involvement in the SEM program. c. The roles of the SEM Coach, PA, and Account Executive. d. The roles and responsibilities of the Energy Champion, Data Owner, Executive Sponsor, and Energy Team. e. How the SEM program can help support key corporate and site objectives and strategies, specifically strategies such as GHG emissions reductions and any other that relate to energy (e.g., energy independence, cost reduction, sustainability, resilience, etc.). 2. Executive Sponsor articulates or confirms: a. The resources (human and capital) available to support the program. b. Any existing or desired site objectives or targets the program should try to meet, including Cycle 1 EnMS and savings objectives and targets. c. Agreement to the program's Cycle 1 requirements, including any follow-up meeting with the Executive Sponsor. 3. Data Owner and SEM Coach develop a plan for gathering and providing data for relevant	1. Scoping Summary

Activity Name	Requirements	Objectives	Deliverables
		energy drivers. This should include expectations for data transfer (responsibility, minimum data requirements, general format guidelines, process for transferring data, etc.), data quality, data frequency, etc. 4. Energy Champion and SEM Coach develop a list of existing planned capital projects and a plan for estimating savings from those projects.	
2- Energy Management System Assessment (EMA), Year 1	1. Energy Management System Assessment (EMA) Year 1 shall be held during or after the Kick-off Meeting and prior to any other educational or site-specific activities. 2. The completion of the EMA shall include at least the SEM Coach and the Energy Champion. 3. The EMA shall consist of questions that assess the site's current practices regarding the Navigator tasks introduced in Cycle 1 using US DOE's 50001 Ready Energy Management Assessment. 4. The EMA results shall be documented in the EMA Summary.	1. Energy Champion and SEM Coach document the site's current energy management practices relative to the Navigator tasks to be introduced in Cycle 1.	1. EMA #1 Summary
3- Energy Map/SEU Selection Support	1. The Energy Map/SEU Selection Support shall be completed after Educational Module #3- Improving Performance and before the Treasure Hunt. 2. The SEM Coach must provide a tool to facilitate the development of the Energy Map and the SEU definition (see M&V Guide for requirements). 3. Energy Map development and SEU Selection shall be supported by the Energy	1. The Energy Team and SEM Coach document and quantify the site's current energy uses. 2. The Energy Team and SEM Coach prioritize the site's approach relative to processes or equipment, selecting SEUs.	1. Energy Map 2. SEU Selection (see M&V Guide for requirements)

Activity Name	Requirements	Objectives	Deliverables
	Champion and any appropriate Energy Team members and site staff. 4. The Energy Map/SEU Selection results shall be documented (see M&V Guide for requirements).		
4- Treasure Hunt, Year 1	1. Treasure Hunt Year 1 shall take place after completion of the Energy Map. 2. Treasure Hunt Year 1 shall be attended by the Energy Champion and any appropriate Energy Team members and site staff. 3. The SEM Coach shall ensure the Treasure Hunt meets the listed objectives. 4. Treasure Hunt Year 1 results shall be documented in the Treasure Hunt Summary. 5. All opportunities resulting from the Treasure Hunt must be documented in the Opportunity Register (see M&V Guide for requirements). 6. The *Energy Star Treasure Hunt Guide* or a similar guide shall provide additional guidance for conducting a Treasure Hunt.	1. The Energy Team and SEM Coach identify energy savings opportunities, focusing on simpler low or no-cost opportunities. 2. The Energy Team and SEM Coach quantify potential savings for each opportunity. 3. The Energy Team and SEM Coach document the site's opportunities using the Opportunity Register. 4. The Energy Team prioritizes their identified opportunities.	1. Treasure Hunt Summary 2. Updated Opportunity Register (see M&V Guide for requirements)
5- Action Plan Support	1. Action Plan Support shall take place during or after the Treasure Hunt. 2. Action Plan development shall be supported by the Energy Champion and any appropriate Energy Team members and site staff. 3. The SEM Coach shall ensure the Action Plan Support meets the listed objectives.	1. The Energy Team selects opportunities to implement through Cycle 1. 2. The Energy Team develops action plans, where appropriate. 3. The Energy Team shares action plans with the program.	None

Activity Name	Requirements	Objectives	Deliverables
6- Planning, Year 2 Support	1. Planning for Year 2 shall take place after Educational Activity #5- Planning for Year 2. 2. Planning for Year 2 shall be supported by the Energy Champion and any appropriate Energy Team members and site staff. 3. The SEM Coach and Energy Champion shall determine whether Treasure Hunt Year 2 is necessary. 4. The SEM Coach shall ensure the support meets the listed objectives.	1. The Energy Team reviews SEM Program Year 1 progress (implemented projects, saved energy, data collected, indicators, focus areas or SEUs), significant site changes, and any key issues to evaluate their progress versus site and program objectives and expectations. 2. The Energy Team reviews or sets year objectives for SEM Program Year 2 and beyond (e.g., years 3 and 4). 3. The Energy Team updates any business practices or documents (e.g., SEUs, Energy Map, Energy Data Collection Plan, etc.) as needed 4. The Energy Team sets a plan for SEM Program Year 2 and subsequent years, including selection of opportunities, development of action plans, and any necessary improvements in data collection or selection of indicators. 5. The SEM Coach determines whether the Treasure Hunt, Year 2 is necessary based on the site's objectives and remaining opportunities.	None
7- OPTIONAL: Treasure Hunt and Action Plan Support, Year 2	1. The OPTIONAL Treasure Hunt- Year 2 shall take place after the Site-Specific Activity Planning for Year 2 and after Educational Module #6- Improving Performance- Year 2. 2. The SEM Coach shall make the decision on whether this Treasure Hunt is necessary based on the outcomes of Year 2 Planning.	1. The Energy Team and SEM Coach identify energy savings opportunities, focusing on more complex opportunities (e.g., retro-commissioning, control systems, capital projects) than those identified in the Treasure Hunt Year 1 and quantify potential savings for each opportunity.	1. Treasure Hunt Year 2 Summary (if held) 2. Updated Opportunity Register (see M&V Guide for requirements)

Activity Name	Requirements	Objectives	Deliverables
	3. The Treasure Hunt shall be attended by the appropriate members of the Energy Team and site staff. 4. The SEM Coach shall ensure the Treasure Hunt meets the listed objectives. 5. If a Treasure Hunt is held, the Treasure Hunt results shall be summarized in the Treasure Hunt Summary (see M&V Guide for reporting requirements). 6. If Treasure Hunt Year 2 is held, all opportunities identified shall be recorded in the Opportunity Register. 7. The *Energy Star Treasure Hunt Guide* or a similar guide shall provide additional guidance for conducting a Treasure Hunt.	2. The Energy Team and SEM Coach document the site's additional opportunities using the Opportunity Register. 3. The Energy Team prioritizes their identified opportunities and selects opportunities to implement in year 2 and subsequent years (e.g., years 3 and 4). 4. The Energy Team develops action plans, where appropriate.	
8- EMIS, Year 2 Support	1. EMIS Support Year 2 shall take place after Educational Module #7- EMIS, Year 2. 2. EMIS definition and implementation shall be supported by the Energy Champion and any appropriate Energy Team members and site staff.	1. The Energy Team and SEM Coach identify opportunities to use existing data and/or hardware to visualize and report energy data for the appropriate staff and Energy Team. 2. The Energy Team and SEM Coach identify opportunities to improve data collection, hardware, or software to improve their EMIS. 3. The Energy Team and SEM Coach develop a plan for implementing recommendations for improving their EMIS.	None
9- EMA, Year 2	1. The EMA, Year 2 shall be completed before Educational Module #8- Celebration and Planning. 2. The EMA, Year 2 shall consist of questions that assess the site's existing practices relative to the Navigator tasks introduced in Cycle 1 using US DOE's 50001 Ready Energy Management Assessment. The	1. The SEM Coach identifies the site's progress with respect to EnMS practices introduced in Cycle 1. 2. Optionally, the SEM Coach can use the EMA as a customer-facing activity to have the Energy Team or Energy Champion answer the EMA questions.	1. EMA #2 Summary

Activity Name	Requirements	Objectives	Deliverables
	SEM Coach shall answer these questions and can optionally engage with the Energy Team or Energy Champion to answer the questions. 3. The SEM Coach shall ensure the EMA meets the listed objectives 4. The EMA Year 2 results shall be documented in the EMA Summary.	3. The Energy Team understands the site's progress relative to the Navigator tasks introduced in Cycle 1.	
10- Cycle 1 Completion and Next Steps, Year 2 Support	1. Cycle 1 Completion and Next Steps Support shall be completed after EMA Year 2 and before Educational Activity #8- Cycle 1 Celebration and Next Steps. 2. The Energy Coach and Energy Champion shall summarize the site's achievements and issues in Cycle 1 and meet with the Executive Sponsor to present the site's achievements. 3. The Energy Champion and Executive Sponsor shall decide whether or not to continue to Cycle 2. The Energy Coach shall document the decision. 4. The Energy Champion and Energy Coach shall document a transition plan for the site for Year 3 in the Cycle Decision and Transition SUmmary. 5. The SEM Coach shall ensure the support meets the listed objectives.	1. The Energy Team and Energy Coach understand and summarize the site's achievements and issues for both EnMS and energy performance. 2. The Executive Sponsor understands the site's achievements. 3. The Energy Team, Energy Champion, and Executive Sponsor understand Cycle 2 objectives and requirements. 4. The Energy Champion and Executive Sponsor decide whether or not to continue to Cycle 2. 5. The Energy Champion and SEM Coach create a plan for the site, either for continuing to Cycle 2 or for exiting SEM.	1. Cycle 1 Decision and Transition Summary

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3.2.4 Cycle 1 Educational Modules

As described before, educational modules provide the requirements for educational activities, which can be provided in a variety of ways, including face-to-face, on-line, or a combination of the two. In Cycle 1 there are eight modules. It is recommended that each module summarize the completed Educational Modules and Site-Specific Activities and preview upcoming Educational Modules and Site-Specific Activities. References to Navigator tasks are to provide context for the PA and SEM Coach and are not a requirement to show the customer the details of the task or of Navigator itself.

3.2.4.1 Educational Module #1: General Introduction

The objective of this educational module is to give customers an introduction in five general topics:

1. The program itself and its structure through the three cycles, expectations in Cycle 1, the scope of what is included and not included, and the resources the program does and does not provide.
2. The concept of an EnMS, what it is, why it is important, and how it will be developed in this first cycle.
3. Why the focus is on energy efficiency and what the approach to saving energy and implementing energy saving opportunities is in Cycle 1 and in future Cycles.
4. What managing energy can mean in a broader sense (beyond energy efficiency), metrics that can be managed through the EnMS (e.g., demand response, time of use, etc.), and what the SEM program does or does not support in relation to these other metrics.
5. What GHG emissions are, why they are important, why they have a connection to energy and the EnMS, and how the SEM program does or does not support GHG emission reduction efforts.

These are the four areas that are part of every educational module and it is important that participants understand why they are being discussed and how they relate to both the program and the EnMS.

3.2.4.2 Educational Module #2: Getting Started

The objective of this educational module is to provide customers practical guidance for participants in establishing an EnMS in their organization. For some participants, an EnMS and continuous improvement in general, will be new. This module provides an opportunity to begin laying the foundational pieces of the EnMS. In this module, participants will begin to connect their corporate or site's high-level goals to the EnMS, develop their energy team, set the scope of their activities, and review the goals and direction established by their Executive Sponsor in the Kick-off Meeting.

In addition, this module continues to expand the two topics introduced in the previous module that extend beyond energy efficiency:

1. The connection between GHG emissions and the energy management system.
2. The broad range of energy performance objectives that can be integrated into the EnMS and how those can help support strategic corporate or site objectives.

This module can be held in multiple events and either on-line or in person.

Navigator Tasks introduced in this module are:

1. Task 1- An EMS and Your Organization
2. Task 3- Scope and Boundaries
3. Task 6- Energy Team and Resources

3.2.4.3 Educational Module #3: Improving Performance, Year 1

The objective of this educational module is to provide customers guidance for visualizing how their site uses energy, understanding how they can prioritize or focus efforts, and understanding the actions they can take to save energy. The module focuses on giving participants the knowledge and skills needed to identify and implement energy-saving projects as early as possible. The Energy Map Tool, ideas for no- and low-cost energy saving opportunities, and the Opportunity Register are delivered and explained during this module. The three Site-Specific Activities that follow this module, the Energy Map/SEU Selection Support, Treasure Hunt, and Action Plan Support, should be explained. If available, sub-system energy efficiency training should be provided based on the customer's needs.

Identifying and implementing quick wins is critical to building momentum and enthusiasm for the SEM program. The agenda should include training that will enable near-term identification and implementation of technical opportunities through straight-forward concepts, processes and tools.

Related Navigator Tasks introduced in this module are:

1. Task 8- Data Collection and Analysis
2. Task 9- Significant Energy Uses
3. Task 10- Improvement Opportunities
4. Task 13- Action Plans for Continual Improvement

Any educational activity that discusses IDSM opportunities should emphasize the economics and cost effectiveness of energy efficiency in general as a foundation for IDSM opportunities. For the purposes of education in the SEM programs, IDSM opportunities are defined as the multitude of energy solutions available to a customer. Below is a general order of cost effectiveness of IDSM options, often referred to as a "loading order." The first item would typically be the most cost effective.

1. Energy conservation
2. Energy efficiency, including Water/Energy Nexus[14]
3. Time of use (TOU) management and pricing
4. Demand response
5. Self-generation and energy storage

The definitive definition of IDSM opportunities and the grid-based "loading order" should come from the CPUC or CPUC approved sources and should be updated as policy dictates.

Any IDSM education activity should include a discussion on what the different IDSM opportunities are, how they interact, and how to select among them in a way that promotes the

[14] One of the California's largest end uses of electricity is in the treatment, heating, and conveyance of water. This is known as the "Water/Energy Nexus." For more information on the water/ energy nexus see: https://www.cpuc.ca.gov/nexus_calculator/

customer's cost-effectiveness and any other criteria that are used for selecting projects to implement.

3.2.4.4 Educational Module #4: Measuring Success

The objective of this educational module is to provide participants guidance for how to track their energy performance. Participants will have just completed their energy map, SEU Selection, Treasure Hunt, and action plans and should have a good sense of the opportunities they plan to implement.

In this module, they will review the data they are collecting, review the metrics and baselines that they can use to track energy performance, and review options for determining their energy performance. In this module the SEM Coach should share the energy model with the customer and give them an opportunity to understand how the model was developed and why it is used. The customer should understand what their role is in developing and maintaining the model and how the program will use its results. The Energy Data and Performance Tracking Tool should be shared with customers.

Related Navigator Tasks introduced in this module are:

1. Task 8- Data Collection and Analysis
2. Task 11- EnPIs and Baselines
3. Task 21- Monitoring and Measurement of Energy Performance Improvement

3.2.4.5 Educational Module #5: Planning, Year 2

The objective of this educational module is for each customer to develop a plan of action for SEM Program Year 2. The customer should reflect on their SEM program experience thus far, as they have engaged in the program for nearly a year at this point. With an eye on the future, they will consider what has worked, what has not, what needs to be changed, and where they want to go from here, both with their EnMS and their energy saving opportunities. Customers should learn how to review their progress as well as ensure that they are on track to meet SEM Program Year 2 objectives.

Related Navigator Tasks discussed in this module are:

1. Task 8- Data Collection and Analysis
2. Task 9- Significant Energy Uses
3. Task 10- Improvement Opportunities
4. Task 11- EnPIs and Baselines
5. Task 12- Objectives and Targets
6. Task 13- Action Plans for Continual Improvement

3.2.4.6 Educational Module #6: Improving Performance, Year 2

The objective of this educational module is for customers to be able to identify more advanced, complex, or resource (capital or human) intensive energy improvement opportunities. Participants will learn how to improve on elements learned in Module 3 and applied through the first year of the SEM engagement.

In this module, customers should learn how to identify and implement more advanced energy savings projects and better estimate the energy savings potential of those projects. Customers should also learn best practices for creating action plans for these more complex projects.

The technical content of this module will depend on the systems and processes present at the customer's site as well as on the needs of the customer.

Related Navigator Tasks discussed in this module are:

1. Task 10- Improvement Opportunities
2. Task 13- Action Plans for Continual Improvement

3.2.4.7 Educational Module#7: EMIS, Year 2

This module gives participants tools and methods for understanding and tracking energy performance at a deeper level using the concept of an Energy Management Information System (EMIS). In this context, an Energy Management Information System is not any specific hardware or software solutions but it is the proper integration and visualization of energy information so that multiple levels of employees and management within an organization are able to take actions and make decisions that save energy and maintain energy savings.

The objective of this module is to help participants understand how they can leverage existing data points and process and enhance them. Customers should understand that no matter how they are currently tracking key site and energy data, improvements designed to fit their situation can help drive better decisions within and across facilities. In this module, customers should explore how to right-size and prioritize where an EMIS approach can have an impact, how it can be integrated into existing control and reporting systems, and how an EMIS approach can be implemented to supplement their SEM program.

Future EMIS activities will look at potential improvements to data processes.

