This document is a companion to the Office of Energy Efficiency and Renewable Energy (EERE) Program Management Reference Guide. It provides an overall description of the EERE program management structure, defines EERE program and project management roles and responsibilities, lays out the general sequence of activities in the program management cycle, and introduces the EERE Strategic Management System (SMS) and the EERE Information and Business Management Systems – Corporate Planning System (CPS), EERE Information System (EIS), and the Systems Approach to Grants Administration for Windows (WinSAGA). Quick references to the Guide and other sources of information of related program management information are provided throughout in information boxes associated within the text.

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I. Introduction – The Essence of Program Management

Running a program is a lot like running a business.

An EERE program is in many ways just like a business. This business contributes to the overall success of the EERE and the U.S. Department of Energy (DOE) missions in support of the National Energy Policy. EERE is, therefore, very similar to a division of a large corporation. The business is ongoing; it has no clearly definable point of completion or finish. EERE's activities most likely involve pursuing continuous improvements in one or more specific technology and/or market areas.

Programs have customers and others who have a stake in the outcome.

A business needs to be developed, sustained and run effectively and efficiently. The purpose of any business is to meet stakeholders' needs. In EERE's case, the primary stakeholder is the American public which needs clean and affordable energy. Other stakeholders include the various legitimate agents for the public, such as Congress, special interest groups, industries that manufacture and use energy-efficiency products, environmental groups, and academic and scientific institutions.

EERE program management teams have responsibility for the bottom line.

Your position in EERE may be that of a program manager, team leader, member of a program management team or provider of functional support. In any of these roles, you will guide or help guide program strategies and contribute results.

The program has an ongoing mission, and overriding purpose and a vision of where to be in the future. Strategies and plans with long-term goals and objectives are needed as well.

Just like any business, it is important to have an explicit mission (a definitive statement of what you are in business for) and a vision (an image of an ideal future state, say ten or more years into the future). To achieve the vision, short- and long-term goals and objectives must be set and pursued. Your goals and objectives need to address satisfying the needs of customers and other stakeholders (the ends) and developing or increasing operational capacity (the means). Resources are also needed to operate the business. This means that products or services need to be offered and sold to obtain the financial wherewithal to acquire the necessary resources.

The program management team needs to plan what work needs to be done and how to do it.

Selling the program is essential.

In EERE's environment, a business division is called a program; it is a discrete element of the EERE mission. Resources are acquired through the budget process, a specialized mechanism for marketing and promoting the program. In the budget process, the program competes with many others for scarce resources, just like companies compete in the marketplace for consumers' dollars. It is therefore imperative that the program have a viable program strategy with well-defined plans geared toward yielding valuable benefits to the stakeholders. That is, the stakeholders must receive a return for

the funds they are investing with the program or spending on its products and services. The program must show results.

The program management team needs to keep the program on track; know the status of the program.

Obtaining funds is necessary but not sufficient to ensure business success. Funding must be allocated across various funding mechanisms, which involves obtaining the most beneficial mix of activities and goods and services. These funding mechanisms include: contracts, grants, field work authorizations, financial incentives, and partnerships. In addition, there are a number of high leverage business arrangements that should also be considered. Among these are public policies, market interventions, consensus standards, public service promotions, cooperative ventures with business, academia or other Government entities. Partnerships with commercial manufacturers that produce advanced, energy-efficient technologies and companies that use the technologies such as electric power companies are important for achieving improvements in energy efficiency.

In sum, programs need planning, budget formulation, program implementation, and analysis and evaluation.

Finally, activities need to be tracked to make sure the plans are being carried out. Periodically, as changes occur, goals and objectives should be reviewed to ensure they are correct and still on course.

Programs have a lot of business functions and activities to perform.

The buck stops with the program manager and his/her team.

We have just described the four phases of program management: Planning, Budget Formulation, Program Implementation, and Analysis and Evaluation. To manage a program successfully, it must be planned, adequately budgeted, implemented (including the timely execution of the budget), and overseen to ensure that it stays on track. In doing so, the programmatic functions that plan, conduct, and evaluate the actual work must be integrated with business activities that are necessary to get the work assigned, conducted and paid for.

EERE program management teams have been entrusted with a serious responsibility to always act in the best interest of the American public. They are stewards of substantial public funds. In addition to the guidance and instructions contained herein, the bottom line is that they are accountable for the success of the program in all aspects.

II. EERE Programs as Key Mission Elements

EERE accomplishes its mission through individual programs and collective efforts across programs.

To accomplish its mission EERE, like any organization, must divide its work into manageable segments. All work done in EERE can be represented by a work breakdown structure; that is, a pyramid where the top level is the EERE mission and the succeeding lower levels are the EERE programs and projects, respectively (see Figure 1 below).

Additional information on EERE's mission, vision, and priorities may be accessed at http://eere-intranet.ee.doe.gov/front_office/index.html

Most EERE programs are further subdivided into subprograms. EERE must ensure that all of the work needed to accomplish its mission has been assigned to, and is being pursued by, individual programs, or is being addressed collectively across programs as "crosscut" goals and objectives. If all programs are successful in meeting their goals and objectives (including their expected contribution to crosscut goals), then, by definition, EERE should be successful in accomplishing its mission.