Related Navigator Tasks discussed in this module are:

1. Task 8- Data Collection and Analysis

3.2.4.8 Educational Module#8: Celebration and Next Steps, Year 2

The objective of this module is to recognize the customers' accomplishments and generate enthusiasm for continuing engagement in the SEM program. Customers have worked hard for two years; this module provides a forum for their peers to recognize the work they have done and hear what they have planned for the future.

The SEM Coach must work with each Energy Champion ahead of time to prepare a brief presentation explaining the story and outcomes through their engagement with the SEM program. This should be a similar presentation as that given to their Executive Sponsor. Customers should receive a certificate of accomplishment.

3.2.4.9 *Cycle 1 Educational Module Learning Objectives*

Module Name	Topic	EnMS Related Objectives	GHG Related Objectives	IDSM Related Objectives	Program Related Objectives
1- General Introduction, Year 1	General Overview	What is an EnMS? What are business practices? What is a “system”? Why is it important? How will it be developed in this Cycle?	What are GHG emissions? How are they calculated? Why are they important globally? To the site? To the PA? What is their connection to energy and the EnMS? How does the program support GHG emissions reductions?	What does "managing energy" mean? How do we define "energy performance"? What metrics beyond consumption can be managed through the EnMS? How does the program support these other metrics?	What is "SEM"? Why are there three cycles? What are the program expectations? What is included in the program? What is not included? What resources does the program provide? Why is the focus on energy efficiency?
2- Getting Started	Task 1- EnMS and your Organization	What objectives does our organization have that can be supported by managing energy? What can impact our EnMS?	Is managing GHG emissions important to our organization? Do we have objectives or requirements that we are trying to meet?	Do we have other objectives that will affect our approach to SEM beyond energy consumption? Are there related (sustainability, resilience, etc.) high-level objectives or strategies that managing energy could support?	How do we currently manage energy? What energy-related plans do we have underway? What is an EMA and why are we doing them?
	Task 6- Energy Team and Resources	What makes an energy team successful? Who will be on ours? What are our roles? How often do we meet?	Does the Energy Team have sufficient understanding of GHG emissions and GHG reporting to meet our objectives?	Do we need someone on our team that understands other energy concepts beyond efficiency (e.g., demand reduction, renewable	What roles does the program expect us to fulfill and who is responsible? What additional training might the sponsoring

Module Name	Topic	EnMS Related Objectives	GHG Related Objectives	IDSM Related Objectives	Program Related Objectives
				energy, demand response?	utility provide outside the SEM program?
	Task 3- Scope and Boundary	What processes, systems, or areas should we include as we manage our energy? What should we exclude?	Which GHG emissions will we manage? Does managing GHG emissions change our scope or boundary?	If we have various energy-related objectives, do they affect our scope or boundary?	What will the program help us with? What is in-scope and out-of-scope for the program?
3- Improving Performance, Year 1	Task 8- Data Collection and Analysis	What types of energy do we consume? Where is our energy consumed? What consumes the most energy? What might affect our energy consumption? How will we collect and analyze our energy and other data?	Is there GHG-specific data we need to consider, collect, and/or analyze? Where do we most emit energy-related GHG emissions?	Is there other energy performance data we need to consider beyond energy consumption (e.g., demand reduction)?	What data does the program need from the site? At what frequency? What data does the program collect directly? What resources does the program have to help "map" energy?
	Task 9- Significant Energy Uses	What equipment or process has the most potential for energy performance improvement? How do we determine which equipment or processes we focus on?	What equipment or processes generate the most GHG emissions? Which has the most potential for GHG emissions reductions?	What equipment or processes have the most potential to reduce other energy-related objectives? Do we prioritize our efforts by other energy-related performance objectives?	What role does the program play helping us focus on improving our critical energy using infrastructure?

Module Name	Topic	EnMS Related Objectives	GHG Related Objectives	IDSM Related Objectives	Program Related Objectives
	Task 10- Improvement Opportunities	How do we identify and prioritize opportunities to improve our energy performance? How often do we look for opportunities? What opportunities do we focus on now? What are no- and low-cost opportunities that we can implement quickly? What is the Treasure Hunt? What criteria do we use to select projects?	Are there GHG opportunities beyond energy efficiency that we should identify? How do we identify them? Do we prioritize opportunities by GHG emissions?	What other non-energy-efficiency opportunities should we identify? How do we identify them? How do we prioritize them? What is a "typical" loading order? How do we prioritize between different types of opportunities (e.g., efficiency, demand, self-generation, storage, electrification, etc.). How do we determine the economics of different opportunities?	What role does the program play with helping us find or prioritize opportunities? Can the program help find opportunities other than energy efficiency? Are there incentives for implementing opportunities? What is the opportunity register?
	Task 13- Action Plans	How do we select projects for implementation? Will those projects meet our goals? How do we manage the implementation of those projects? Do we need to plan for measuring the performance of those actions?			What resources does the program have to help us manage or implement projects? What role does the program play with the different types of projects? Which projects need a persistence strategy?
4- Measuring Success	Task 8- Data Collection	What data have we collected? Are we missing any data	Is the data being captured resulting in the correct GHG	Do we need to capture data other	Does the data we have meet the program's needs? Is

Module Name	Topic	EnMS Related Objectives	GHG Related Objectives	IDSM Related Objectives	Program Related Objectives
		sources? Is the data accurate?	emissions analysis for our site?	than energy consumption?	the data quality acceptable? What is an Energy Data Collection Plan? What is our role in collecting data?
	Task 11- EnPIs and Baselines	What metrics do we need to set to track our energy performance? What should our baseline be? How often do we compare our metrics to the baseline?	What metrics do we need to set to track our GHG emissions? Are GHG metrics required by external parties? Do we have a baseline?	Are there metrics beyond energy consumption that we want to track?	What are the program's metrics and baselines? How often are they measured? What does the program do with those metrics?
	Task 21- Monitoring and Measurement	How do we determine our energy performance? What metrics should we use? What happens if our performance deviates significantly?	Do we need to report GHG emissions internally or externally? If so, what needs to be reported?	Does our energy performance analysis include metrics beyond consumption?	How does the program determine our energy performance? What is an energy model and what do we do with it? What happens if we do not meet the program's expected improvement?
5- Planning, Year 2	Task 12- Objectives and Targets	What are our objectives and targets for year 2 and beyond? How do they compare with year 1?	Do we have internal or external GHG reduction targets for year 2 and beyond? Have they changed from year 1?	Do we have internal or external objectives that relate to energy (beyond efficiency) for SEM Program Year 2 and beyond?	How will the program help us set or achieve our objectives and targets? How might competing targets be addressed?

Module Name	Topic	EnMS Related Objectives	GHG Related Objectives	IDSM Related Objectives	Program Related Objectives
				Have they changed from year 1?	
	Task 11- EnPIs and Baselines	Have we compared our metrics to their baselines in year 1? Should any metrics be changed or added for year 2?	Are there any changes in internal or external GHG reporting needs that might affect our EnPIs or Baselines?	Are there changes that might affect other energy metrics (e.g., peak demand, TOU, etc.)	Are there any changes in how the program tracks our metrics or EnPIs?
	Task 10- Improvement Opportunities	Do we have enough opportunities to meet our objectives for year 2 and beyond? Do we need to identify more? What opportunities do we focus on this year?			When do projects have to be implemented to receive incentives in Cycle 1? Are our implemented projects well documented in the Opportunity Register?
	Task 9- SEUs	Are there changes that affect how we select our SEUs? Do our current SEUs apply to SEM Program Year 2? Do we need to change them?			
	Task 8- Data Collection and Analysis	Are we collecting the right data at the right time? Do we need to modify the data we collect or the approach we take? Are there changes that affect our Data Collection Plan, Energy Map, or SEUs?	Are there any changes in GHG reporting that affect the data we collect?	Are we collecting the data we need in order to track our energy performance (beyond energy efficiency?	Are we meeting the program's data collection needs?
	Task 13- Action Plans	In year 1, did we implement the projects we planned on implementing? Do our approved projects for year 2 meet our			

Module Name	Topic	EnMS Related Objectives	GHG Related Objectives	IDSM Related Objectives	Program Related Objectives
		objectives? Should we develop action plans for any opportunities? How do we make sure the actions we implement last?			
6- Improving Performance, Year 2	Task 10- Improvement Opportunities	Do we have enough opportunities to meet our objectives? Are there additional opportunities that we can identify? How do we identify projects that are more complex?	Are there GHG opportunities that we should identify? Are there resources that we should use to identify them?	Are there other non-energy efficiency opportunities we should look for? Are there resources that we should use to identify them?	How do we better estimate savings? Are there opportunities we should identify that the program cannot help us with?
	Task 13- Action Plans	Do we need to select and get approval for additional opportunities? Should we add persistence strategies to our action plans?			
7- EMIS, Year 2	EMIS and Task 8- Data Collection and Analysis	Are there enhanced ways to collect, analyze, visualize, report, and/or share data so we can better make decisions?	Are there better ways to collect, visualize, or report GHG emissions?	Are there better ways to collect, visualize, or report other energy indicators (e.g., demand, self-generation, etc.)?	What resources can the program provide to help us identify or implement EMIS opportunities?
8- Celebration and Next Steps, Year 2	Review of past two years	What have we achieved the past two years? How do we present our progress to top management and to others? What do we want to improve on or achieve in the next year or Cycle?			What does Cycle 2 look like? Will we continue with the SEM program? What do we do if we want to continue? If we do not?

Table 5- Cycle 1 Educational Activity Learning Objectives

3.3 Cycle 2

3.3.1 Cycle 2 Overview

Cycle 2 focuses on deepening savings and engaging a broader circle of employees. It builds on the experience developed in Cycle 1 to expand beyond the initial core of employees. This cycle helps customers work with a broader number of employees and ensures there is management commitment, employee awareness and operator competence. Processes begin to get defined and documented so they can be repeated. Energy savings focus is on more complex opportunities that may require more resources (financial or human) and broader involvement from employees outside the energy team than those opportunities that were the focus in Cycle 1. Management commitment becomes critical in this Cycle to ensure the resources are available to meet the site's objectives.

By the end of this cycle, the customer should be able to begin to lead their technical business practices with decreasing support from the SEM Coach.

3.3.2 Cycle 2 Sequence

Changing the sequence of educational or site-specific activities is not recommended but it is ultimately the responsibility of the program administrator to approve any suggested changes. As mentioned earlier, specific cases may call for changes in either the timing or sequence of activities. Similar to Cycle 1, the sequence presented in the table below should be followed in order from top to bottom. This means, for example, that Site-Specific Activities #1 and #2 (Kick-off Meeting, Year 3 and EMA, Year 3) are completed before Educational Modules #1, and #2.

Phase	Educational Activity	Site-Specific Activity
Phase 5		1- Kick-off Meeting, Year 3 2- Energy Management System Assessment (EMA), Year 3
	1- General Information 2- Planning, Year 3	
		3- Planning Support, Year 3
	3- Operational Controls	
		4- OPTIONAL: Treasure Hunt, Year 3 5- Operational Control Support
Phase 6	4- Employee Engagement, Year 3	
		6- Employee Engagement Support, Year 3
	5- Planning, Year 4	
		7- Planning Support, Year 4
Phase 7	6- EMIS, Year 4	
		8- Optional Treasure Hunt, Year 4 9- OPTIONAL: EMIS Support, Year 4
	7- Employee Engagement, Year 4	
		10- Employee Engagement Support, Year 4
Phase 8		11- EMA, Year 4 12- Cycle 2 Completion and Next Steps Support
	8- Celebration and Next Steps, Year 4	

Table 6- Cycle 2 Sequence

3.3.3 Cycle 2 Site-Specific Activities

3.3.3.1 Overview of Site-Specific Activities

As described before, Site-Specific Activities are activities that are implemented with an individual site. Site-Specific Activities labeled as "support" can vary significantly from participant to participant and may depend on a variety of factors, including the site's objectives, priorities, expertise, infrastructure, available resources, etc. An overview of each activity is provided below, with the requirements, objectives, and deliverables of each activity provided following this section.

References to Navigator tasks are provided for context for the PA and SEM Coach. It is not a requirement to show the customer the details of the task or of the Navigator tool itself.

3.3.3.1.1 Site-Specific Activity #1: Kick-off Meeting, Year 3

The Kick-off Meeting begins the customer's engagement with the SEM program in Cycle 2. This meeting has multiple purposes:

1. Introducing the Executive Sponsor and Energy Champion to the requirements and objectives of Cycle 2, including energy saving and EnMS goals, and ensuring they understand the differences between Cycle 1 and Cycle 2.
2. Ensuring the Executive Sponsor understands the role and requirements of top management in Cycle 2, including Task 4- Management Commitment and Task 5- Energy Policy. Specifically, the Executive Sponsor is responsible for ensuring the objectives, resources (e.g., Energy Team, budgets), and energy policy in this cycle reflect the organization's needs.
3. Articulating the customer's commitment to the SEM program, including resources and targets necessary for meeting this cycle's objectives.
4. Discussing with the Data Owner any changes needed in the Energy Data Collection Plan.

As with the other site-specific activities, the Kick-off Meeting is meant to be held with an individual site and not in a group or cohort environment.

OPTIONAL ACTIVITIES:

1. **IDSM Data Collection Plan**- At the program administrator's discretion and based on customer needs, the program may provide additional support for customers that want to track energy performance metrics beyond energy consumption (e.g. energy generated and/or stored, demand, time of use) by helping them develop an expanded data collection plan that includes data for those metrics. Similar to the energy data plan, the IDSM data plan is an agreement between the Data Owner and the SEM Coach on what data is necessary to collect and expectations (e.g. responsibility, frequency, process for transferring data, etc.) for data transfer.
2. **GHG Data Collection Plan**- At the program administrator's discretion, the program may provide additional support for customers that want to track their energy-related GHG emissions by helping them develop a GHG data collection plan.

Similar to the energy data plan, the GHG Data Collection Plan is an agreement between the Data Owner and the SEM Coach on what data is necessary to collect and expectations (e.g. responsibility, frequency, process for transferring data, etc.) for data transfer. The PA and SEM Coach shall determine which sources of energy are in-scope for this activity.

3.3.3.1.2 Site-Specific Activity #2: Energy Management Assessment, Year 3

The objective of the Energy Management Assessment (EMA), Year 3 is to provide the program a baseline of the site's energy management practices relative to the business practices that will be introduced in Cycle 2. The EMA shall consist of questions for the tasks listed below from the 50001 Ready Energy Management Assessment:[15]

Task #	Navigator Task Name
Task 4	**Management Commitment**
Task 5	**Energy Policy**
Task 14	**Competence and Training**
Task 15	**Awareness and Communication**
Task 17	**Operational Controls**
Task 18	**Considerations in Design**
Task 19	**Considerations in Procurement**

Table 7- Tasks for Questions to be asked in EMA, Year 3

The EMA is not necessarily intended to be a customer-facing assessment, the primary purpose is to document the customer's existing capabilities and to be able to assess their EnMS progress through Cycle 2. A sample of the questions are available in the Appendix. At this point the EMA is used for program purposes but eventually it will support Task 20- Monitoring and Measurement of the EnMS. The SEM Coach should ask the EMA questions for these tasks to the Energy Champion or the Energy Team and can optionally share the EMA summary with the Energy Champion or the Energy Team.

Questions asked in EMA, Year 2 (listed below) do not need to be asked in EMA, Year 3.

Task #	Navigator Task Name
Task 1	**An EnMS and Your Organization**
Task 3	**Scope and Boundaries**
Task 6	**Energy Team and Resources**
Task 8	**Energy Data Collection and Analysis**
Task 9	**Significant Energy Uses (SEUs)**
Task 10	**Improvement Opportunities**
Task 11	**EnPIs and Energy Baselines**

[15] The 50001 Ready Energy Management Assessment is available at https://industrialapplications.lbl.gov/energy-management

Task 12	**Objectives and Targets**
Task 13	**Action Plans for Continual Improvement**
Task 21	**Monitoring and Measurement of Energy Performance**

Table 8- Task from EMA, Year 2 that do not to be asked in EMA, Year 3

OPTIONAL ACTIVITIES:

1. **Customer-Facing EMA**- At the program administrator's discretion, the program may provide a customer-facing, facilitated EMA at any time during this Cycle. It is recommended that the EMA use the same questions as the required EMAs.

3.3.3.1.3 Site-Specific Activity #3: Planning Support, Year 3

The objective of this activity is to review key items that might affect the site's approach for Cycle 2 and make any necessary changes to business practices. The Energy Team should review their Cycle 1 actions (e.g., implemented projects, energy savings, objectives, performance indicators, SEUs, and data collected) and determine if any significant changes need to be made for Cycle 2 based on the Navigator Tasks discussed in Educational Module #2- Planning, Year 3.

This activity repeats the experience and expectation set up in Cycle 1 for reviewing objectives for the cycle and for annual planning that will be repeated and expanded on through this cycle and Cycle 3. Although the Energy Team should eventually lead their own planning sessions and develop the processes to support them, in this second planning session the SEM Coach should still provide significant support but should start helping the Energy Champion lead planning discussions.

The SEM Coach and Energy Champion should use this planning session to determine if a Treasure Hunt is needed, or not, to identify opportunities to meet the Cycle's objectives.

3.3.3.1.4 OPTIONAL Site-Specific Activity #4: Treasure Hunt, Year 3

As previously stated, the objective of any Treasure Hunt is to identify energy waste and energy saving opportunities so that participants can make changes that save energy, which is an element of Task 10- Improvement Opportunities. A successful outcome of this Treasure Hunt is the identification and prioritization of opportunities to meet Cycle 2 and beyond (e.g., Cycle 3) objectives. A primary focus of this Treasure Hunt is to identify operational controls opportunities that may not have been identified previously and to begin to define, with the customer, the internal processes that can ensure the customer has the processes and understanding to lead future Treasure Hunts.

As in all Treasure Hunts, the SEM Coach must plan and facilitate this event, in coordination with the Energy Champion. The SEM Coach must work with the Energy Champion in advance to determine the scope of the Treasure Hunt. After the Treasure Hunt concludes, the SEM Coach shall help the site's Energy Team estimate energy savings for projects identified during the Treasure Hunt.

As in all Treasure Hunts, all projects, including O&M, retro-commissioning, and Capital projects identified in the Treasure Hunt must be documented in the Opportunity Register. The SEM Coach must ensure that capital projects identified be documented in accordance with any additional PA requirements, which may require documentation outside of the opportunity register.

As with other Treasure Hunts, after the Treasure Hunt the customer should select projects to implement and develop action plans to ensure they are implemented.

OPTIONAL ACTIVITIES:

1. **IDSM calculation of opportunities:** At the program administrator's discretion, the program may provide additional support for customers that want to estimate IDSM-related calculations for each energy saving opportunity and use that value as part of the prioritization exercise. This could be either a numerical value (e.g. estimates on demand reduction for each opportunity) or a relative ranking (e.g. high impact on demand). If provided, this should be integrated into the Treasure Hunt activities.
2. **IDSM Treasure Hunt:** At the program administrator's discretion, the program may provide additional support for customers that want to identify IDSM-related opportunities beyond energy efficiency (e.g. demand response opportunities, load shifting opportunities, etc.) and include those opportunities as well as the consideration of IDSM-related data in the prioritization exercise. The scope and responsibilities (e.g. use of other resources) for the IDSM Treasure Hunt should be defined by the program administrator and SEM Coach prior to the event.
3. **GHG Calculation for Opportunities:** At the program administrator's discretion, the program may provide additional support for customers that want to calculate GHG emissions for each energy saving opportunity and use that value as part of the prioritization exercise. If provided, the GHG emissions calculations should be integrated into the Treasure Hunt opportunity prioritization activities and in the Opportunity Register.
4. **GHG Treasure Hunt:** At the program administrator's discretion, the program may provide additional support for customers who want to identify energy-related GHG emissions opportunities beyond energy efficiency (e.g. electrification of propane forklift trucks) and include those opportunities as well as the consideration of GHG emissions reductions in the prioritization exercise. The scope and responsibilities of the GHG Treasure Hunt should be defined by the PA and SEM Coach prior to the event.

3.3.3.1.5 Site-Specific Activity #5: Operational Controls Support

Operational controls are a key component in both saving energy and maintaining energy savings as they can help a site set and maintain optimum running conditions and maintenance practices. Operational control support should focus on the processes or equipment that consume a significant amount of energy (Significant Energy Users) and have a risk of significant deviation in energy performance and support the concepts taught in Educational Module #3- Operational Controls.

Support can include activities such as:

1. Assistance in analyzing and prioritizing the equipment or processes to target in the identification of operational control opportunities.
2. Analysis of existing operating set points and operational procedures.
3. Analysis of maintenance criteria, controls, and procedures.
4. Consideration of optimization and tradeoffs between various IDSM programs.

Participants should at least include operational controls as either independent energy improvement opportunities or as a component of other existing energy improvement opportunities. Operational controls can be supported by a well-defined and implemented EMIS and some operational control opportunities may need to be implemented after EMIS implementation (if the participant is implementing an EMIS).

3.3.3.1.6 Site-Specific Activity #6: Employee Engagement Support, Year 3

This support activity is one of the most important in Cycle 2 as it helps ensure that staff throughout the site have the awareness and competence to support the objectives and targets of the energy management system. The objectives of this activity are to help the customer 1) develop and deliver a plan to communicate the objectives of the EnMS, and 2) identify employees who might need training and develop a plan for that training. Through this support activity, the SEM Coach will play a key role in helping find or develop competence and training actions, such as existing or customized training courses, that might help fill competency gaps.

Whether to provide additional support resources or funding, such as bringing in equipment or process experts or providing customized courses for one or a group of participants, is at the PA's discretion.

3.3.3.1.7 Site-Specific Activity #7: Planning Support, Year 4

The objective of this activity is to review key items that might affect the site's energy management approach for year 4 and make any appropriate changes. The Energy Team should review their Year 3 actions taken (e.g., implemented projects, energy savings, objectives, performance indicators, SEUs, data collected, etc.) and determine if any changes to business practices need to be made for year 4 based on the Navigator Tasks discussed in Educational Module #5- Planning, Year 4.

This activity repeats the experience and expectation set up in Cycle 1 for annual planning. The Energy Team should start to lead their own planning sessions and begin developing the processes to support them. In this planning session, the Energy Coach should focus their support on helping the energy team begin to document their business practices related to annual planning so that in Cycle 3 the Energy Team can repeat this process with minimal support. The tasks related to this planning session are:

Task #	Navigator Task Name
Task 8	**Energy Data Collection and Analysis**
Task 9	**Significant Energy Uses (SEUs)**

Task 10	**Improvement Opportunities**
Task 11	**EnPIs and Energy Baselines**
Task 12	**Objectives and Targets**
Task 13	**Action Plans for Continual Improvement**
Task 21	**Monitoring and Measurement of Energy Performance**

Table 9- Cycle 2 Business Practices related to Planning, Year 4

The SEM Coach and Energy Champion should use this planning session to determine if a Treasure Hunt is needed, or not, to identify opportunities to meet the Cycle's objectives.

3.3.3.1.8 OPTIONAL Site-Specific Activity #8: Treasure Hunt, Year 4

As previously stated, the objective of any Treasure Hunt is to identify energy waste and energy saving opportunities so that participants can make changes that save energy, which is an element of Task 10- Improvement Opportunities. A successful outcome of this Treasure Hunt is the identification and prioritization of opportunities to meet Year 4 and beyond (e.g. Cycle 3) objectives.

As in all Treasure Hunts, the SEM Coach must plan and facilitate this event, in coordination with the Energy Champion. The SEM Coach must work with the Energy Champion in advance to determine the scope of the Treasure Hunt. After the Treasure Hunt concludes, the Coach will help the site's energy team estimate energy savings for projects identified during the Treasure Hunt.

All projects, including O&M, retro-commissioning, and Capital projects identified in the Treasure Hunt must be documented in the Opportunity Register. The Coach must ensure that capital projects identified be documented in accordance with any additional PA requirements, which may require documentation outside of the opportunity register.

As with other Treasure Hunts, customers should select projects to implement and develop action plans to ensure they are implemented.

OPTIONAL:

1. **IDSM calculation of opportunities:** At the program administrator's discretion, the program may provide additional support for customers that want to estimate IDSM-related calculations for each energy saving opportunity and use that value as part of the prioritization exercise. This could be either a numerical value (e.g. estimates on demand reduction for each opportunity) or a relative ranking (e.g. high impact on demand). If provided, this should be integrated into the Treasure Hunt activities.
2. **IDSM Treasure Hunt:** At the program administrator's discretion, the program may provide additional support for customers that want to identify IDSM-related opportunities beyond energy efficiency (e.g. demand response opportunities, load shifting opportunities, etc.) and include those opportunities as well as the consideration of IDSM-related data in the prioritization exercise. The scope and

responsibilities (e.g. use of other resources) for the IDSM Treasure Hunt should be defined by the program administrator and SEM Coach prior to the event.

3. **GHG Calculation for Opportunities:** At the program administrator's discretion, the program may provide additional support for customers that want to calculate GHG emissions for each energy saving opportunity and use that value as part of the prioritization exercise. If provided, the GHG emissions calculations should be integrated into the Treasure Hunt opportunity prioritization activities and in the Opportunity Register.
4. **GHG Treasure Hunt:** At the program administrator's discretion, the program may provide additional support for customers who want to identify energy-related GHG emissions opportunities beyond energy efficiency (e.g. electrification of propane forklift trucks) and include those opportunities as well as the consideration of GHG emissions reductions in the prioritization exercise. The scope and responsibilities of the GHG Treasure Hunt should be defined by the PA and SEM Coach prior to the event.

3.3.3.1.9 Site-Specific Activity #9: EMIS Support, Year 4

The objective of this activity is to ensure the customer applies the principles introduced in Educational Module #6- EMIS, Year 4 in looking at ways to implement best practices to enhance and visualize energy data. In this activity, the SEM Coach will assist the customer in analyzing how data, data processes, and data systems can potentially be used to support a more complete EMIS solution at the site.

OPTIONAL:

1. **EMIS Audit:** At the program administrator's discretion, the program may provide additional resources to develop a more formal "EMIS Audit" using Natural Resources Canada's EMIS audit process.[16] An alternative process may be used with the program's administrator's approval. The objective is to have a clear business plan for implementing a complete EMIS solution.
2. **IDSM EMIS Support:** At the program administrator's discretion, the program may provide additional support for customers that want to help visualize IDSM-related data (e.g. demand, time of use, self-generation and/or storage, etc.) as part of their EMIS activity. The program administrator and SEM Coach should define the scope and responsibilities of this activity prior to the activity.
3. **GHG EMIS Support:** At the program administrator's discretion, the program may provide additional support for customers that want to help visualize energy-related GHG emissions as part of their EMIS activity. This can be as simple as converting energy data to GHG data using conversion factors or more complex depending on the customer's needs and abilities. The program administrator and SEM Coach should define the scope and responsibilities of this activity prior to the activity.

[16] https://www.nrcan.gc.ca/energy/efficiency/energy-efficiency-industry/energy-management-industry/energy-management-information-systems/20403

3.3.3.1.10 Site-Specific Activity #10: Employee Engagement Support, Year 4

The objective of this activity is to help the customer define the design and procurement elements that may affect energy performance and begin discussions with the staff responsible for them. The SEM Coach should assist the customer as needed in identifying the staff responsible and suggesting strategies to encourage them to include energy performance considerations in their work.

3.3.3.1.11 Site-Specific Activity #11: EMA, Year 4

The objective of the Energy Management Assessment (EMA), Year 4 is to provide the program a final assessment of the site's energy management practices relative to the business practices that were introduced or improved in Cycle 2. The EMA shall consist of questions for the tasks listed below from the 50001 Ready Energy Management Assessment:[17]

Task #	Navigator Task Name
Task 1	**An EnMS and Your Organization**
Task 3	**Scope and Boundaries**
Task 4	**Management Commitment**
Task 5	**Energy Policy**
Task 6	**Energy Team and Resources**
Task 8	**Energy Data Collection and Analysis**
Task 9	**Significant Energy Uses (SEUs)**
Task 10	**Improvement Opportunities**
Task 11	**EnPIs and Energy Baselines**
Task 12	**Objectives and Targets**
Task 13	**Action Plans for Continual Improvement**
Task 14	**Competence and Training**
Task 15	**Awareness and Communication**
Task 17	**Operational Controls**
Task 18	**Considerations in Design**
Task 19	**Considerations in Procurement**
Task 21	**Monitoring and Measurement of Energy Performance**

Table 10- Tasks for Questions to be asked in EMA, Year 4

Similar to EMA, Year 3, this EMA is not intended to be a customer-facing assessment, the primary purpose is to document the customer's EnMS progress through Cycle 2. The SEM Coach should have been working closely with the Energy Champion and Energy Team on these business practices and should have the knowledge to complete the EMA

[17] The 50001 Ready Energy Management Assessment is available at https://industrialapplications.lbl.gov/energy-management

without their input. Optionally, the SEM Coach can engage with the Energy Champion and/or Energy Team to complete the EMA. The results of the EMA can optionally be shared with the Energy Champion and Energy Team.

3.3.3.1.12 Site-Specific Activity #12: Cycle 2 Completion and Next Steps Support

This activity has two objectives: 1) to help the site understand and summarize their achievements and issues in Cycle 2, and 2) help the site decide whether or not to advance to Cycle 3. Achievements and issues should be presented to the Executive Sponsor. The Executive Sponsor and Energy Champion shall decide whether or not the site would like to continue to Cycle 2.

Whether or not the customer decides to continue, the Energy Champion and SEM Coach shall document a transition plan to address anything the customer should address, either as they exit the SEM program or as conditions to entering Cycle 3. The SEM Coach can optionally request the Executive Sponsor's and Energy Champion's commitment to address any key issues before Cycle 3 begins.

3.3.3.2 Cycle 2 Site-Specific Activity Requirements, Objectives, and Deliverables

Activity Name	Requirements	Objectives	Deliverables
1- Kick-off Meeting	1. The Kickoff Meeting shall be held prior to any other educational or site-specific activities. 2. The meeting shall include at least: a. From the program: the SEM Coach. The Account Executive is optional but highly recommended b. From the customer: The Executive Sponsor, Energy Champion, and Data Owner. 3. The meeting can be held in multiple parts, for example one meeting with the Executive Sponsor and the Energy Champion to discuss high-level activities and another with the Data Owner and the Energy Champion to discuss data needs and timing. 4. The meeting shall be held with only one site (i.e. not with other facilities in the same cohort). 5. Where possible, the meeting(s) shall be held in person.	1. Executive Sponsor and Energy Champion understand: a. The SEM program's 3-cycle approach and the general vision and goals for each remaining cycle. b. The Cycle 2 goals, expectations, roles, and requirements for their site's involvement in the SEM program. c. The Executive Sponsor's role and responsibilities in Cycle 2. d. Any changes in the roles and responsibilities of the Energy Champion, Data Owner, Executive Sponsor, and Energy Team. e. Any changes in the roles of the SEM Coach, PA, and Account Executive. f. Any changes in how the SEM program can help support key corporate and site objectives and strategies. 2. Executive Sponsor articulates or confirms: a. The resources (human and capital) available to support the program. b. Any existing or desired objectives or targets the program should try to meet, including Cycle 2 EnMS and savings objectives and targets. c. Agreement to the program's Cycle 2 requirements, including Executive Sponsor's role.	None

Activity Name	Requirements	Objectives	Deliverables
		3. Data Owner and SEM Coach make any necessary changes to the Energy Data Collection Plan. This should include any changes in roles and responsibilities.	
2- Energy Management System Assessment (EMA), Year 3	1. Energy Management System Assessment (EMA), Year 3 shall be held during or after the Kick-off Meeting and prior to any other Cycle 2 educational or site-specific activities. 2. The completion of EMA Year 3 shall include at least the SEM Coach and the Energy Champion. 3. EMA Year 3 shall consist of questions that assess the site's current practices regarding the Navigator tasks introduced in Cycle 1 and Cycle 2 using US DOE's 50001 Ready Energy Management Assessment. 4. The SEM Coach can answer questions for tasks introduced in Cycle 1. The Energy Champion shall answer questions regarding tasks introduced in Cycle 2. 5. EMA, Year 3 results shall be documented in the EMA Summary.	1. Energy Champion and SEM Coach document the site's current energy management practices relative to the Navigator tasks to be introduced in Cycle 2.	1. EMA, Year 3 Summary
3- Planning Support, Year 3	1. Planning Support, Year 3 shall take place after Educational Module #2-Planning, Year 3. 2. Planning Support, Year 3 shall be attended by the Energy Champion and any appropriate Energy Team members and site staff.	1. The Energy Team reviews Cycle 1 actions (implemented projects, saved energy, data collected, indicators, focus areas or SEUs) and issues to evaluate their progress versus program and site expectations. 2. The Energy Team reviews the Tasks discussed in Educational Module #2-Planning for Cycle 2 to develop EnMS and	None

Activity Name	Requirements	Objectives	Deliverables
	3. The SEM Coach and Energy Champion shall determine whether Treasure Hunt, Year 3 is necessary.	savings goals and makes any necessary changes for Cycle 2. 3. The SEM Coach and Energy Champion determine whether or not the Treasure Hunt- Year 3 is necessary based on the site's objectives and remaining opportunities.	
4- Optional: Treasure Hunt, Year 3	1. The OPTIONAL Treasure Hunt, Year 3 shall take place after completion of Educational Module #3- Operational Controls. 2. The Treasure Hunt shall be attended by the Energy Champion and any appropriate Energy Team members and site staff. 3. The Treasure Hunt Year 3 results shall be documented and included in the Treasure Hunt Summary. 4. If Treasure Hunt Year 3 is held, the new opportunities shall be recorded in the Opportunity Register.	1. The Energy Team and SEM Coach identify any additional energy savings opportunities, including operational control opportunities, needed to meet Year 3, 4 and subsequent year (i.e. years 5 and 6) objectives and targets and quantify potential savings for each opportunity. 2. The Energy Team and SEM Coach document the site's additional opportunities using the Opportunity Register. 3. The Energy Team prioritizes their identified opportunities and selects opportunities to implement in year 3 and 4 and subsequent years (i.e. years 5 and 6). 4. The Energy Team develops action plans, where appropriate.	1. Treasure Hunt, Year 3 Summary (if held) 2. Update to Opportunity Register (see M&V Guide for requirements)
5- Operational Controls Support	1. Operational Controls Support shall take place after Educational Module #3- Operational Controls and Treasure Hunt Year 3 (if held). 2. Operational control opportunities shall be identified and documented in the Opportunity Register, either as independent opportunities or as	1. The Energy Team and SEM Coach identify, prioritize, and select operational controls opportunities, focusing on SEUs. 2. The Energy Team and SEM Coach document operational controls opportunities in the Opportunity Register, either as independent energy improvement opportunities or as a component of other existing energy improvement opportunities.	None