Programs are broken down into subprograms which are broken down to projects and subsequently agreements, as shown below in Figure 1. Projects may include discrete research and development (R&D) activities, technology demonstrations, or deployment initiatives. The distinctions among programs, projects and agreements are shown in detail in Section III.

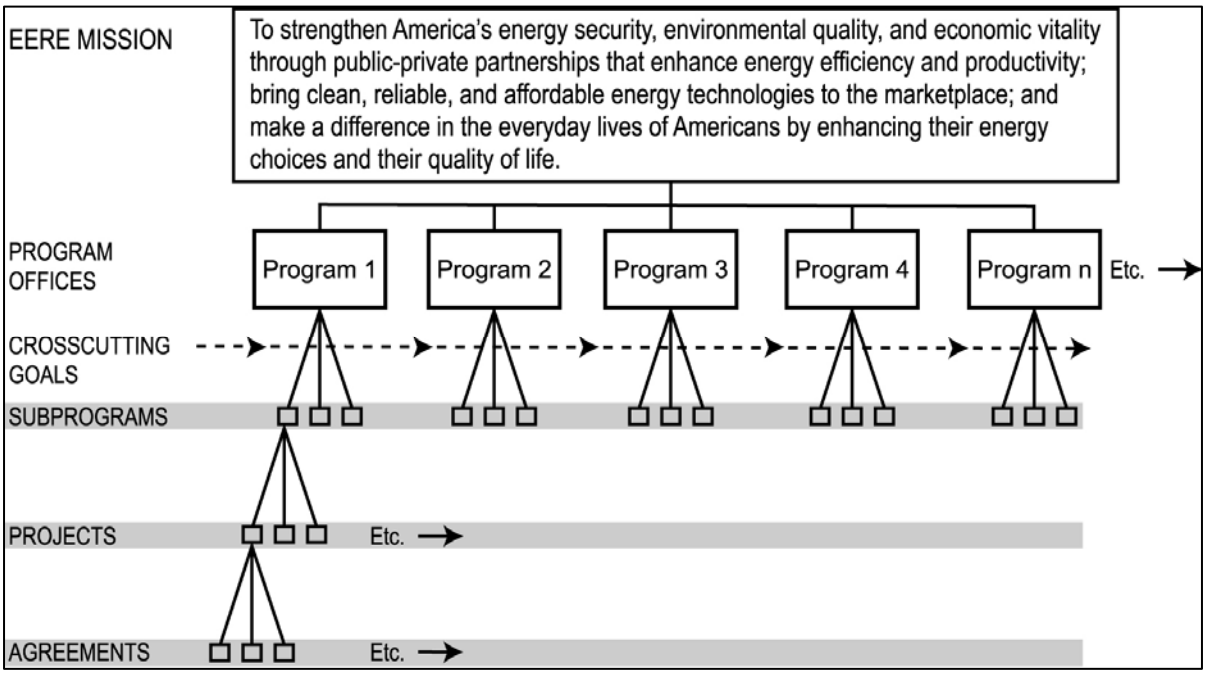

Figure 1: EERE Work Breakdown Structure

Program portfolios enhance EERE's chances for success.

Currently, EERE has 10 programs. Each program has a performance risk, which means there is some likelihood that the program may not be able to carry out its plan completely and fall short of its goals. However, it is still possible that other programs may exceed their goals, resulting in EERE's still accomplishing its mission; hence the term "pooling the (performance) risk" at the next higher level. This is comparable to a stock portfolio or mutual fund where the performance of some stocks falls short but others yield more than expected, so the overall fund or portfolio achieves the desired return. EERE management officials must keep this pooling of risk concept in mind when establishing programs and providing them guidance and resources.

Program managers must consider both their program and EERE's mission.

Program Managers must understand that their program has to fit into the larger portfolio. The program may not be as broadly chartered or generously funded as desired because the program is sharing scarce resources with other programs in the interest of achieving a proper balance. Program management teams should always keep the EERE mission in sight, when implementing their programs. This requires attention to crosscutting goals, sometimes at the expense of higher risk to program goals.

EERE's program portfolio is dynamic, requiring periodic review and adjustment.

EERE's program structure needs to be carefully reviewed and adjusted over time in response to internal performance and external scientific/technological, political, and economic factors. This causes turbulence that program management teams must continually address. EERE management has a continuing responsibility to provide adequate resources for programs. For example, a reduction in a program's funding generally requires a commensurate adjustment to its goals so that it remains viable.

III. Distinctions Among EERE Programs, Projects, and Agreements

Programs and projects are defined (and managed) separately.

EERE programs typically involve a range of activities including Technology Research and Development, Demonstration, and Deployment (RDD&D). These activities are generally carried out as a set or series of discrete projects. EERE's policy is to assign and manage (plan, fund, implement, and track) programs and projects differently. Programs typically are managed in Headquarters and projects in the field (see Program and Project Management Responsibilities in Section V). An EERE Program Management Focus Group developed the following definitions:

Programs are ongoing and typically managed by Headquarters Program Managers reporting to the Deputy Assistant Secretary (DAS) for Energy Efficiency and the DAS for Renewable Energy in the Office of Technology Development.