Activity Name	Requirements	Objectives	Deliverables
	components of other existing opportunities.		
6- Employee Engagement Support, Year 3	1. Employee Engagement Support, Year 3 shall take place after Educational Module #4- Employee Engagement, Year 3. 2. Employee Engagement Support, Year 3 shall be supported by the Energy Champion and any appropriate Energy Team members and site staff.	1. The Energy Team and SEM Coach determine which employees need to be aware of the energy program and policy. 2. The Energy Team and SEM Coach develop employee awareness training for those employees. 3. The Energy Team and SEM Coach determine which employees that operate SEUs may have gaps in their competence to operate those processes. 4. The Energy Team and SEM Coach develop plans for addressing those gaps.	None
7- Planning Support, Year 4	1. Planning Support, Year 4 shall take place after Educational Module #5- Planning, Year 4. 2. Planning Support, Year 4 shall be attended by the Energy Champion and any appropriate Energy Team members and site staff. 3. The SEM Coach and Energy Champion shall determine whether Treasure Hunt, Year 4 is necessary.	1. The Energy Team reviews the Tasks discussed in Educational Module #5- Planning for Year 4. 2. The Energy Team reviews or sets year objectives and targets for year 4 and subsequent years (i.e. years 5 and 6). 3. The Energy Team makes any needed changes for year 4 and plans any needed activities, such as identification of opportunities, development of action plans, improvements in data collection, etc. 4. The SEM Coach and Energy Champion determine whether or not the Treasure Hunt, Year 4 is necessary based on the site's objectives and remaining opportunities.	None

Activity Name	Requirements	Objectives	Deliverables
8- OPTIONAL: Treasure Hunt, Year 4	1. The OPTIONAL Treasure Hunt, Year 4 shall take place after completion of Educational Module #4- Planning for Year 4. 2. The Treasure Hunt shall be attended by the Energy Champion and any appropriate Energy Team members and site staff. 3. The Treasure Hunt, Year 4 results shall be documented and included in the Treasure Hunt Summary. 4. If Treasure Hunt Year 4 is held, the new opportunities shall be recorded in the Opportunity Register.	1. The Energy Team and SEM Coach identify any additional energy savings opportunities, including operational control opportunities, needed to meet Year 4 and subsequent years (i.e. years 5 and 6) objectives and targets and quantify potential savings for each opportunity. 2. The Energy Team and SEM Coach document the site's additional opportunities using the Opportunity Register. 3. The Energy Team prioritizes their identified opportunities and selects opportunities to implement in year 4 and subsequent years (e.g., years 5 and 6).	1. Treasure Hunt, Year 4 Summary (if held). 2. Update to Opportunity Register (see M&V Guide for requirements)
9- EMIS Support, Year 4	1. EMIS Support, Year 4 shall take place after Educational Module #6- EMIS, Year 4. 2. EMIS definition and implementation shall be supported by the Energy Champion and any appropriate Energy Team members and site staff.	1. The Energy Team and SEM Coach identify opportunities to use existing data, hardware, and software to visualize and report energy data for the appropriate staff and Energy Team. 2. The Energy Team and SEM Coach identify opportunities to improve data collection, hardware, or software to improve their EMIS. 3. The Energy Team and SEM Coach develop an action plan for implementing recommendations for improving their EMIS.	None
10- Employee Engagement Support, Year 4	1. Employee Engagement Support, Year 4 shall take place before EMA, Year 4. 2. Employee Engagement Support, Year 4 shall be supported by the Energy Champion and any appropriate Energy Team members and site staff.	1. The Energy Team identifies the staff responsible for design and create a plan for encouraging those responsible to consider energy performance improvements, operational controls, and	None

Activity Name	Requirements	Objectives	Deliverables
		energy performance considerations in their work. 2. The Energy Team identifies the staff responsible for procurement and create a plan for encouraging those responsible to consider energy performance improvements, operational controls, and energy performance considerations in their work. This includes developing energy performance criteria for suppliers or service providers that affect the SEUs and communicating the criteria to them.	
11- EMA, Year 4	1. EMA, Year 4 shall be completed before Educational Module #8- Celebration and Next Steps, Year 4. 2. EMA Year 4 shall consist of questions that assess the site's existing practices relative to the Navigator tasks introduced in Cycle 1 and Cycle 2 using US DOE's 50001 Ready Energy Management Assessment. The SEM Coach shall answer these questions and can optionally engage with the Energy Team or Energy Champion to answer the questions. 3. EMA, Year 4 results shall be documented and included in the EMA Summary.	1. The SEM Coach identifies the site's progress with respect to EnMS practices introduced in Cycle 1 and Cycle 2. 2. Optionally, the SEM Coach can use the EMA as a customer-facing activity to have the Energy Team or Energy Champion answer the EMA questions. 3. The Energy Team understands the site's progress in Cycle 2 relative to the Navigator tasks introduced in Cycle 1 and Cycle 2.	1. EMA, Year 4 Summary
12- Cycle 2 Completion and Next	1. Cycle 2 Completion and Next Steps Support shall be completed after EMA Year 4 and before Educational Module #8- Celebration and Next Steps, Year 4.	1. The Energy Team and Energy Coach understand and summarize the site's achievements for both EnMS and energy performance.	1. Cycle 2 Decision and Transition Summary

Activity Name	Requirements	Objectives	Deliverables
Steps Support	2. The Energy Coach and Energy Team shall summarize the site's Cycle 2 achievements and meet with the Executive Sponsor to present the site's achievements. 3. The Energy Champion and Executive Sponsor shall decide whether or not to continue to Cycle 3. The Energy Coach shall document the decision in the Cycle 2 Decision and Transition Summary. 4. The Energy Champion and Energy Coach shall document a plan for the site for Year 5. This plan shall be included in Cycle 2 Decision and Transition Summary.	2. The Executive Sponsor understands the site's achievements. 3. The Energy Team, Energy Champion, and Executive Sponsor understand Cycle 3 objectives and requirements. 4. The Energy Champion and Executive Sponsor decide whether or not to continue to Cycle 3. 5. The Energy Champion and SEM Coach create a plan for the site, either for continuing to Cycle 3 or for exiting SEM.	

1217 **Table 11- Cycle 2 Site-Specific Activity Requirements, Objectives, and Deliverables**

3.3.4 Cycle 2 Educational Modules

As described before, educational modules provide the requirements for educational activities, which can be provided in a variety of ways, including face-to-face, on-line, or a combination of the two. In Cycle 2 there are eight modules. It is recommended that each module summarize the completed Educational Modules and Site-Specific Activities and preview upcoming Educational Modules and Site-Specific Activities. References to Navigator tasks are given to provide context for the PA and SEM Coach and are not a requirement to show the customer the details of the task or of Navigator itself.

3.3.4.1 Educational Module #1: General Introduction

The objective of this educational module is to give customers an introduction of the Cycle 2 approach to the general topics introduced in Cycle 1:

1. The program itself and its structure through the three cycles, program expectations in Cycle 2, the scope of what is included and not included in the program in this cycle, and the resources the program provides.
2. The approach to the EnMS, what the vision and goal for the EnMS is in this cycle, why it changes, how it will be developed, and how that continues into cycle 3.
3. What the approach to saving energy is in Cycle 2, how it differs from Cycle 1, and how it will progress in Cycle 3.
4. What the SEM program does or does not support in relation to energy performance metrics beyond efficiency (i.e. IDSM) in this cycle.
5. How the program does or does not support GHG emission reduction efforts in this cycle.

These topics are part of every educational module and it is important that customers understand the key changes from Cycle 1 to Cycle 2.

3.3.4.2 Educational Module #2: Planning for Cycle 2

The objective of this educational module is for the customer to develop a plan of action for Cycle 2. The customer should reflect on their SEM program experience thus far, as they have engaged in the program for two years at this point. With an eye on the future, they will consider what has worked, what has not and where they want to go from here, both with their EnMS and their energy saving opportunities. Customers should learn how to review their Cycle 1 progress as well as any issues or changes that have developed as they create a plan for meeting their Cycle 2 objectives. Tasks introduced in this module are:

- Task 4- Management Commitment
- Task 5- Energy Policy

Other related tasks are:

- Task 1- An EnMS and your Organization
- Task 3- Scope and Boundaries
- Task 6- Energy Team and Resources

- Task 8- Data Collection and Analysis
- Task 9- Significant Energy Uses
- Task 10- Improvement Opportunities
- Task 11- EnPIs and Baselines
- Task 12- Objectives and Targets
- Task 13- Action Plans for Continual Improvement

3.3.4.3 Educational Module #3: Operational Controls

The objective of this module is to help customers understand how to review and update standard operating procedures (SOPs) and operational and maintenance controls to consider energy performance.

In this module customers should understand that operational and maintenance controls can take a variety of forms. They can include, for example, documented procedures and work instructions, physical controls, use of licensed or other qualified personnel, or combinations of these. This module should provide examples that are relevant to the customer and provide strategies for reviewing and updating SOPs and operational and maintenance controls.

Tasks introduced in this module are:

- Task 17- Operational Controls

3.3.4.4 Educational Module #4: Employee Engagement, Year 3

The objectives of this module are to provide strategies and tactics for 1) accomplishing energy awareness among employees, and 2) identifying employees who might need training and providing that training. Customers should learn approaches to building support for EnMS objectives and targets, evaluate which employees may have gaps in their competence, and should be given practical approaches to begin planning their next steps in these important aspects.

Module #4 helps customers understand that the EnMS is most successful in the long-term when key employees are fully engaged and competent. The module should provide strategies for sparking interest and getting buy-in. It also helps customers recognize challenges and solutions for getting employees involved in the EnMS.

Tasks introduced in this module are:

- Task 15- Awareness and Communication
- Task 14- Competence and Training

3.3.4.5 Educational Module #5: Planning, Year 4

The objectives of this educational module are for the customer to review key elements of their EnMS and make any necessary updates for Year 4. Tasks that should be reviewed in this module are:

- Task 1- An EnMS and your Organization
- Task 3- Scope and Boundaries

- Task 4- Management Commitment
- Task 5- Energy Policy
- Task 6- Energy Team and Resources

The customer should review these tasks to ensure that they identify any site-related changes or issues that may require changes to the Energy Team's business practices.

In addition, customers have been developing some business practices for the past three years and should begin documenting them based on their experience so that they can be repeated in case there is turnover or a change in responsibility in the Energy Team. These tasks are:

- Task 8- Data Collection and Analysis
- Task 9- Significant Energy Uses
- Task 10- Improvement Opportunities
- Task 11- EnPIs and Baselines
- Task 12- Objectives and Targets
- Task 13- Action Plans for Continual Improvement
- Task 21- Monitoring and Measurement of Energy Performance Improvement

3.3.4.6 Educational Module #6: EMIS, Year 4

The objective of this module is to help customers look at more advanced concepts for Energy Management Information Systems. Again, an EMIS is not any specific hardware or software solutions but it is the proper integration and visualization of energy information so that multiple levels of employees and management within an organization are able to take actions and make decisions that save energy and maintain energy savings. In this module customers should be exposed to EMIS best practices, approaches for analyzing improvements to energy data management, examples or case studies of EMIS implementations, and common approaches to improve their EMIS. They should also understand the potential benefits of improving their system for managing energy data or reports.

Related Navigator Tasks are:

1. Task 8- Data Collection and Analysis

3.3.4.7 Educational Module #7: Employee Engagement, Year 4

The objective of this module is to help customers look at two processes that have the potential to have a major impact on energy performance: design and procurement.

In this context, the design requirements are not associated with the design of products or services to be sold by the customer or offered as a service by the customer (e.g., food products for a food processor); in this context, "design activities" are applicable to the development of new, modified, and renovated sites, equipment, systems, and processes within the site (e.g., the design of an additional production line) that can have a major impact on energy performance within the scope of the energy management system (EnMS). In this module, customers will look at how to integrate consideration of energy

performance improvement opportunities and operational controls into design activities for those items. This can provide the basis for more innovative and energy-efficient designs.

In addition, the purchase of energy-using products, equipment, and services can affect a customer's significant energy uses (SEUs) and energy performance. In this module the organization will consider how a procurement process can consider energy performance when it is related to SEUs or when it can have a significant impact on energy performance.

Related Navigator tasks are:

- Task 18- Energy Considerations in Design
- Task 19- Energy Considerations in Procurement

3.3.4.8 Educational Module #8: Celebration and Next Steps, Year 4

The objective of this module is to recognize the customers' accomplishments and generate enthusiasm for continuing engagement in the SEM program. Customers have worked hard for four years; this module provides a forum for their peers to recognize the work they have done and hear what they have planned for the future.

The SEM Coach must work with each Energy Champion ahead of time to ensure they prepare a brief presentation explaining the story and outcomes through their engagement with the SEM program. This should be a similar presentation as that given to their Executive Sponsor. Customers should receive a certificate of accomplishment.

1353 *3.3.4.9 Cycle 2 Educational Module Learning Objectives*

Module Name		Topic	EnMS Related Objectives	GHG Related Objectives	IDSM Related Objectives	Program Related Objectives
1- General Introduction		General Overview	What business practices will we be working on in Cycle 2? How do they differ from Cycle 1? From Cycle 3?	If we were managing GHG emissions in Cycle 1, how will Cycle 2 help us? If we were not but want to now, can we?	If we were managing various energy-related objectives in Cycle 1, how will Cycle 2 help us? If we were not but want to now, can we?	What is Cycle 2? How does it differ from Cycle 1? What are the program expectations in this Cycle? How does this cycle differ from Cycle 3?
2- Planning for Cycle 2	**Strategy and Management**	Task 1- EnMS and your Organization	Have our corporate or high-level site objectives changed? Do any changes affect our EnMS? Are there any risks in those high-level issues that we should plan to mitigate?	Are there any changes in our goals or objectives for GHG emissions?	Are there any changes in our goals or objectives for energy-related issues?	
		Task 6- Energy Team and Resources	Do we need to change the makeup of our energy team for Cycle 2? Do we need to change how often we meet or what we discuss?	Does the Energy Team have sufficient understanding of GHG emissions and GHG reporting to meet our objectives?	Does the Energy Team have sufficient understanding of non-energy efficiency approaches to meet our objectives?	What role does the program expect us to fulfill in Cycle 2? Who on our team will be responsible? Is this different from Cycle 1?
		Task 3- Scope and Boundary	Has anything changed that affects our scope and boundary? If so, do we need to make any changes to our scope and boundary?			Has anything changed in how the program can support us? Do any changes

Module Name		Topic	EnMS Related Objectives	GHG Related Objectives	IDSM Related Objectives	Program Related Objectives
						in our scope change how the program can supports us?
		Task 12- Objectives and Targets	Has anything changed that affects our EnMS objectives or targets? Do we need to make change to our EnMS objectives or targets?			Does the program have objectives and targets that we need to meet?
		Task 4- Management Commitment	How will our top management be involved? What actions do they need to take? How do we communicate with them?			When does the program need to meet with our top management?
		Task 5- Energy Policy	Why do we need an energy policy? Does our management need to see the policy? How can the energy policy be used?	Does the policy need to include mention of GHG emissions?	Does the policy need to include mention of other energy objectives?	Does the program need us to define our energy policy?
	Technical	Task 10- Improvement Opportunities	Do we have enough opportunities to meet our goals and objectives in Cycle 2 and beyond? Do we need to identify more opportunities? Should anything change in the criteria we use to we prioritize our opportunities?	Are there new GHG opportunities that we should look for? Are GHG emissions a higher priority in this Cycle?	Are there other new opportunities that we should look for? Has their priority or importance changed?	What role does the program play with helping us find or prioritize opportunities? Can the program help find opportunities other than energy efficiency? What types of opportunities do we look for in Cycle 2? Why are the Treasure Hunts optional?

Module Name		Topic	EnMS Related Objectives	GHG Related Objectives	IDSM Related Objectives	Program Related Objectives
		Task 13- Action Plans	What projects do we have approved? Do our approved projects for Cycle 2 meet our objectives? Do those projects have or need action plans? Are we following our previously approved action plans?			Have the resources the program provides to manage or implement projects changed? Do any new projects need persistence strategies?
		Task 11- EnPIs and Baselines	Are there any new objectives that need metrics or indicators? Do we need to modify any existing indicators or baselines for Cycle 2?	Has the format or content for reporting GHG emissions changed? If so, does this change our EnPIs or Baselines?	Are there any changes in how we want to track energy performance beyond efficiency? If so, does this affect our EnPIs or baselines beyond those for energy consumption?	
		Task 9- SEUs	Do the SEUs (areas, processes, equipment, etc.) where we focus our efforts still apply? Do we need to change them?	Do we need to include GHG emissions as a criteria for selecting SEUs?	Do we need to include any criteria for other (e.g., demand, time of use, etc.) energy metrics?	
		Task 8- Data Collection	Has anything changed that would change our Energy Data Collection Plan? Are we collecting the right data at the right time? Do we need to modify the data we collect or the approach we take?			What role does the program take in helping us collect data? Is it different than in Cycle 1?