Additional Information on EERE's Programs may be accessed at http://eere-intranet.ee.doe.gov/TD/td.html

- **Program:** An organized set of ongoing activities or projects directed toward a common, specific purpose or goal. A program is generally the highest level of the work breakdown structure within a specific mission area. It is characterized by a strategy for accomplishing a set of definitive goals and objective(s) aligned to and in support of the mission goals. A program generally is subdivided into subprograms that, in turn, typically are subdivided into projects that are managed closely by using project management tools and techniques.

  Programs in EERE are characterized either as core programs and subprograms, programs in the exploration or initiation stage, or programs that cut across ("crosscut") institutional lines and contribute to other programs. Common functions, such as planning, research, and international cooperation, typically are not programs. Viewed as an integrated whole, a program is the aggregate of its subprograms (which have the same characteristics as programs but represent one additional level of subdivision) and its projects.

Projects have a defined beginning and end, and are typically managed in the field.

- **Project:** An executable element of a program normally with its own discrete beginning, end, and specified outputs. A project is an executable increment or stepping stone of program activity (e.g., Fiscal Year [FY] 2007 heavy vehicle fuel system research and technology advancement) aimed at achieving specific objectives in a specified period. In CPS, an EERE project consists of a single agreement or activity, or a group of agreements or activities, which are being implemented.

- **Agreement**: An activity or unit of work within a project that relates to and supports the overall goals and objectives of the project. An agreement has: 1) a defined beginning and end, 2) milestones that chart progress, 3) well-defined deliverables, and 4) a credible budget to support the work and deliverables defined.

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IV. Roles and Responsibilities of Headquarters and Field Activities

EERE HQ manages the programs, and identifies and assigns the work; field elements manage and/or do the work.

EERE's Project Management Center (PMC) is a "virtual hub" of project management information and resources for EERE customers, stakeholders, staff, and contractors.

Additional information on EERE's PMC may be accessed at https://www.eere-pmc.energy.gov

The basic division of responsibility and accountability in EERE is that Headquarters (HQ) elements plan, direct, and oversee the programs; and field elements implement the programs, conducting or assigning the actual work. Part of HQ program planning and oversight entails establishing projects as discrete activities with definitive beginnings and endings. EERE HQ and field elements—the PMC located at the Golden Field Office (GO) and the National Energy Technology Laboratory (NETL)—plan the projects, and direct and oversee project implementation and other program operations and activities conducted by federal laboratories and other government and non-government entities, including contractors, grantees, industry partners, interagency partners, etc. This division of responsibility and accountability is shown in Figure 2 below.

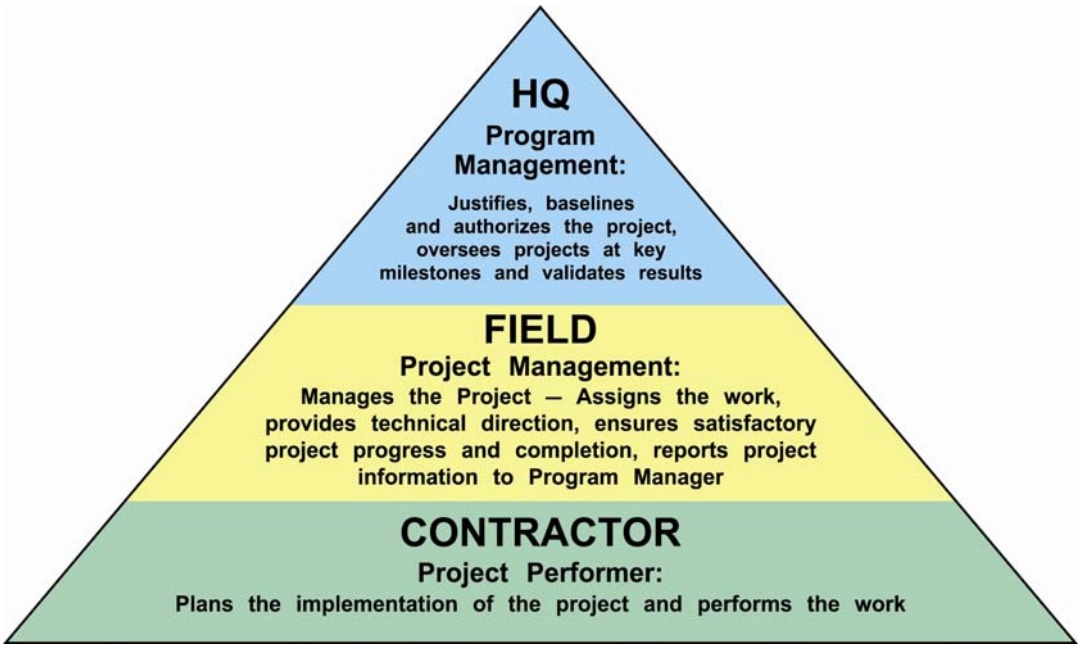

Figure 2: EERE Program Roles and Responsibilities

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V. Program Management Vis-à-Vis Project Management Responsibilities

The following subsections (in tabular form) outline the general responsibilities of EERE program management and project management. Even though Program Managers and Project Managers have the lead responsibilities listed below, they and their respective teams will frequently consult and coordinate with each other during the year.