Module Name	Topic	EnMS Related Objectives	GHG Related Objectives	IDSM Related Objectives	Program Related Objectives
	Task 21- Monitoring and Measurement	Does the way we calculate energy performance apply to Cycle 2? Do we need to make any changes?	Does the way we are calculating energy-related GHG emissions meet our internal or external reporting needs?	Are there any changes that would affect if other energy metrics (e.g., demand, time of use, self-generation) we use to calculate our energy performance?	Are there any changes to the way the program calculates our energy performance?
3- Operational Controls	Task 17- Operational Controls	Do we have standard operating procedures (SOPs) for all our SEUs? Do the SOPs for our SEUs consider energy? Can we improve the SOPs to optimize the SEUs energy consumption?	Are there changes we can make in our SOPs to account for energy-related GHG emissions?	Are there changes we can make in our SOPs to account for energy performance beyond energy consumption?	Are operational control and SOP opportunities captured in the opportunity register?
4- Employee Engagement Year 3	Task 15- Awareness and Communication	Who in our site needs to know about our energy management efforts? How do we communicate this to them? Do we need to communicate our efforts externally?	Do we need to communicate our GHG emissions efforts to our staff along with or differently than our energy management efforts?	Do we need to communicate our efforts beyond energy consumption to our staff?	
	Task 14- Competence and Training	How do we evaluate if the employees that operate our SEUs have the competencies they need? If they do not, how do we			Does the program have resources to

Module Name	Topic	EnMS Related Objectives	GHG Related Objectives	IDSM Related Objectives	Program Related Objectives
		identify if any of them could benefit from training and what training we could provide?			help us train employees on energy efficiency or other energy best practices and strategies?
5- Planning, Year 4	Task 12- Objectives and Targets	What are our objectives and targets for Year 4 and beyond? Has our management approved the objectives? How should we document them?			Does the program have objectives or targets that we need to meet?
	Task 11- EnPIs and Baselines	Have we compared our indicators to baselines for year 3? Should the indicators be modified for year 4? How often should we verify our indicators? How do we document the process for verifying our indicators?			What are the program's EnPIs and baselines?
	Task 10- Improvement Opportunities	Do we have enough opportunities to meet our objectives for year 2 and beyond? Do we need to identify more? How do we prioritize our priorities? How do we document our process so we can repeat it in the future?			Will the program help us identify new opportunities if we need them?
	Task 9- SEUs	Do our areas of focus (SEUs) apply to year 4? How do we select SEUs? How do we document that process so we can repeat it in the future?			
	Task 8- Data Collection and Analysis	Are we collecting the right data? Is the quality of the data what we need? How do we document our internal data collection processes and plans so we can maintain them if there is turnover?			
	Task 21- Monitoring and Measurement	What process do we follow to make sure our data and metrics are monitored, measured and evaluated? How do we document this process?			
	Task 13- Action Plans	Do our approved projects for year 4 meet our objectives? Do we have clear action plans? Do we need to form project teams for complex projects? Are we following the action plans for previously approved opportunities?			Are we following any previously defined persistence strategies? Do any new projects need a persistence strategy?

Module Name	Topic	EnMS Related Objectives	GHG Related Objectives	IDSM Related Objectives	Program Related Objectives
6- EMIS, Year 4	EMIS and Task 8- Data Collection and Analysis	What are EMIS best practices? How can a well-defined EMIS help this and other tasks (e.g., monitoring and measurement, SEUs, objectives and targets)? What are examples of EMIS implementations? How can we improve the way we are collecting, analyzing, visualizing, reporting, and/or sharing data? How can this support the way we operate and control our equipment and processes?			What support does the program provide?
7- Employee Engagement, Year 4	Task 18- Energy Considerations in Design	Does the staff responsible for design consider energy performance in their specifications? How do we ensure they do?	Does the staff responsible for design also need to consider GHG emissions reductions in their specifications?	Does the staff responsible for design need to consider energy performance beyond consumption in their specifications? If so, how do we ensure they do?	
	Task 19- Energy Considerations in Procurement	How do we develop energy performance criteria for suppliers or service providers that affect our SEUs? How do we communicate the criteria to them?	Do we need to develop GHG reductions criteria for suppliers or service providers?	Do we need to consider energy performance criteria beyond consumption (e.g. demand, time of use, etc.)?	
8- Celebration and Next Steps, Year 4	Review of Cycle 1 and Cycle 2	What have we achieved the past 4 years? In this cycle? How do we present our progress to top management? To employees? To other organizations? What do we want to improve on or achieve in the next year or in Cycle 3?			What does Cycle 3 look like? Will we continue with the SEM program? What do we do if we want

Module Name	Topic	EnMS Related Objectives	GHG Related Objectives	IDSM Related Objectives	Program Related Objectives
					to continue? If we do not?

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3.4 Cycle 3

3.4.1 Cycle 3 Overview

Cycle 3 focuses on locking in business practices so the customer can continuously improve energy performance and their EnMS beyond their engagement with the SEM program. Cycle 3 ensures that top management, the Energy Team, and the site's staff have the commitment and processes to continually manage and improve the system's performance.

By the end of this cycle, the customer's business practices should be customer-led rather than SEM Coach-led.

3.4.2 Cycle 3 Sequence

Changing the sequence of educational or site-specific activities is not recommended but it is ultimately the responsibility of the program administrator to approve any suggested changes. As mentioned earlier, specific cases may call for changes in either the timing or sequence of activities. Similar to Cycle 1, the sequence presented in the table below should be followed in order from top to bottom. This means, for example, that Site-Specific Activities #1 and #2 (Kick-off Meeting, Year 5, and EMA, Year 5) are completed before Educational Modules #1, and #2.

Phase	Educational Activity	Site-Specific Activity
Phase 9		1- Kick-off Meeting, Year 5 2- Energy Management System Assessment (EMA) Year 5
	1- General Information 2- Planning, Year 5	
		3- Planning Support, Year 5 4- OPTIONAL: Treasure Hunt Year 5
	3- Risks to Success	
Phase 10	4- Leadership Development	
		5- Leadership Development Support
	5- Planning, Year 6 and Key Task Improvement	
		6- Planning Support, Year 6
Phase 11	6- Employee Engagement, Year 6	
		7- Employee Engagement Support, Year 6 8- OPTIONAL: Treasure Hunt, Year 6
	7- Documentation and Measurement of the EnMS	
		9- Documentation and Measurement of the EnMS- Support
Phase 12		10- EMA, Year 6 11- Cycle 3 Completion and Next Steps Support
	8- Celebration and Next Steps, Year 6	

Table 13- Cycle 3 Sequence

3.4.3 Cycle 3 Site-Specific Activities

3.4.3.1 Overview of Site-Specific Activities

As described before, Site-Specific Activities are activities that are implemented with an individual site. Site-Specific Activities labeled as "support" can vary significantly from customer to customer and may depend on a variety of factors, including the site's objectives, priorities, expertise, infrastructure, available resources, etc. An overview of each activity is provided below, with the requirements, objectives, and deliverables of each activity provided further below after this section.

References to Navigator tasks are provided for context for the PA and SEM Coach. It is not a requirement to show the customer the details of the task or of the Navigator tool itself.

3.4.3.1.1 Site-Specific Activity #1: Kick-off Meeting, Year 5

As in the previous two cycles, the Kick-off Meeting begins the customer's engagement with the SEM program in Cycle 3. Similar to Cycle 2, this meeting has multiple purposes:

1. Introducing the Executive Sponsor and Energy Champion to the requirements and objectives of Cycle 3, including energy savings an EnMS goals, and ensuring they understand the differences between this cycle and Cycle 2.
2. Ensuring the Executive Sponsor understands the role and requirements of top management in Cycle 3, including the purpose and requirements, in Cycle 3, of Task 23- Management Review and of Task 4- Management Commitment and any follow up discussions that may come from future work on these tasks.
3. Articulating the customer's commitment to the SEM program, including resources and goals necessary for meeting this cycle's objectives.
4. Discussing with the Data Owner any changes in needed in the Data Collection Plan.
5. In addition, this meeting should make clear to both the Executive Sponsor and the Energy Champion that the SEM program ends after SEM Program Year 6 and they should understand the program's exit strategy.

As with the other site-specific activities, the Kick-off Meeting is meant to be held with an individual site and not in a group or cohort environment.

OPTIONAL ACTIVITIES:

1. **IDSM Data Collection Plan**- At the program administrator's discretion and based on customer needs, the program may provide additional support for customers that want to track energy performance metrics beyond energy consumption (e.g. energy generated and/or stored, demand, time of use) by helping them develop an expanded data collection plan that includes data for those metrics. Similar to the energy data plan, the IDSM data plan is an agreement between the Data Owner and the SEM Coach on what data is necessary to collect and expectations (e.g. responsibility, frequency, process for transferring data, etc.) for data transfer.

2. **GHG Data Collection Plan**- At the program administrator's discretion, the program may provide additional support for customers that want to track their energy-related GHG emissions by helping them develop a GHG data collection plan. Similar to the energy data plan, the GHG Data Collection Plan is an agreement between the Data Owner and the SEM Coach on what data is necessary to collect and expectations (e.g. responsibility, frequency, process for transferring data, etc.) for data transfer. The PA and SEM Coach shall determine which sources of energy are in-scope for this activity.

3.4.3.1.2 Site-Specific Activity #2: Energy Management Assessment, Year 5

The objective of the Energy Management Assessment (EMA), Year 5 is to provide the program a baseline of the site's energy management practices relative to the business practices that will be introduced in Cycle 3. The EMA shall consist of questions for the tasks listed below from the 50001 Ready Energy Management Assessment:[18]

Task #	Navigator Task Name
Task 2	**People and Legal Requirements Affecting the EnMS**
Task 7	**Risks to EnMS Success**
Task 16	**Documenting the EnMS**
Task 20	**Monitoring and Measurement of the EnMS**
Task 23	**Management Review**

Table 14- Tasks for Questions to be asked in EMA, Year 5

The EMA is not necessarily intended to be a customer-facing assessment, the primary purpose is to document the customer's existing capabilities and to be able to assess their EnMS progress through Cycle 3. A sample of the questions are available in the Appendix.

At this point the EMA is used for program purposes but later in Cycle 3 customers will be shown how the EMA can be used to support Task 20- Monitoring and Measurement of the EnMS. The SEM Coach should ask the EMA questions for these tasks to the Energy Champion or the Energy Team and can optionally share the EMA summary with the Energy Champion or the Energy Team.

Questions for tasks introduced previously (listed below) need not be asked as the Year 4 EMA can be used for that purpose.

Task #	Navigator Task Name
Task 1	**An EnMS and Your Organization**
Task 3	**Scope and Boundaries**

[18] The 50001 Ready Energy Management Assessment is available at https://industrialapplications.lbl.gov/energy-management

Task 4	**Management Commitment**
Task 5	**Energy Policy**
Task 6	**Energy Team and Resources**
Task 8	**Energy Data Collection and Analysis**
Task 9	**Significant Energy Uses (SEUs)**
Task 10	**Improvement Opportunities**
Task 11	**EnPIs and Energy Baselines**
Task 12	**Objectives and Targets**
Task 13	**Action Plans for Continual Improvement**
Task 14	**Competence and Training**
Task 15	**Awareness and Communication**
Task 17	**Operational Controls**
Task 18	**Considerations in Design**
Task 19	**Considerations in Procurement**
Task 21	**Monitoring and Measurement of Energy Performance**

Table 15- Tasks from EMA, Year 4 that do not need to be asked in EMA, Year 5

OPTIONAL ACTIVITIES:

1. **Customer-Facing EMA**- At the program administrator's discretion, the program may provide a customer-facing, facilitated EMA at any time during this Cycle. It is recommended that the EMA use the same questions as the required EMA's.

3.4.3.1.3 Site-Specific Activity #3: Planning Support, Year 5

The objective of this activity is to create review key items that might affect the site's approach for Cycle 3 and make any necessary changes to business practices . The Energy Team should review their Cycle 2 actions (e.g., implemented projects, energy savings, objectives, performance indicators, SEUs, and data collected) and determine if any significant changes need to be made for Cycle 3, based on the Navigator Tasks discussed in Educational Module #2- Planning, Year 5.

This activity repeats the experience and expectation set up in Cycle 1 and Cycle 2 for reviewing objectives for the cycle and for annual planning. The Energy Champion should be able to the lead the customer's planning using the processes the Energy Team has developed. The Energy Coach should focus their support on ensuring the customer is using and enhancing their processes so planning can continue beyond the SEM program engagement.

The SEM Coach and Energy Champion should use this planning session to determine if a Treasure Hunt is needed, or not, to identify opportunities to meet the Cycle's objectives.

3.4.3.1.4 OPTIONAL Site-Specific Activity #4: Treasure Hunt, Year 5

As previously stated, the objective of any Treasure Hunt is to identify energy waste and energy saving opportunities to meet objectives, which is an element of Task 10-Improvement Opportunities. A successful outcome of this Treasure Hunt is the identification and prioritization of opportunities to meet Cycle 3 and beyond objectives. If held, the focus of this Treasure Hunt should be not only to find opportunities, but also to ensure the customer has the processes and understanding to lead any future Treasure Hunts without SEM program support.

The SEM Coach should plan and facilitate this event in coordination with the Energy Champion, letting the Energy Champion take the lead as much as possible. The SEM Coach must work with the Energy Champion in advance to determine the scope of the Treasure Hunt. After the Treasure Hunt concludes, the Coach will shall help the site's Energy Team estimate energy savings for projects identified during the Treasure Hunt.

All projects, including O&M, retro-commissioning, and capital projects identified in the Treasure Hunt must be documented in the Opportunity Register. The SEM Coach must ensure that capital projects identified be documented in accordance with any additional PA requirements, which may require documentation outside of the Opportunity Register.

As with other Treasure Hunts, customers should select projects to implement and develop action plans to ensure they are implemented.

OPTIONAL ACTIVITIES:

1. **IDSM calculation of opportunities:** At the program administrator's discretion, the program may provide additional support for customers that want to estimate IDSM-related calculations for each energy saving opportunity and use that value as part of the prioritization exercise. This could be either a numerical value (e.g. estimates on demand reduction for each opportunity) or a relative ranking (e.g. high impact on demand). If provided, this should be integrated into the Treasure Hunt activities.
2. **IDSM Treasure Hunt:** At the program administrator's discretion, the program may provide additional support for customers that want to identify IDSM-related opportunities beyond energy efficiency (e.g. demand response opportunities, load shifting opportunities, etc.) and include those opportunities as well as the consideration of IDSM-related data in the prioritization exercise. The scope and responsibilities (e.g. use of other resources) for the IDSM Treasure Hunt should be defined by the program administrator and SEM Coach prior to the event.
3. **GHG Calculation for Opportunities:** At the program administrator's discretion, the program may provide additional support for customers that want to calculate GHG emissions for each energy saving opportunity and use that value as part of the prioritization exercise. If provided, the GHG emissions calculations should be integrated into the Treasure Hunt opportunity prioritization activities and in the Opportunity Register.
4. **GHG Treasure Hunt:** At the program administrator's discretion, the program may provide additional support for customers who want to identify energy-related GHG

emissions opportunities beyond energy efficiency (e.g. electrification of propane forklift trucks) and include those opportunities as well as the consideration of GHG emissions reductions in the prioritization exercise. The scope and responsibilities of the GHG Treasure Hunt should be defined by the PA and SEM Coach prior to the event.

3.4.3.1.5 Site-Specific Activity #5: Leadership Development Support

The objective of this activity is to help the customer improve their tasks related to the long-term leadership of the EnMS. The focus of this activity should be in ensuring the processes for all tasks are well defined and can lead to a clear and repeatable practice.

Tasks related to this module are those discussed in Educational Module #4- Leadership Development:

Task #	Navigator Task Name
Task 4	**Management Commitment**
Task 5	**Energy Policy**
Task 6	**Energy Team and Resources**
Task 23	**Management Review**

Table 16- Cycle 3 Site Specific Activity #5- Business Practices to Review

Management Commitment and Management Review should have been discussed with the Executive Sponsor in the Kickoff Meeting.

One difficult task for the Energy Team, and where the Energy Coach may assist, may be to review the Energy Team's own roles and responsibilities and to objectively discuss what the make-up of the team should be going forward.

3.4.3.1.6 Site-Specific Activity #6: Planning Support, Year 6

The objective of this activity is to review key items that might affect the site's energy management approach and make any appropriate changes for the sixth and final year of their SEM program engagement. The Energy Team should review their Year 5 actions taken (e.g., implemented projects, energy savings, objectives, performance indicators, SEUs, data collected, etc.) and determine if any changes to business practices need to be made for SEM Program Year 6 based on the Navigator Tasks discussed in Educational Module #5- Planning, Year 6.