The core of the program management team typically includes the Program Manager, Technology Development Manager, and/or Office of Planning Budget and Analysis (PBA) Specialist; PBA liaisons; and Field Project Manager. The project management team typically includes the Project Manager/Contracting Officer Representative, Contracting Officer, and Contracting Specialist.

These responsibilities were derived from and are consistent with current DOE directives governing program and project management. They have been refined and elaborated by the EERE Program Management Initiative (PMI) and further defined by the EERE Project Management Center (PMC) to more accurately align with EERE's mission and the nature of its programs.

Planning

EERE Program Management	EERE Project Management
Plans and develops the overall program	*Initiates and oversees the project*
Provides policy and broad program direction	Provides the program management team recommendations on technical performance, cost, and schedule requirements for the planned project that contribute to the program's goals and objectives
Aligns programs and projects with Corporate goals and objectives	Defines the project objectives and how the project will be organized, staffed, and managed
Conducts multi-year program planning and identifies annual performance milestones	Defines the project management approach and optimizes the procurement strategies
Establishes and justifies the need for projects within the program	Develops the Project Execution Plan
Supports EERE strategic and mid-term planning efforts	Maintains awareness and understanding of EERE and program goals, objectives, and strategies
Provides/drafts Program Strategic Plan	Provides input for the Program Strategic Plan

Budget Formulation

EERE Program Management	EERE Project Management
Prepares, justifies, and defends the program budget	*Develops and submits the project budget to the Program Manager*
Develops and submits estimates of the funding and Full-time Equivalents (FTE) needed to carry out the program's science and technology base, and operations and support plans	Prepares the resource requirements for the project
Aggregates and submits the funding and FTE requirements for implementing the program's authorized projects	Estimates and validates contractor and federal FTE requirements
Provides the rationale for the program's activities, including science and technology base, projects, and operations and support	Identifies and validates necessary facilities and equipment
Optimizes program resource allocations to maximize performance results	Justifies the project's submission to the EERE budget

Program Implementation

EERE Program Management	EERE Project Management
Executes the program budget and implements the program	*Implements the project*
Authorizes projects and establishes and staffs project management offices	Determines project and contract scope, and recommends new project modifications
Ensures timely funding for projects and other program activities	Executes the project in coordination with the field procurement function
Integrates across all elements of the program (science and technology base, projects, and operations and support)	Selects the project performers (awardees) in coordination with the field procurement function
Monitors program-level milestones and evaluates progress	Evaluates and determines the acceptability of awardee performance
Assures proper coordination between multiple field elements, other DOE programs, federal agencies, and other program partners	Monitors project-level milestones and evaluates progress
Advocates the program through liaison with the public and private sectors	Provides technical direction to awardees
Accountable for achieving program objectives, e.g., cost, schedule and technical performance	
Maintains power base through networking and partnership development with industry	Coordinates project with HQ management and staff elements
	Supports project accountability via baseline tracking and reporting

Analysis and Evaluation	
EERE Program Management	EERE Project Management
Analyzes and evaluates the overall performance of the program	*Analyzes and evaluates detailed performance of the project*
Evaluates program variances from expected progress and initiates necessary corrective actions	Tracks project execution against cost, schedule, and technical performance
Ensures field performance and status of assigned program tasking, e.g., science and technology base and operations and support	Independently assesses regular project status reports
Reviews project portfolio performance against established baselines	Identifies significant variances in project progress and recommends corrective action
Supports Corporate and Departmental evaluation efforts	Regularly assesses and reports project status to the Program/Technology Manager with recommendations to continue, modify, or discontinue the project
Identifies significant variances in program results and recommends corrective actions	
Validates reported results	
Establishes an evaluation plan	
Estimates program benefits to date	
Ensures adequate peer reviews of program progress	

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VI. How to Manage an EERE Program: A Macro Look at the EERE Program Management Cycle

The Program Management Cycle

The EERE program management teams are the vital agents who are responsible for transforming strategic objectives into reality through the successful development and execution of programs and projects.

The successful accomplishment of EERE's mission is dependent upon the ability of program management teams to transform strategic objectives into reality, building the foundation for EERE's success.

While program management uses defined methods to develop and monitor programs, effective program management is best described as an art. Vital elements of program management can be identified and detailed in guides (such as this) and training. However, it is the personal combination of motivation, talent, knowledge, and experience that produces effective program management.

Program management is a complex and multi-dimensional discipline involving technical competence, communication and negotiation skills, creativity, organization, and especially, effective time management. Using these skills, as illustrated in Figure 3 below, the EERE program management staff must balance the many different tasks and responsibilities involved in successful:

- Planning;
- Budget Formulation;
- Program Implementation; and
- Analysis and Evaluation.

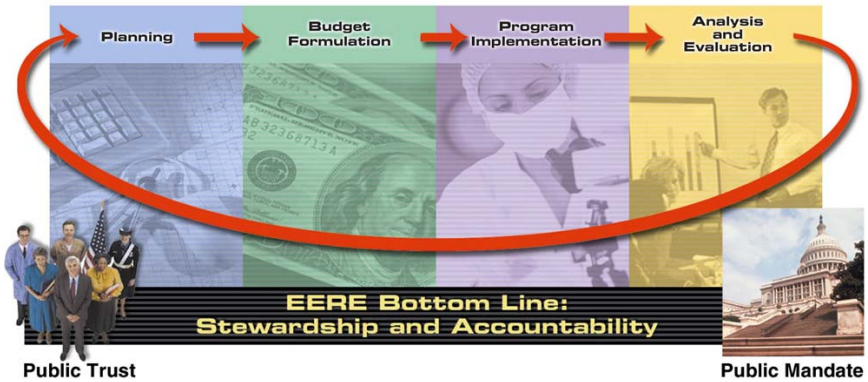

Figure 3: The Four Phases of Program Management

Planning

EERE Corporate and program planning is conducted in three broad areas:

- *Strategic Planning*
- *Multi-Year Program Planning*
- *Annual Operations Planning*

The EERE program management planning cycle involves a progression of activities that are tiered into three broad levels as illustrated in Figure 4 below. The program management team contributes at all three levels. Strategic planning at the DOE and EERE levels addresses the broad DOE-wide missions, visions, strategies, and strategic themes (as identified in the current DOE Strategic Plan) and formulates EERE and program-specific missions, visions, strategies, and strategic objectives. Multi-year program planning is performed largely at the program level and translates the strategies and strategic themes developed at the strategic level into specific technical, funding, and schedule requirements for Multi-Year Program Plans (MYPP). Annual operations planning separates programs into their constituent projects and details, technical objectives, contracts, grants, field assignments, budgets, and milestones for each year.

In addition to these plans, prudent program management would call for development of contingency plans at the program level and, more importantly, at the project level to be ready to respond to significant, and unexpected, increases or decreases in budget authority.

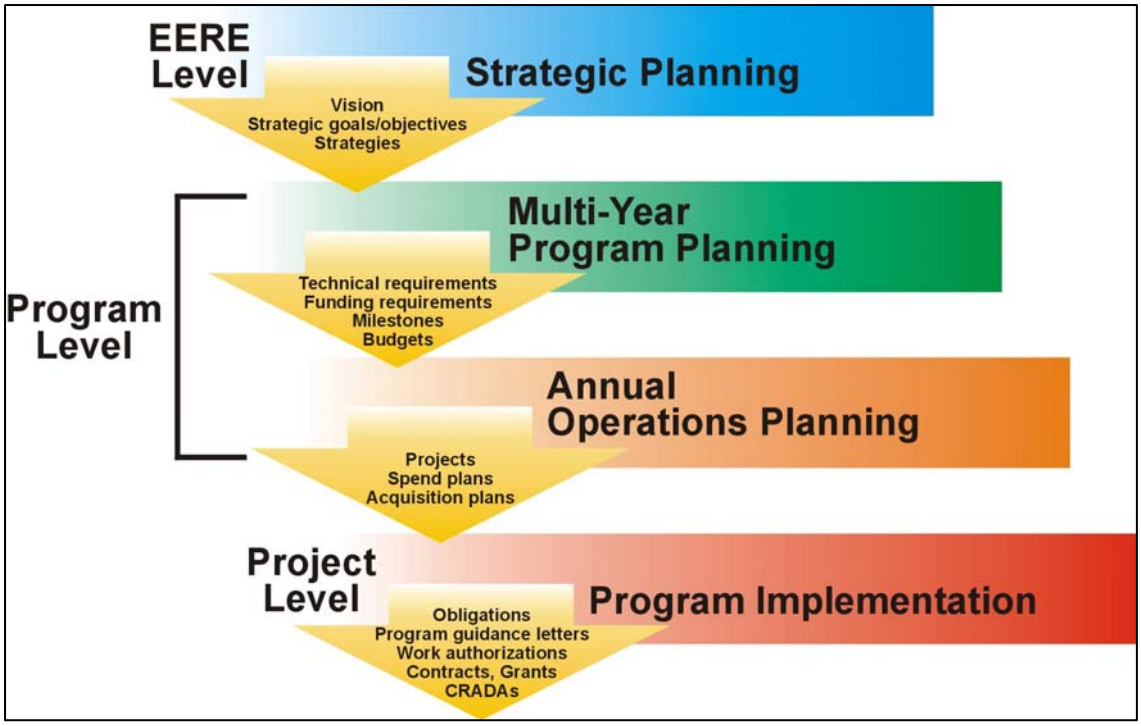

Figure 4: EERE Program Management Cycle Planning

The EERE Strategic Plan, last updated in 2002, may be viewed at www.nrel.gov/docs/fy03osti/32988.pdf

Strategic Planning Steps:

1. *EERE Strategic Plan is issued.*
2. *Program management team assists in the development of the strategic objectives and issues.*
3. *Program management team assists in generating strategies.*
4. *Program management team conducts program planning.*

Strategic planning is a multi-level process where the overall DOE and EERE mission, vision, and broad strategic goals are successively refined into increasing levels of detail. The process leads to the formulation of EERE strategic goals that provide the focus and justification (including legislative) for EERE programs.