This activity repeats the experience and expectation set up in Cycle 1 and Cycle 2 for annual planning. The Energy Team should now be able to lead their own planning sessions and should have already developed the processes to support them. In this planning session the Energy Coach should focus their support on ensuring the energy team has, is following, and improves their documented business practices related to annual planning. The tasks related to this planning session are:

Task #	Navigator Task Name
Task 8	**Energy Data Collection and Analysis**

Task 9	**Significant Energy Uses (SEUs)**
Task 10	**Improvement Opportunities**
Task 11	**EnPIs and Energy Baselines**
Task 12	**Objectives and Targets**
Task 13	**Action Plans for Continual Improvement**
Task 17	**Operational Controls**
Task 21	**Monitoring and Measurement of Energy Performance**

Table 17- Cycle 3 Site-Specific Activity #6- Related Business Practices

The SEM Coach and Energy Champion should use this planning session to determine if a Treasure Hunt is needed, or not, to identify opportunities to meet SEM Program Year 6 objectives.

3.4.3.1.7 Site-Specific Activity #7: Employee Engagement Support, Year 6

The objective of this activity is to review and enhance processes for procurement and design. This activity builds on the activity in year 4, where the Energy Team focused on working with procurement and design staff. With that experience in mind, they can now review and recommend changes to processes.

Tasks related to this activity are those discussed in Educational Module #6- Employee Engagement, Year 6:

Task #	Navigator Task Name
Task 18	**Considerations in Design**
Task 19	**Considerations in Procurement**

Table 18- Cycle 3 Site Specific Activity #7- Related Business Practices

3.4.3.1.8 OPTIONAL Site-Specific Activity#8: Treasure Hunt, Year 6

As previously stated, the objective of any Treasure Hunt is to identify energy waste and energy saving opportunities to meet objectives, which is an element of Task 10- Improvement Opportunities. A successful outcome of this Treasure Hunt is the identification and prioritization of opportunities to meet Cycle 3 and beyond objectives. If held, the focus of this Treasure Hunt should be not only to find opportunities, but also to ensure the customer has the processes and understanding to lead any future Treasure Hunts without SEM program support.

As in all Treasure Hunts, the SEM Coach must plan and facilitate this event in coordination with the Energy Champion. The SEM Coach must work with the Energy Champion in advance to determine the scope of the Treasure Hunt. After the Treasure Hunt concludes, the Coach will help the site's energy team estimate energy savings for projects identified during the Treasure Hunt, again focusing on ensuring the Energy Team has the understanding to estimate savings in the future.

All projects, including O&M, retro-commissioning, and Capital projects identified in the Treasure Hunt must be documented in the Opportunity Register. The Coach must ensure that capital projects identified be documented in accordance with any additional PA requirements, which may require documentation outside of the opportunity register.

As with other Treasure Hunts, customers should select projects to implement and develop action plans to ensure they are implemented.

OPTIONAL ACTIVITIES:

1. **IDSM calculation of opportunities:** At the program administrator's discretion, the program may provide additional support for customers that want to estimate IDSM-related calculations for each energy saving opportunity and use that value as part of the prioritization exercise. This could be either a numerical value (e.g. estimates on demand reduction for each opportunity) or a relative ranking (e.g. high impact on demand). If provided, this should be integrated into the Treasure Hunt activities.
2. **IDSM Treasure Hunt:** At the program administrator's discretion, the program may provide additional support for customers that want to identify IDSM-related opportunities beyond energy efficiency (e.g. demand response opportunities, load shifting opportunities, etc.) and include those opportunities as well as the consideration of IDSM-related data in the prioritization exercise. The scope and responsibilities (e.g. use of other resources) for the IDSM Treasure Hunt should be defined by the program administrator and SEM Coach prior to the event.
3. **GHG Calculation for Opportunities:** At the program administrator's discretion, the program may provide additional support for customers that want to calculate GHG emissions for each energy saving opportunity and use that value as part of the prioritization exercise. If provided, the GHG emissions calculations should be integrated into the Treasure Hunt opportunity prioritization activities and in the Opportunity Register.
4. **GHG Treasure Hunt:** At the program administrator's discretion, the program may provide additional support for customers who want to identify energy-related GHG emissions opportunities beyond energy efficiency (e.g. electrification of propane forklift trucks) and include those opportunities as well as the consideration of GHG emissions reductions in the prioritization exercise. The scope and responsibilities of the GHG Treasure Hunt should be defined by the program administrator and SEM Coach prior to the event.

3.4.3.1.9 Site-Specific Activity #9: Documentation and Measurement of the EnMS- Support

The objective of this activity is that the customer defines 1) how they will document the EnMS, and 2) how they will track trends in the performance of their EnMS activities.

Tasks related to this activity are:

Task #	Navigator Task Name
Task 16	**Documenting the EnMS**
Task 20	**Monitoring and Measurement of the EnMS**

Table 19- Cycle 3 Site-Specific Activity #7- Related Business Practices

3.4.3.1.10 Site-Specific Activity: EMA, Year 6

The objective of the Energy Management Assessment (EMA), Year 6 is to provide the program a final assessment of the site's energy management practices relative to the business practices that were introduced or improved in Cycle 3. The EMA shall consist of questions for the tasks listed below from the 50001 Ready Energy Management Assessment:[19]

Task #	Navigator Task Name
Task 1	**An EnMS and Your Organization**
Task 2	**People and Legal Requirements Affecting the EnMS**
Task 3	**Scope and Boundaries**
Task 4	**Management Commitment**
Task 5	**Energy Policy**
Task 6	**Energy Team and Resources**
Task 7	**Risks to EnMS Success**
Task 8	**Energy Data Collection and Analysis**
Task 9	**Significant Energy Uses (SEUs)**
Task 10	**Improvement Opportunities**
Task 11	**EnPIs and Energy Baselines**
Task 12	**Objectives and Targets**
Task 13	**Action Plans for Continual Improvement**
Task 14	**Competence and Training**
Task 15	**Awareness and Communication**
Task 16	**Documenting the EnMS**
Task 17	**Operational Controls**
Task 18	**Considerations in Design**
Task 19	**Considerations in Procurement**
Task 20	**Monitoring and Measurement of the EnMS**
Task 21	**Monitoring and Measurement of Energy Performance**
Task 23	**Management Review**

Table 20- Tasks for Questions to be asked in EMA, Year 6

[19] The 50001 Ready Energy Management Assessment is available at https://industrialapplications.lbl.gov/energy-management

This activity follows Educational Module #7- Documentation and Measurement of the EnMS, which helps the customer understand how the EMA can be used to measure progress on the EnMS. If the customer intends to use the EMA in future years, this activity can be used to assist them in filling out the EMA. If not, similar to past EMA's, the SEM Coach can fill out the EMA based on their knowledge of the site or optionally can engage with the Energy Champion and/or Energy Team to complete the EMA.

3.4.3.1.11 Site-Specific Activity #11: Cycle 3 Completion and Next Steps Support

This activity has two objectives: 1) to help the site understand and summarize their achievements and issues in Cycle 3, and 2) help the site create a transition plan once their SEM program engagement ends.

At this point, the Energy Champion and Energy Team should be fully capable of preparing a summary of their achievements through the six-year engagement in the SEM program. The SEM Coach should focus support on helping the Energy Team think through next steps once the program finishes. These next steps can include:

1. Identifying, with the program administrator, whether there are any resources (technical or financial) available to help implement any opportunities that were identified but not implemented.
2. Discussing with the Energy Champion what next steps the customer might take with their EnMS and helping them identify resources that might help them. Next steps could include completion or advancement of additional Navigator tasks, US DOE 50001 Ready recognition, or ISO 50001 Certification.
3. Identifying with the Energy Champion any issues that arouse during Cycle 3, either technical or management, and identifying potential strategies for addressing them.

3.4.3.2 *Cycle 3 Site-Specific Activity Requirements, Objectives, and Deliverables*

Activity Name	Requirements	Objectives	Deliverables
1- Kick-off Meeting	1. The Kickoff Meeting shall be held prior to any other educational or site-specific activities. 2. The meeting shall include at least: a. From the program: the SEM Coach. The Account Executive is optional but highly recommended b. From the customer: The Executive Sponsor, Energy Champion, and Data Owner. 3. The meeting can be held in multiple parts, for example one meeting with the Executive Sponsor and the Energy Champion to discuss high-level activities and another with the Data Owner and the Energy Champion to discuss data needs and timing. 4. The meeting shall be held with only one site (i.e. not with other facilities in the same cohort). 5. Where possible, the meeting(s) shall be held in person.	1. Executive Sponsor and Energy Champion understand: a. The Cycle 3 vision and goals, expectations, roles, and requirements for their site's involvement in the SEM program. b. The Executive Sponsor's role in Cycle 3. c. Any changes in the roles of the SEM Coach, PA, and Account Executive. d. Any changes in the roles and responsibilities of the Energy Champion, Data Owner, Executive Sponsor, and Energy Team. e. Any changes in how the SEM program can help support key corporate and site objectives and strategies. f. The site's options and responsibilities after Cycle 3 finishes. 2. Executive Sponsor articulates or confirms: a. The resources (human and capital) available to support the program in Cycle 3. b. Any existing or desired objectives or targets the program should try to meet, including Cycle 3 EnMS and savings objectives and targets. c. Agreement to the program's Cycle 3 requirements, including Executive Sponsor's role. d. The direction the site will take after completion of Cycle 3.	None

Activity Name	Requirements	Objectives	Deliverables
		3. Data Owner and SEM Coach make any necessary changes to the Energy Data Collection Plan for Cycle 3. This should include any changes in roles and reponsibilities.	
2- Energy Management System Assessment (EMA), Year 5	1. Energy Management System Assessment (EMA) Year 5 shall be held during or after the Kick-off Meeting and prior to any other Cycle 3 educational or site-specific activities. 2. The completion of EMA Year 5 shall include at least the SEM Coach and the Energy Champion. 3. EMA Year 5 shall consist of questions that assess the site's current practices regarding the Navigator tasks introduced in Cycle 1, Cycle 2, and Cycle 3 using US DOE's 50001 Ready Energy Management Assessment. 4. The SEM Coach can answer questions for tasks introduced in Cycle 1 and Cycle 2. The Energy Champion shall answer questions regarding tasks introduced in Cycle 3. 5. EMA Year 5 results shall be documented and included in the EMA Summary.	1. Energy Champion and SEM Coach document the site's current energy management practices relative to the Navigator tasks to be introduced in Cycle 3.	1. EMA, Year 5 Summary
3- Planning Support, Year 5	1. Planning Support, Year 5 shall take place after Educational Module #2- Planning for Cycle 3 2. Planning Support, Year 5 Support shall be attended by the Energy Champion	1. The Energy Team reviews Cycle 2 actions and issues to evaluate their progress versus program and site expectations. 2. The Energy Team reviews the Tasks discussed in Educational Module #2-	None

Activity Name	Requirements	Objectives	Deliverables
	and any appropriate Energy Team members and site staff. 3. The SEM Coach and Energy Champion shall determine whether Treasure Hunt Year 5 is necessary.	Planning, Year 5 to develop EnMS and savings goals and and makes any necessary changes for Cycle 3. 3. The SEM Coach and SEM Champion determine whether or not the Treasure Hunt, Year 5 is necessary based on the site's objectives and remaining opportunities.	
4- Optional: Treasure Hunt Year 5	1. The OPTIONAL Treasure Hunt Year 5 shall take place after completion of Site-Specific Activity #3- Planning for Cycle 3. 2. The Treasure Hunt shall be attended by the Energy Champion and any appropriate Energy Team members and site staff. 3. The Treasure Hunt results shall be documented and included in the Treasure Hunt Summary. 4. If the Treasure Hunt is held, the new opportunities shall be recorded in the Opportunity Register.	1. The Energy Team and SEM Coach identify any additional energy savings opportunities needed to meet Year 5, 6 and subsequent year (i.e. years 7 and 8) objectives and targets and quantify potential savings for each opportunity. 2. The Energy Team and SEM Coach document the site's additional opportunities using the Opportunity Register. 3. The Energy Team prioritizes their identified opportunities and selects opportunities to implement in year 5 and 6 and subsequent years (i.e. years 7 and 8). 4. The Energy Team develops action plans, where appropriate.	1. Treasure Hunt, Year 5 Summary (if held) 2. Update to Opportunity Register (see M&V Guide for requirements)
5- Leadership Development Support	1. Leadership Development Support shall take place after Educational Module #4- Leadership Development. 2. Leadership Development Support shall be attended by the Energy Champion and any appropriate Energy Team members and site staff	1. The Energy Team documents a plan to engage top management in the Tasks discussed in Educational Module #4- Leadership Development, including a periodic review of the EnMS by top management. 2. The Energy Team reviews the plan with top management and gets their approval to implement it.	None

Activity Name	Requirements	Objectives	Deliverables
		3. The Energy Team documents a plan for maintaining the Team's membership beyond Cycle 3. 4. The Energy Team defines the resources needed now and after Cycle 3.	
6- Planning Support, Year 6	1. Planning Support, Year 6 shall take place after Educational Module #5- Planning, Year 6 2. Planning Support, Year 6 shall be supported by the Energy Champion and any appropriate Energy Team members and site staff. 3. The SEM Coach and Energy Champion shall determine whether Treasure Hunt, Year 6 is necessary.	1. The Energy Team reviews the Tasks discussed in Educational Module #5- Planning, Year 6 2. The Energy Team reviews or sets year objectives and targets for year 6 and subsequent years (i.e. beyond the PA sponsored SEM program). 3. The Energy Team sets makes any needed changes for year 6 and subsequent years, and plans any needed activities, such as identification of opportunities, development of action plans, improvements in data collection, etc. 4. The SEM Coach and Energy Champion determine whether or not the Treasure Hunt, Year 6 is necessary based on the site's objectives and remaining opportunities.	None
7- Employee Engagement Support, Year 6	1. Employee Engagement Support, Year 6 shall take place after Educational Module #6- Employee Engagement, Year 6. 2. Employee Engagement Support, Year 6 shall be supported by the Energy Champion and any appropriate Energy Team members and site staff.	1. The Energy Team determines design processes that can be modified and develops a plan to work with design staff. 2. The Energy Team determines purchasing process and criteria that can be modified and develops a plan to work with procurement staff.	None

Activity Name	Requirements	Objectives	Deliverables
7- OPTIONAL: Treasure Hunt, Year 6	1. The OPTIONAL Treasure Hunt, Year 6 shall take place after completion of Site-Specific Activity #6- Planning Support, Year 6. 2. The Treasure Hunt shall be attended by the Energy Champion and any appropriate Energy Team members and site staff. 3. The Treasure Hunt results shall be documented and included in the Treasure Hunt Summary. 4. If Treasure Hunt, Year 6 is held, the new opportunities shall be recorded in the Opportunity Register.	1. The Energy Team and SEM Coach identify any additional energy savings opportunities needed to meet Year 6 and subsequent years (i.e. beyond the PA sponsored SEM program) objectives and targets and quantify potential savings for each opportunity. 2. The Energy Team and SEM Coach document the site's additional opportunities using the Opportunity Register. 3. The Energy Team prioritizes their identified opportunities and selects opportunities to implement in year 6 and subsequent years (e.g., years 7 and 8).	1. Treasure Hunt, Year 6 Summary (if held). 2. Update to Opportunity Register (see M&V Guide for requirements).
9- Documentation and Measurement of the EnMS- Support	1. Documentation and Measurement Support shall take place after Educational Module #7- Documentation and Measurement of the EnMS. 2. EMIS definition and implementation shall be supported by the Energy Champion and any appropriate Energy Team members and site staff.	1. The Energy Team determines the information to document and process for documenting and controlling it. 2. The Energy Team determines what data or information is needed to evaluate the EnMS' progress.	1. None
10- EMA, Year 6	1. EMA, Year 6 shall be completed before Educational Module #8- Celebration and Next Steps, Year 6. 2. EMA, Year 6 shall consist of questions that assess the site's existing practices relative to the Navigator tasks introduced in Cycle 1, Cycle 2, and Cycle 3 using US DOE's 50001 Ready Energy Management Assessment.	1. The SEM Coach identifies the site's progress with respect to EnMS practices introduced in Cycle 1, Cycle 2, and Cycle 3. 2. Optionally, the SEM Coach can use the EMA as a customer-facing activity to have the Energy Team or Energy Champion answer the EMA questions.	1. EMA, Year 6 Summary

Activity Name	Requirements	Objectives	Deliverables
	Unless the Energy Team plans on using the EMA once the program ends, the SEM Coach shall answer these questions and can optionally engage with the Energy Team or Energy Champion to answer the questions. 3. EMA, Year 6 results shall be documented, shared with the Energy Team, and included in the EMA Summary.	3. The Energy Team understands the site's progress in Cycle 2 relative to the Navigator tasks introduced in Cycle 1, Cycle 2, and Cycle 3.	
11- Cycle 3 Completion and Next Steps Support	1. Cycle 3 Completion and Next Steps Support shall be completed after EMA Year 6 and before Educational Module #8- Celebration and Next Steps, Year 6. 2. The Energy Coach and Energy Team shall summarize the site's Cycle 3 achievements and meet with the Executive Sponsor to present the site's achievements over Cycle 3 and the past six years. 3. The Energy Champion and Energy Coach shall create a plan for the site to maintain or further develop their EnMS beyond Cycle 3. This plan shall be included in the Cycle 3 Transition Summary.	1. The Energy Team and Energy Coach understand and summarize the site's achievements for both EnMS and energy performance in Cycle 3. 2. The Executive Sponsor understands the site's achievements in Cycle 3 and through the site's six-year engagement in SEM. 3. The Energy Team, Energy Champion, and Executive Sponsor understand options for continuing with their EnMS. 4. The Energy Champion and SEM Coach create a plan for the site, either for continuing to develop their EnMS or for maintaining it.	1. Cycle 3 Transition Summary

1629 **Table 21- Cycle 2 Site-Specific Activity Requirements, Objectives, and Deliverables**

3.4.4 Cycle 3 Educational Modules

As described before, educational modules provide the requirements for educational activities, which can be provided in a variety of ways, including face-to-face, on-line, or a combination of the two. In Cycle 3 there are eight modules. It is recommended that each module summarize the completed Educational Modules and Site-Specific Activities and preview upcoming Educational Modules and Site-Specific Activities. References to Navigator tasks are given to provide context for the PA and SEM Coach and are not a requirement to show the customer the details of the task or of Navigator itself.