The EERE Strategic Plan is produced at the Assistant Secretary level and is updated approximately every 2–3 years. Some programs develop Strategic Plans at the Program Office level and update them periodically as the technology, industries, and DOE environment changes, and as the EERE Strategic Plan is updated. The purpose of strategic planning is to assure that the long-term program goals and objectives are the best that can be currently envisioned. The program then can be implemented in concert with the DOE and EERE mission, goals, and objectives.

The program management team identifies key program elements.

In developing the MYPP, the program managers oversee their teams and identify key program elements required to achieve the strategic goals and comply with Congressional directives, specifically. Program milestones must be identified at junctures along the critical path to the program goals and objectives. These milestones should represent a line of progression and facilitate order to advance the project. The MYPP integrates these key program elements and becomes the basis for budget requests and justifications, as well as the baseline document that provides the framework for periodically evaluating and reporting program progress. The MYPP is also considered a "living document" and is updated on an annual "rolling" basis.

The program management team develops the Multi-Year Program Plan. EERE's MYPP Template Guidance Phase II may be accessed at http://www/energy.gov/ba/pba/pdfs/eere.guide_mypp_0606.pdf

The program management team identifies projects, levels and content of laboratory support; as well as acquisition and financial assistance support.

The program management team begins the annual operations planning process by using the ensuing fiscal year (slice) of the MYPP as the foundations on which to develop the AOP. The program management team reviews the program's goals, objectives, near-term milestones and activities. This helps the team to realize what activities in the upcoming year should take place. Though some milestones can be achieved through ongoing and past activities, some new projects may need to be initiated. These activities require the identification of applicable funding requirements and the timing of the funding obligations. In each case, the work performer and/ or procurement and/ or financial assistance vehicles will be identified and the cost, schedule and technical requirements specified. By reviewing the MYPP's past program's, goals, objectives and near- term milestones, a better understanding and realization of how to proceed in the future is gained.

Budget Formulation

The DOE, the Office of Management and Budget (OMB), and Congressional Budget processes require that budget requests be submitted in accordance with a schedule and in a specific format. In recent years those formats have been evolving, with the internal DOE budgets being streamlined during FY 2007 – 2008, and with streamlining of the OMB submission being tried for the first time for FY 2009. (Prior to those budgets, the internal DOE and OMB budgets were essentially complete drafts of the Congressional Budget request.) At each stage, whatever the format, the budget submission is EERE's and presents each program with an opportunity to "sell" their vision and the benefits of their activities to the next set of players in the budget cycle. Every budget is a marketing document, although once the funds are appropriated by Congress, it also becomes the basis for each program's AOP.

Budget requests flow from plans.

After the program has been fully defined by the AOP, the program secures finding through the budget development process. Funding is spent for an array of reasons: for contractors at laboratories, university and industry research, grants for weatherization and also cost-sharing and financial incentives, etc. In order to develop a budget, certain things must be assessed. Instead of merely listing activities that will be performed, the "budget and performance integration" analyzes specific performance so that one can realize how the proposed costs will achieve these objectives and outcomes.

Developing the annual budget is a three step process:

1. *Formulation of the budget request to Congress;*
2. *The Congressional Appropriations Process; and,*
3. *The agency's execution of the budget as appropriated.*

Developing an annual budget for federal agencies is a three step process: formulation of the Administration's budget request to Congress, the Congressional appropriations process, and the agency execution of the budget as appropriated. Prior to developing the first draft of the budget, the program gathers input from appropriate personnel at DOE headquarters, laboratories, and field offices, as well as from internal planning, primarily the MYPP. The program should already have much of this information from the multi-year program planning process which occurs prior to the Budget Formulation Process.

The budget formulation process is one that integrates many different facets of information and skill. Proper planning and estimation is essential for budget planning to take place. Overestimating and underestimating has proved detrimental in years past. For that reason, there is a series of steps

followed during the Budget Formulation Process. The Budget Formulation Process begins when the DOE controller issues the call for development of the CPS and guidance for its preparation.

The EERE budget is developed during a five phase process:

1. *The Field Budget Call – decisions by Laboratories, field offices, and the CFO (for crosscuts);*
2. *EERE Spring Review – planning, review, and decisions by EERE;*
3. *Corporate Program Review – review and decisions made by the CFO and the Secretary;*
4. *OMB Review – review and decisions by OMB and, if the DOE appeals, possibly by senior White House staff; and,*
5. *Congressional Budget Review – reviews by both authorization and appropriation committees, floor votes, and conference committees.*

There are five different phases in the EERE Budget Formulation process: the Field Budget Call; the EERE Spring Budget Review; the Corporate Program Review; OMB Review; and, the Congressional Budget Review. The information flows simultaneously top-down and bottom-up. Generally, there is a strategic plan which sets top-down priorities and departmental goals. EERE's strategic plans tie to departmental goals, and MYPPs tie to EERE and DOE Strategic Plans.

Each of the five phases are pertinent to the end result in the Budget Formulation process and must be treated as such. The first phase (Field Budget Call) is not a major phase for EERE; decisions made by laboratories and field offices are noted and are necessary in order to proceed. During the second phase (EERE Spring Budget Review), planning and decisions are made by EERE leadership and the EERE budget is prepped for submission to the CFO. In the third phase (Corporate Program Review), EERE forwards their budget to the Chief Financial Officer (CFO) and the Secretary for review and consideration. During the fourth phase (OMB Review), the modified budget, as critiqued by the CFO and the Secretary, is forwarded to OMB for review; decisions made by the OMB are then reviewed, and in some cases, appealed. And finally (Congressional Budget Review), the budget is reviewed by both authorization and appropriation committees, and decisions by these committees are incorporated into the budget.

EERE's FY2008 Budget may be accessed at http://www1.eere.energy.gov/ba/pba/budget_08.html

This process helps ensure that budget submissions have accurate information, especially in terms of pricing, realistic schedules and time submissions, and program and project prioritization that are in compliance with applicable laws and guidance.

Program Implementation

The program management team initiates the development of required program support funding documents.

Executing the budget and procurement activities is vital to maintaining program progress and executing the program. Procurements and interagency agreements can have significant lead times and program support funding documents (e.g. procurement requests, work authorizations, etc.) must be submitted at the earliest possible time. To accomplish the

EERE's Standard Operating Procedure AOP Guidance may be accessed at http://eere-intranet.ee.doe.gov/BA/IBMS/pdfs/annual_operating_plan_guidance.pdf

timely submittal of the program support funding documents, the program management team implements the AOP for execution of that fiscal year. Through continuous communication and prompt work, the procurement plan can take place smoothly (especially documents for interagency agreements, sole source justifications, and statements of work).

After fiscal year levels from Congress have been established, the program management team updates the MYPP, AOP (projects, milestones, Spend Plan), and procurement plans to reflect funding realities. The Program Implementation phase is initiated with the finalization and submittal of the program support funding documents. After this is sent to the PBA, the authorization, obligation, and procurement process can begin. As funds are authorized, PBA updates the Spend Plan; the program management team tracks the obligation of funds and updates the Spend Plan as funds become obligated. The current Spend Plan report can be generated in CPS – an EERE information system that monitors, tracks, and manages program operations.

Another major program management team responsibility is to ensure funding is provided to the program supporters (laboratories, contractors, etc.) in a timely fashion according to the Spend Plan. Through the submission of the appropriate funding documents to the PBA Specialist as part of the monthly Approved Funding Program process, this is accomplished.

Analysis and Evaluation

Analysis and evaluation help determine what path to take, whether the program stays on the planned path, and whether a course correction needs to be taken.

Program Managers must stay on top of things, know the status, and take timely action.

The Analysis and Evaluation phase is the process of conducting in-depth evaluations of programs and analyzing benefits to ensure things are "being done right." The program management team does this through extensive oversight and tracking of a program's efficiency by technical, schedule, and fiscal progress. Program managers analyze performance measurement data and provide results of the analyses and evaluations for use in planning and resource allocation. Analysis of performance data will assess whether goals were achieved, verification and validation of performance levels, and what external factors may have influenced performance.

For information on market, economic, and policy analysis, as well as key data and tools may be accessed at http://www1.eere.energy.gov/ba/analysis.html

The purpose of program analysis is to inform Corporate-level decision-making within EERE. The results help decision-makers understand how individual program activities contribute to EERE's goals. The use of economic models provides insights about interactions between energy

markets, the general economy, government policies, and ways that EERE technologies may influence these interactions. This information is used to assess policy options and the contributions, under different scenarios, of EERE programs toward achieving DOE goals related to energy, energy security, and the environment. Such assessments inform portfolio decisions, budget formulation, and program management.

The purpose of evaluation in EERE is to inform program-level and portfolio-level decision and planning processes, monitor performance, measure success, increase efficiency and effectiveness, and meet internal and external requirements for an objective, independent assessment. The Planning, Analysis, and Evaluation (PAE) team's role is to provide products and services to support the evaluation of programmatic elements. PAE has divided its evaluation functions into two domains: program evaluation and performance monitoring.

For information on departmental performance tracking and reporting and retrospective program evaluation methods please access http://www1.eere.energy.gov/ba/performance.html

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VII. EERE Strategic Management System

SMS is a methodology for the programs and the organization.

The SMS is EERE's executive and program management operating framework. It defines each of the four program management phases in terms of a scheduled series of products and their linkage to other products and phases (their interdependencies). This helps to properly align the program and business management activities and provides critical information at the right time for key decision-making. By adopting a clearly defined, integrated, and systematic approach for its management activities, EERE will be able to improve the effectiveness, efficiency, and quality of its programs.