3.4.4.1 Educational Module #1: General Introduction

The objective of this educational module is to give customers an update in the general topics introduced in Cycle 1 and updated in Cycle 2:

1. The program itself and its structure through this last cycle, expectations in Cycle 3, the scope of what is included and not included in this cycle, and the resources the program does and does not provide.
2. The approach to the EnMS, what the vision and goal for the EnMS is in this cycle, why it changes, how it will be developed in this cycle, and how the EnMS may be maintained after this cycle.
3. What the approach to saving energy is in Cycle 3 and how it differs from Cycle 2.
4. What the SEM program does or does not support in relation to energy performance metrics beyond efficiency (i.e. IDSM) in this cycle.
5. How the program does or does not support GHG emission reduction efforts in this cycle.

These topics are part of every educational module and it is important that customers understand the key changes from Cycle 2 to Cycle 3.

3.4.4.2 Educational Module #2: Planning for Cycle 3

The objective of this educational module is for the customer to develop a plan of action for Cycle 3. The customer should reflect on their SEM program experience thus far, as they have engaged in the program for four years at this point. With an eye on the future, they will consider what has worked, what has not and where they want to go from here, both with their EnMS and their energy saving opportunities. Customers should learn how to review their Cycle 1 and Cycle 2 progress as well as any issues or changes that have developed as they create a plan for meeting their Cycle 2 objectives. Tasks introduced in this module are:

Task #	Navigator Task Name
Task 23	**Management Review**

Table 22- Cycle 3 Educational Module #2 Business Practices to Introduce

Other related tasks are:

Task #	Navigator Task Name
Task 1	**An EnMS and Your Organization**
Task 3	**Scope and Boundaries**
Task 4	**Management Commitment**
Task 5	**Energy Policy**
Task 6	**Energy Team and Resources**
Task 8	**Energy Data Collection and Analysis**
Task 9	**Significant Energy Uses (SEUs)**
Task 10	**Improvement Opportunities**
Task 11	**EnPIs and Energy Baselines**
Task 12	**Objectives and Targets**
Task 13	**Action Plans for Continual Improvement**
Task 21	**Monitoring and Measurement of Energy Performance**

Table 23- Tasks related to Educational Module #2

3.4.4.3 Educational Module #3: Risks To Success

This module explores some of the high-level opportunities and risks that could affect the EnMS. The objective of this module is for customers to understand how to identify and act on high-level risks and opportunities.

Tasks introduced in this module are:

Task #	Navigator Task Name
Task 2	**People and Legal Requirements Affecting the EnMS**
Task 7	**Risks to EnMS Success**

Table 24- Educational Module #3- Business Practices to Introduce

Other tasks related to this module are:

Task #	Navigator Task Name
Task 13	**Action Plans for Continual Improvement**

Table 25- Educational Module #3- Related Business Practices

3.4.4.4 Educational Module #4: Leadership Development

The objective of this module is for the customer to understand how to ensure both management and the Energy Team are developed to ensure the long-term success of the EnMS.

Tasks related to this module are:

Task #	Navigator Task Name
Task 4	**Management Commitment**
Task 5	**Energy Policy**
Task 6	**Energy Team and Resources**
Task 23	**Management Review**

Table 26- Educational Module #4- Related Business Practices

Management Commitment and Management Review should have been discussed with the Executive Sponsor.

3.4.4.5 Educational Module #5: Planning, Year 6

The objectives of this educational module are for the customer to review key elements of their EnMS and make any necessary changes for Year 6. In addition, customers should understand how to progress in some key tasks, preparing them to maintain their EnMS once the SEM program ends. Emphasis on this module is on ensuring customers make their business practices repeatable.

Tasks related to this module are:

Task #	Navigator Task Name
Task 8	**Energy Data Collection and Analysis**
Task 9	**Significant Energy Uses (SEUs)**
Task 10	**Improvement Opportunities**
Task 11	**EnPIs and Energy Baselines**
Task 12	**Objectives and Targets**
Task 13	**Action Plans for Continual Improvement**
Task 17	**Operational Controls**
Task 21	**Monitoring and Measurement of Energy Performance**

Table 27- Educational Module #5- Related Business Practices

3.4.4.6 Educational Module #6: Employee Engagement, Year 6

The objective of this educational module is to ensure the customer understands how to create procurement and design processes that consider energy performance in the long-term. Emphasis on this module is on ensuring customers make their business practices repeatable.

Tasks related to this module are:

Task #	Navigator Task Name
Task 18	**Considerations in Design**
Task 19	**Considerations in Procurement**

Table 28- Educational Module #6- Related Business Practices

3.4.4.7 Educational Module #7: Documentation and Measurement of the EnMS

Documenting the energy management system (EnMS) helps the customer implement the EnMS and ensure its proper functioning over time. The objectives of this educational module are that the customer understands 1) how to define what their needs are in terms of documenting the EnMS, and 2) how track trends in the performance of their EnMS activities.

Tasks introduced in this module are:

Task #	Navigator Task Name
Task 16	**Documenting the EnMS**
Task 20	**Monitoring and Measurement of the EnMS**

Table 29- Educational Module #7- Related Business Practices

As in other educational modules in Cycle 3, the emphasis on ensuring customers make these business practices repeatable after SEM program completion.

3.4.4.8 Educational Module #8: Celebration and Next Steps, Year 6

The objective of this module is to recognize the customers' accomplishments and generate enthusiasm for maintaining their EnMS after completing the SEM program. Customers have worked hard for two years; this module provides a forum for their peers to recognize the work they have done and hear what they have planned for the future.

The SEM Coach must ensure each Energy Champion prepares a brief presentation explaining the story and outcomes through their engagement with the SEM program and their plans once they complete it. This should be a similar presentation as that given to their Executive Sponsor. Customers should a receive a certificate of accomplishment.

3.4.4.9 *Cycle 3 Educational Module Learning Objectives*

Module Name		Topic	EnMS Related Objectives	GHG Related Objectives	IDSM Related Objectives	Program Related Objectives
1- General Information		General Overview	What business practices will we be working on in Cycle 3? How do they differ from Cycle 1 and 2?	If we were managing GHG emissions in Cycle 1 and/or 2, how will Cycle 3 help us? If we were not but want to now, can we?	If we were managing various energy-related objectives in Cycle 1 and 2, how will Cycle 3 help us? If we were not but want to now, can we?	What is Cycle 3? How does it differ from Cycle 1 and 2? What are the program expectations in this Cycle? What happens when we complete Cycle 3?
2- Planning, Year 5	**Strategy and Management**	Task 1- EnMS and your Organization	Have our corporate or site objectives changed? Do any changes affect our EnMS? Should we document any of these objectives?	Are there any changes in our objectives for GHG emissions?	Are there any changes in our goals or objectives for energy-related issues?	What are we planning on doing to manage energy past Cycle 3?
		Task 6- Energy Team and Resources	Do we need to change the makeup of our energy team for Cycle 3? Do we need any additional resources to meet Cycle 3 objectives?			What roles does the program expect us to fulfill in Cycle 3? Are they different than in Cycle 2?
		Task 3- Scope and Boundary	Has anything affected our scope and boundary?			Has anything changed in how the program can support us? Do any changes in our scope change how the program supports us?

Module Name		Topic	EnMS Related Objectives	GHG Related Objectives	IDSM Related Objectives	Program Related Objectives
		Task 12- Objectives and Targets	Do we need to change our EnMS objectives or targets?			Does the program have objectives and targets that we need to meet?
		Task 4- Management Commitment	Do we need to make any changes to our top management's responsibilities?			
		Task 23 Management Review	What should our top management review? How often should they review it?			When does the program need to meet with our top management?
		Task 5- Energy Policy	Has anything changed that would change our Energy Policy? Does it capture our objectives for Cycle 3?			
	Technical	Task 10- Improvement Opportunities	Do we have enough opportunities to meet our objectives in Cycle 3 and beyond? Do we need to identify more opportunities? Should anything change in how we prioritize our opportunities?	Are there new GHG opportunities that we should look for? Are GHG emissions a higher priority in this Cycle than before?	Are there other new opportunities that we should look for? Has their priority or importance changed?	What role does the program play with helping us find or prioritize opportunities? Can the program help find opportunities other than energy efficiency? What types of opportunities do we look for in Cycle 3?
		Task 13- Action Plans	What projects do we have approved? Do the projects we have approved to implement in Cycle 3 meet our Cycle 3 objectives? Do those projects have action plans?			Have the resources the program provides to manage or implement projects changed?

Module Name		Topic	EnMS Related Objectives	GHG Related Objectives	IDSM Related Objectives	Program Related Objectives
		Task 11- EnPIs and Baselines	Are there any new objectives that need metrics? Do we need to modify any existing metrics or baselines for Cycle 3?	Has the format or content for reporting GHG emissions changed? If so, does this change our EnPIs or Baselines?	Are there any changes in how we want to track energy performance? If so, does this affect our EnPIs or baselines beyond consumption?	
		Task 9- SEUs	Do our SEUs (areas, processes, equipment, etc.) or the criteria we use to select them still apply? Do we need to change them?			
		Task 8- Data Collection	Has anything changed that would change our Energy Data Collection Plan? Are we collecting the right data at the right time? Do we need to modify the data we collect or the approach we take?			
		Task 21- Monitoring and Measurement	Does the way we calculate energy performance apply to Cycle 3? Do we need to make any changes?	Does the way we are calculating energy-related GHG emissions meet our internal or external reporting needs?	Are there any changes that would affect if other energy metrics (e.g., demand, time of use, self-generation) we use to calculate our energy performance?	Are there any changes to the way the program calculates our energy performance?
3- Risks to Success		Task 1- EnMS and your Organization	What are the key strategic issues or objectives that we have identified that could affect the EnMS? What are some strategic opportunities that could help us if we act upon them?			

Module Name	Topic	EnMS Related Objectives	GHG Related Objectives	IDSM Related Objectives	Program Related Objectives
	Task 2- People and Legal	Who might have an interest, either internally or externally, in our energy performance, consumption, or energy management activities? Are there legal requirements that we need to meet? Are there voluntary requirements that we need to meet?	Who might have an interest, either internally or externally, in our GHG emissions? Are there legal requirements that we need to meet? Are there voluntary requirements that we need to meet?	Are there internal or external interests or requirements in our energy metrics beyond consumption?	
	Task 7- Risks to EnMS	Which risks or opportunities should we act on? Should we document them? Should our management review our list? Should we create action plans for those we plan to act on?	Are there risks or opportunities around our GHG emissions that we want to act on?	Are there risks or opportunities that could affect how we manage energy beyond consumption? Should we act upon them?	Is the SEM program end a risk to us maintaining our EnMS?
	Task 13- Action Plans for Continual Improvement	How do we create action plans for strategic risks or opportunities? Do we use the same approach as for energy improvement opportunities or create a different approach?	Are there risks or opportunities around our GHG emissions that we want to act on?	Are there risks or opportunities that could affect how we manage energy beyond consumption? Should we act upon them?	Should we create an action plan for maintaining the EnMS after the SEM program ends?

Module Name	Topic	EnMS Related Objectives	GHG Related Objectives	IDSM Related Objectives	Program Related Objectives
		Should we document this approach?			
4- Leadership Development	Task 4- Management Commitment	Does our management need to be more involved in order for the EnMS to succeed in the long term? Do we need to make a formal plan for them to understand and approve?			Is our management committed to maintaining the EnMS after the program ends?
	Task 23- Management Review	What data or information does our top management need to review? How often? Who prepares it? What feedback do we want?			
	Task 5- Energy Policy	Are there items that should be in our energy policy to make sure our EnMS succeeds in the long-term? Should our management review and approve the policy? Who should be aware of the policy?	Should GHG emissions be included in our Energy Policy?	Should we include any specific items that we use to calculate energy performance, beyond consumption, in our policy?	
	Task 6- Energy Team and Resources	As we move to maintain our EnMS, who should be on our energy team in the long-term? Do we rotate participation? Should we formally document the Energy Team's role? Other staff's role? What are the resources (financial, human, etc.)	As we move to maintain our EnMS, what level of knowledge do we need on our energy team to allow us to continually manage GHG emissions?	As we move to maintain our EnMS, what level of knowledge do we need on our energy team to allow us to continually manage energy performance beyond energy consumption?	What roles has the program been taking that need to transition to the Energy Team?

Module Name	Topic	EnMS Related Objectives	GHG Related Objectives	IDSM Related Objectives	Program Related Objectives
		that we will need after Cycle 3 completion?			
	Task 3- Scope and Boundary	Do any strategic issues, risks to the EnMS, or people and legal requirements change our scope and boundary? Have we documented our scope and boundary well enough so it is clear to the team, management, and staff?			
5- Planning, Year 6	Task 12- Objectives and Targets	What are our objectives and targets for Cycle 3 and beyond? Have we documented them to our satisfaction? Do any staff that can affect them know what they are?			
	Task 11- EnPIs and Baselines	Have we compared our indicators to baselines for year 5? Should the indicators be modified for year 6? Have we created a method for updating them?			
	Task 10- Improvement Opportunities	Do we have enough opportunities to meet our objectives for year 6 and beyond? Have we documented our process for identifying and prioritizing them?	Does our process need to treat GHG emissions reduction opportunities differently?	Does our process need to treat opportunities beyond energy efficiency differently?	
	Task 9- SEUs	Do our areas of focus (SEUs) apply to year 6? Have we documented our process for selecting and updating them?			
	Task 17- Operational Controls	What processes do we have in place to make sure our operational and maintenance control criteria are being followed?			
	Task 8- Data Collection and Analysis	Do our data collection and analysis processes need to change for year 6? Are there any changes to the data points we need to collect?			
	Task 21- Monitoring and Measurement	How do we respond to variations in energy performance? Who is trained to do this?			

Module Name	Topic	EnMS Related Objectives	GHG Related Objectives	IDSM Related Objectives	Program Related Objectives
	Task 13- Action Plans	Do our approved projects for meet our objectives for year 6 and beyond? Do we have clear action plans for projects that need them?			
6- Employee Engagement, Year 6	Task 18- Design	What processes can we put in place to make sure that our staff responsible for any design activities consider energy improvement opportunities, process controls, and energy performance?	What processes can we put in place to make sure that our staff responsible for any design activities consider GHG emissions reduction opportunities?	Do our processes need to consider energy performance beyond energy consumption?	
	Task 19- Procurement	Can we modify our procurement processes and criteria for purchases that affect our energy performance? Do our procurement staff have lifecycle criteria for purchases related to energy?	Can we modify our procurement processes and criteria for purchases that affect our GHG emissions? Do our procurement staff have lifecycle criteria for purchases related to GHG emissions?	Do our processes need to consider energy performance beyond energy consumption?	
7- Documentation and Measurement of the EnMS	Task 16- Documentation	What do we need to document our EnMS to make sure it lasts? How should we control our EnMS documents and records?			
	Task 20- Monitoring and Measurement of the EnMS	How do we determine trends in our EnMS activities? Is there data or information we need to evaluate?			How can the EMA be used to monitor and measure progress in the EnMS?

Module Name	Topic	EnMS Related Objectives	GHG Related Objectives	IDSM Related Objectives	Program Related Objectives
8- Cycle 3 Celebration and Next Steps	Review of past six years	What have we achieved the past 6 years? In this Cycle? How do we present our progress to top management and to employees? What do we want to improve on or achieve after we finish the SEM program?			What happens after Cycle 3 finishes? What happens to projects that are identified but have not been implemented? Are there any resources available, technical or educational, available after Cycle 3 finishes?

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4. SUPPORTING DOCUMENTS

4.1 Summaries and Reporting

The following summaries must be documented. For requirements on when and how these summaries must be reported (i.e., what reports to include the summaries in, the content of the reports, the process for submitting the reports, and when those reports are to be submitted) see the M&V Guide.

4.1.1.1 Educational Module Summary Requirements

The Educational Module Summary allows both the program and evaluators to understand who attended and what happened at each activity related to a module. The Coach shall provide a Summary for each activity related to each module. The summary shall include:

- **General information:** including the name, the location, the time, and the date of the activity and which module it supports
- **Attendees:** all attendees, separated by customer attendees, utility attendees, implementation contractor attendees, and other attendees (such as presenters)
- **Summary of the activity:** including a summary of the type of activity (e.g., workshop, on-line webinar, pre-recorded class, etc.), attendance, presenters, agenda, key activities, materials provided to the customers
- **Presentations:** including a summary of the presentations given and key questions asked.
- **Group Activities:** including a summary of any group activities conducted during the activity and the outcome of the activities.
- **Conclusion:** including a summary of any prizes, incentive payments, or awards handed out during the activity. Also, including any homework or next steps assigned to customers.
- **Feedback:** a summary of the evaluation of the activity provided by customers, including any specific feedback given. The form must have the activity name on it, the date, and an optional name field for the customer to fill out. Unless a different approach has been agreed to by the PA, the feedback form shall include a rating from 1-5 (five being the best rating) on:
  - Whether the activity met expectations for gaining new information on the topic.
  - Whether the coaches presented information in an effective way.
  - If a workbook was provided, whether the workbook for the session is something the customer will refer to in working with their energy team.
  - Whether the preparation homework for the session helped the customer prepare for the activity and apply new principles at their site.

- Whether the customer left the activity with specific ideas for how to improve their approach to the SEM program.
- How the customer would rate their overall experience in the activity.

The feedback shall also include an area for the customer to comment on any item that rated three or lower, to comment on anything they would have liked to have spent more time on, and to provide any comments they would like to add. Providing the feedback form to customers is mandatory. Every effort should be taken to collect feedback although some customers may choose to not submit it.

4.1.1.2 Scoping Summary Requirements

The Scoping Summary allows both the SEM program and evaluators to understand the conditions that existed at each site prior to SEM engagement, focused primarily on energy efficiency history and plans. There shall be one summary per site, developed once during SEM Program Year 1, which shall include:

1. **General Information:** including the location, the date, and the attendees of the Kick-off Meeting.
2. **Company Overview and Background**: describing relevant details that might influence the SEM program, such as ownership structure, management structure, corporate energy or sustainability programs, quality or certification programs.
3. **SEM Readiness**: describing the site's ability and willingness to dedicate staff to the engagement, who the Energy Champion and Executive Sponsor would be, any major process changes that are planned, experience with Lean, Six Sigma, etc., sustainability or energy goals and teams.
4. **Energy Efficiency History and Plans**: this section is the highest priority in the Scoping Summary. It shall describe any relevant relationship with utility programs (account executive, 3rd party contractors, etc.), project activity and history (details for these may need to be provided by the PA or the customer), pending projects, planned major capital projects. Also, any measures the SEM Coach recommend be included or excluded, existing plans with the utility or 3rd parties. Any pending and planned energy efficiency projects must be documented in the Opportunity Register in accordance with requirements outlined in the M&V Guide.
5. **Energy Data**: including estimated annual energy consumption (kWh, Therm, other), utility rate schedule, $/energy source (kWh, Therm, other).
6. **Recommended Next Steps**: Recommendations on next steps the program should take with this customer.

4.1.1.3 SEU Selection Summary

Selecting SEUs allow both the customer and the SEM program focus its efforts. The SEU Selection Summary is included in the Energy Map and is updated as needed. The SEU Selection Summary shall include:

1. **General Information:** including the individuals who selected the SEUS.
2. **List of SEUs**: A list of the SEUs selected by the site and any details that help identify the SEU.

3. **Criteria for SEU selection**: The criteria used to select the SEUs and any details that help repeat the SEU selection process.

4.1.1.4 EMA Summary Requirements

The EMA shall consist of questions relative to the tasks introduced or improved in the Cycle. The questions shall be based on the 50001 Ready Energy Management Assessment. The summary shall include:

1. **General Information:** including the date, and the individuals answering the questions of the EMA.
2. **Task and subtask score:** the score for each task and subtask included in the EMA and the scores and dates for that task and subtask in past EMAs.
3. **Overall average percentage score:** the average percentage score for all tasks included in the EMA and the average percentage scores on past EMAs.

4.1.1.5 Treasure Hunt Summary Requirements

The Treasure Hunt Summary provides details on the outcomes of the Treasure Hunt. The SEM Coach shall provide a separate Treasure Hunt Summary for each site for each Treasure Hunt held. The summary shall include:

1. **General Information:** including the location, the date, and the attendees.
2. **Attendees**: including all participants in the Treasure Hunt (including any guests and implementation contractor technical support).
3. **Process**: a summary of the process followed during the Treasure Hunt.
4. **Next Steps**: this section will highlight next steps relative to the Treasure Hunt. For example, if another Treasure Hunt is necessary in order to identify projects to meet the cycle's goals, or if the customer will need support developing action plans.

4.1.1.6 Cycle Decision and Transition Summary Requirements

The Cycle Decision and Transition Summary provides an overview of the site's intention as they complete each cycle. The summary shall include:

1. **General Information:** including the location, the time, and the date, and the attendees.
2. **For Cycle 1 and Cycle 2-**
    a. **Cycle Decision:** the site's decision on whether to continue with the next cycle of the SEM program, who made or communicated the decision and key reasons for that decision**.**
    b. **Conditions to Advancing**: If the customer is continuing to the next cycle, the conditions, if any, the program (SEM Coach or PA) is putting on the customer's continuation in the program (e.g., attendance to a percentage of educational activities, Energy Team involvement, minimum energy savings, etc.)
3. **Key issues**: Any key issues the Energy Team and SEM Coach identified that could affect the site's ability to manage energy, whether or not the site is advancing to the next cycle.

4. **Next steps:** for facilities that are not continuing on the SEM program and for Cycle 3:
    a. **Improvement opportunities:** a summary of what will happen with the major improvement opportunities that have not yet been implemented, the resources or programs that will support the site, etc.
    b. **EnMS:** a summary of what the site plans to do with their EnMS (e.g. maintain with internal resources, not maintain, hire external resources to help improve, seek ISO 50001 certification, etc.)

4.2 Program Theory and Logic Model

The program theory and logic model are intended to provide a high-level overview of the three-cycle design approach. Optional activities are not included in the theory or logic model.

4.2.1 Program Theory

The program theory is to move customers through distinct "tracks" that progress year-to-year and cycle-to-cycle:

1. The breadth of the Energy Management System or business practices introduced to the customer.
2. The depth of knowledge or application for each business practice.
3. The repeatability of each business practice.
4. The customer's ability to identify, select, prioritize, manage, implement energy efficiency opportunities.

Secondarily, but also important, is education of the customer on two related topics that have the potential to significantly affect both the customer's approach to managing energy and the SEM program's outcomes:

1. Integrated demand side management.
2. Energy-related GHG emissions.

For simplicity, these are not included in the logic model as their outcomes are to educate customers on how to integrate these topics into their business practices and are optional for customers that are interested in these topics.

Program activities in all three cycles are of two types:

1. Educational Modules- These modules provide the framework for the educational activities that will teach customers concepts and apply them to their situation.
2. Site-Specific Activities- These activities provide support for customers to help them implement the concepts introduced in the educational modules.

Outcomes and impacts are related to each of the four tracks and change cycle-to-cycle.

4.2.2 Logic Model

For simplicity, the logic model is separated into cycle-specific activities, outcomes and impacts.

	Cycle 1	Cycle 2	Cycle 3
Activities	**Educational Activities and Site-Specific Activities** on Navigator Tasks 1, 3, 6, 8, 9, 10, 11, 12, 13, 21	**Educational Activities and Site-Specific Activities** on Navigator Tasks from Cycle 1 plus Tasks 4, 5, 14, 15, 17, 18, 19	**Educational Activities and Site-Specific Activities** on Navigator Tasks from Cycle 1 and 2 plus Tasks 2, 7, 16, 20, 23
Outcomes-EnMS	Increased awareness and knowledge by a core set of employees on foundational, technical business practices through an informal EnMS.	Increased capabilities by core set of employees to develop an EnMS that formalizes technical business practices and informal business practices to engage a broader base of employees and top management.	An EnMS that has formal technical, employee, and management business practices and informal feedback business practices.
Outcomes-Energy Savings	Implemented energy saving projects and verified savings.	Implemented energy saving projects and verified savings. Capability of identifying, implementing, and managing more complex projects.	Implemented energy saving projects and verified savings. Capability of identifying, implementing and managing more complex projects.
Impact	An EnMS focused on technical business practices that depend heavily on the SEM program but may continue to save energy at the site if the site does not continue to Cycle 2. Energy savings have some persistence.	An EnMS with technical business practices that can be repeated if the site does not continue to Cycle 3 with limited program support. Energy savings should have moderately more persistence than Cycle 1.	An EnMS that can be repeated beyond SEM program engagement and continuously save energy at the site with limited program support. Energy savings should have significantly more persistence than Cycle 1 and Cycle 2.

Table 31- High-Level Logic Model

5. APPENDIX

5.1 EnMS Progression

Business practices are introduced and enhanced throughout the three cycles. The table below provides a summary of the Navigator tasks introduced through each of the cycles. Tasks are presented in the order in which they are introduced to the customer.

Navigator Task #	Navigator Task Name	Cycle 1	Cycle 2	Cycle 3
Task 1	An EnMS and Your Organization	Introduced	Enhanced	Enhanced
Task 6	Energy Team and Resources	Introduced	Enhanced	Enhanced
Task 3	Scope and Boundaries	Introduced	Enhanced	Enhanced
Task 8	Energy Data Collection and Analysis	Introduced	Enhanced	Enhanced
Task 9	Significant Energy Uses (SEUs)	Introduced	Enhanced	Enhanced
Task 11	EnPIs and Energy Baselines	Introduced	Enhanced	Enhanced
Task 10	Improvement Opportunities	Introduced	Enhanced	Enhanced
Task 12	Objectives and Targets	Introduced	Enhanced	Enhanced
Task 13	Action Plans for Continual Improvement	Introduced	Enhanced	Enhanced
Task 21	Monitoring and Measurement of Energy Performance	Introduced	Enhanced	Enhanced
Task 4	Management Commitment		Introduced	Enhanced
Task 5	Energy Policy		Introduced	Enhanced
Task 15	Awareness and Communication		Introduced	Enhanced
Task 17	Operational Controls		Introduced	Enhanced
Task 14	Competence and Training		Introduced	Enhanced
Task 18	Energy Considerations in Design		Introduced	Enhanced
Task 19	Energy Considerations in Procurement		Introduced	Enhanced
Task 2	People and Legal Requirements			Introduced
Task 7	Risks to EnMS Success			Introduced
Task 16	Documenting the Energy Management System			Introduced
Task 20	Monitoring and Measurement of the EnMS			Introduced
Task 23	Management Review			Introduced

Table 32 Task List by Cycle in Order Introduced to Customer

The table below shows the Tasks in numerical order. Tasks 22, 24, and 25 are not introduced.

Navigator Task #	Navigator Task Name	Cycle 1	Cycle 2	Cycle 3
Task 1	An EnMS and Your Organization	Introduced	Enhanced	Enhanced
Task 2	People and Legal Requirements			Introduced
Task 3	Scope and Boundaries	Introduced	Enhanced	Enhanced
Task 4	Management Commitment		Introduced	Enhanced
Task 5	Energy Policy		Introduced	Enhanced
Task 6	Energy Team and Resources	Introduced	Enhanced	Enhanced
Task 7	Risks to EnMS Success			Introduced
Task 8	Energy Data Collection and Analysis	Introduced	Enhanced	Enhanced
Task 9	Significant Energy Uses (SEUs)	Introduced	Enhanced	Enhanced
Task 10	Improvement Opportunities	Introduced	Enhanced	Enhanced
Task 11	EnPIs and Energy Baselines	Introduced	Enhanced	Enhanced
Task 12	Objectives and Targets	Introduced	Enhanced	Enhanced
Task 13	Action Plans for Continual Improvement	Introduced	Enhanced	Enhanced
Task 14	Competence and Training		Introduced	Enhanced
Task 15	Awareness and Communication		Introduced	Enhanced
Task 16	Documenting the Energy Management System			Introduced
Task 17	Operational Controls		Introduced	Enhanced
Task 18	Energy Considerations in Design		Introduced	Enhanced
Task 19	Energy Considerations in Procurement		Introduced	Enhanced
Task 20	Monitoring and Measurement of the EnMS			Introduced
Task 21	Monitoring and Measurement of Energy Performance	Introduced	Enhanced	Enhanced
Task 23	Management Review			Introduced

Table 33 Task List by Cycle in Numerical Order

5.2 Energy Management Assessment (EMA)

The Energy Management Assessment (EMA) provides a cycle-by-cycle summary of the site's energy management business practices relative to the business practices introduced in that cycle. The EMA is based on US DOE's 50001 Ready Energy Management assessment (50001 Ready EMA). Below is a sample of the 50001 Ready EMA questions for the first three tasks. The full EMA can be found at https://industrialapplications.lbl.gov/content/energy-management.

Task 1: An EnMS and Your Organization

We determine the strategic issues that affect our ability to improve energy performance and achieve the goals of our 50001 Ready energy management activities.

Sub-task 1.1 – Identify the external and internal strategic issues that affect your organization's ability to improve its energy performance and achieve the intended outcomes of the energy management system (EnMS).

Statements	Score
We have reviewed our organization's strategic objectives and challenges and have determined which internal and external strategic issues may affect our organization's ability to improve energy performance and achieve our objectives for managing energy.	4
We generally know the issues that affect our ability to save and manage energy.	3
We are taking some action on this sub-task, but not yet to the extent of the description provided in the above two choices.	2
We understand what is required for the subtask, but have not starting acting on it.	1
We are uncertain what this sub-task means.	0
Your score	

Sub-task 1.2 – Record this information.

Statements	Score
We maintain records and documents relative to the issues that affect our ability to improve energy performance and achieve our objectives of managing energy.	4
We informally keep records regarding the issues that affect our ability to save and manage energy.	3
We are taking some action on this sub-task, but not yet to the extent of the description provided in the above two choices.	2
We understand what is required for the subtask, but have not starting acting on it.	1
We are uncertain what this sub-task means.	0
Your score	

Task 1 Scoring	
Number of sub-tasks	2
Task score total (add up your scores for each sub-task)	
Task average score = Task score total divided by the number of sub-tasks (see top row of this table)	

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Task 2: People and Legal Requirements Affecting the EnMS

We determine the interested parties and energy-related legal and other requirements relevant to our energy performance and the energy management system. At defined intervals, we review these requirements and evaluate our compliance with them.

Sub-task 2.1 – Identify and record the interested parties relevant to your organization's energy performance and energy management activities (EnMS).

Statements	Score
We have established and implemented a process to identify and record who within and outside of our organization (interested parties) would have an interest in our energy consumption and energy management activities.	4
We know who within and outside of our organization (interested parties) would have an interest in our energy consumption and energy management activities.	3
We are taking some action on this sub-task, but not yet to the extent of the description provided in the above two choices.	2
We understand what is required for the subtask, but have not starting acting on it.	1
We are uncertain what this sub-task means.	0
Your score	

Sub-task 2.2 – Determine the needs and expectations of these interested parties as they relate to your organization's EnMS.

Statements	Score
We have established and implemented a process to determine the expectations of the interested parties as they relate to our energy consumption and energy management activities.	4
We generally know the expectations of the interested parties as they relate to our energy consumption and energy management activities.	3
We are taking some action on this sub-task, but not yet to the extent of the description provided in the above two choices.	2
We understand what is required for the subtask, but have not starting acting on it.	1
We are uncertain what this sub-task means.	0
Your score	

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Sub-task 2.3 – Identify the applicable legal and other requirements related to energy.

Statements	Score
We have established and implemented a process to identify and understand the legal, regulatory, and other requirements that apply to our use and management of energy.	4
We have a general understanding of the legal and other requirements that apply to our energy consumption and energy management activities.	3
We are taking some action on this sub-task, but not yet to the extent of the description provided in the above two choices.	2
We understand what is required for the subtask, but have not starting acting on it.	1
We are uncertain what this sub-task means.	0
Your score	

Sub-task 2.4 – Implement a process to periodically evaluate compliance with the identified requirements.

Statements	Score
We have established and implemented a process for determining our compliance with legal and other requirements related to our energy consumption and energy management activities, and we regularly review to make sure we maintain compliance with current and any changed or new requirements.	4
We occasionally review our compliance with legal and regulatory requirements related to our energy consumption and energy management activities.	3
We are taking some action on this sub-task, but not yet to the extent of the description provided in the above two choices.	2
We understand what is required for the subtask, but have not starting acting on it.	1
We are uncertain what this sub-task means.	0
Your score	

Task 2 Scoring	
Number of sub-tasks	4
Task score total (add up your scores for each sub-task)	
Task average score = Task score total divided by the number of sub-tasks (see top row of this table)	

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