Figure 5 below shows the four phases and the general closed-loop flow for one EERE program cycle.

SMS integrates the Program Management elements

- *Planning*
- *Budget Formulation*
- *Program Implementation*
- *Analysis and Evaluation*

across all programs and organizational units.

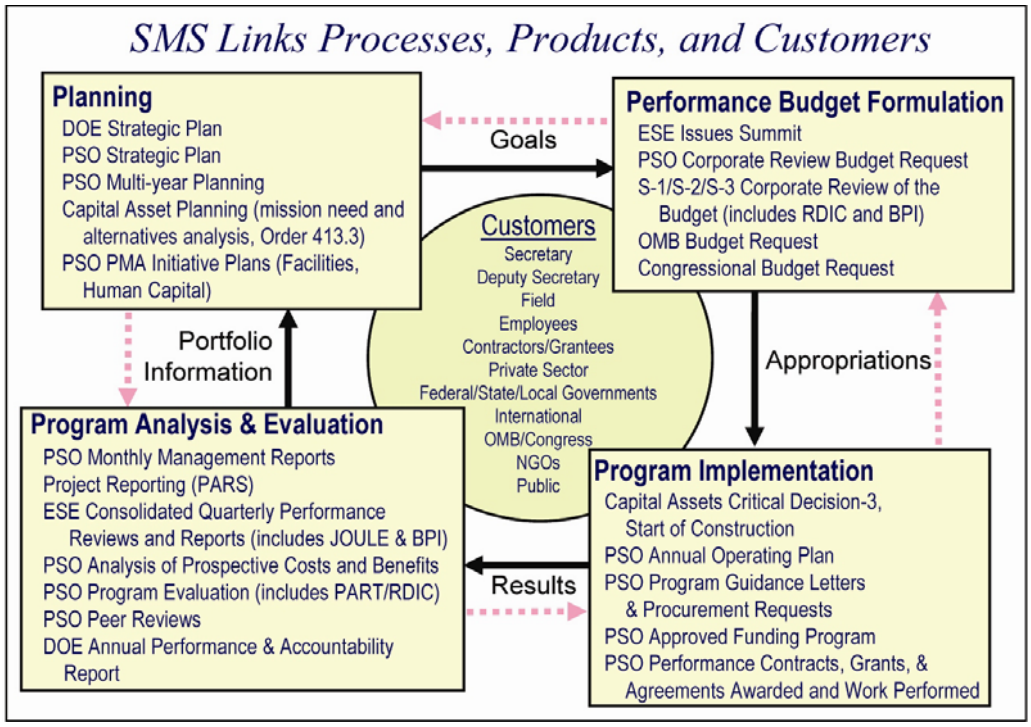

Figure 5: EERE Strategic Management System

Information on Program Planning, Budget Formulation, Program Implementation and Analysis and Evaluation are linked through SMS.

As repeated throughout this guide, the program management team needs to plan, budget, execute, and evaluate to be successful. It is also necessary that these activities are linked into a cohesive and coherent whole. That is the purpose of the SMS.

All of the SMS procedures, processes, and tools have been designed to address the interdependence of the parts as well as the parts themselves. If SMS is used properly, each of EERE's goals and objectives and each EERE

program's MYPP and AOPs will feed into the budget. The plans and budgets then will direct the implementation activities. The analysis and evaluation will focus on the desired outcomes as well as feed into the next planning cycle.

The SMS is part of the program management basic tool kit—the roadmap and calendar for planning and implementing the program.

Using the EERE SMS to Manage the Program

The SMS framework can be used to identify what to do and when to do it.

As a general rule, program management and business management activities should be planned around the SMS calendar. At any point in time, programs will be engaged in different phases of at least four consecutive fiscal years. Without a clear roadmap, that situation would be overwhelming.

Each October, Energy Science and Environment (ESE) distributes a memorandum updating the SMS calendar for the next 13 months. Periodically, the program management team should plan its calendar by setting aside blocks of time to conduct planning and program reviews to ensure they are conducted deliberately and in a timely manner. This will make everyone's life much easier and the program more effective.

All SMS graphics and information reflect the October 2005, SMS Memorandum from Under Secretary Garman which may be accessed at: http://eere-intranet.doe.gov/BA/IBMS/pdfs/SMS_garman20051014.pdf

The figures on pages 23 through 25 represent the current Fiscal Year SMS calendar for each of the four phases of SMS activity. The SMS Core Activities, Schedule, and Lead Roles are shown in the table on pages 26 and 27. The current SMS activities and events are explained in greater detail in the full EERE Program Management Guide, and are referenced in Chapters 4 (EERE Planning), 5 (EERE Budget Formulation), 6 (EERE Program Implementation), and 7 (EERE Analysis and Evaluation) respectively. Readers with access to the internet can view the EERE Program Management Guide in its entirety at http://www1.eere.energy.gov/ba/prog_mgmt_guide.html and at EERE's intranet at http://eere-intranet.ee.doe.gov/BA/IBMS/PMI.html.

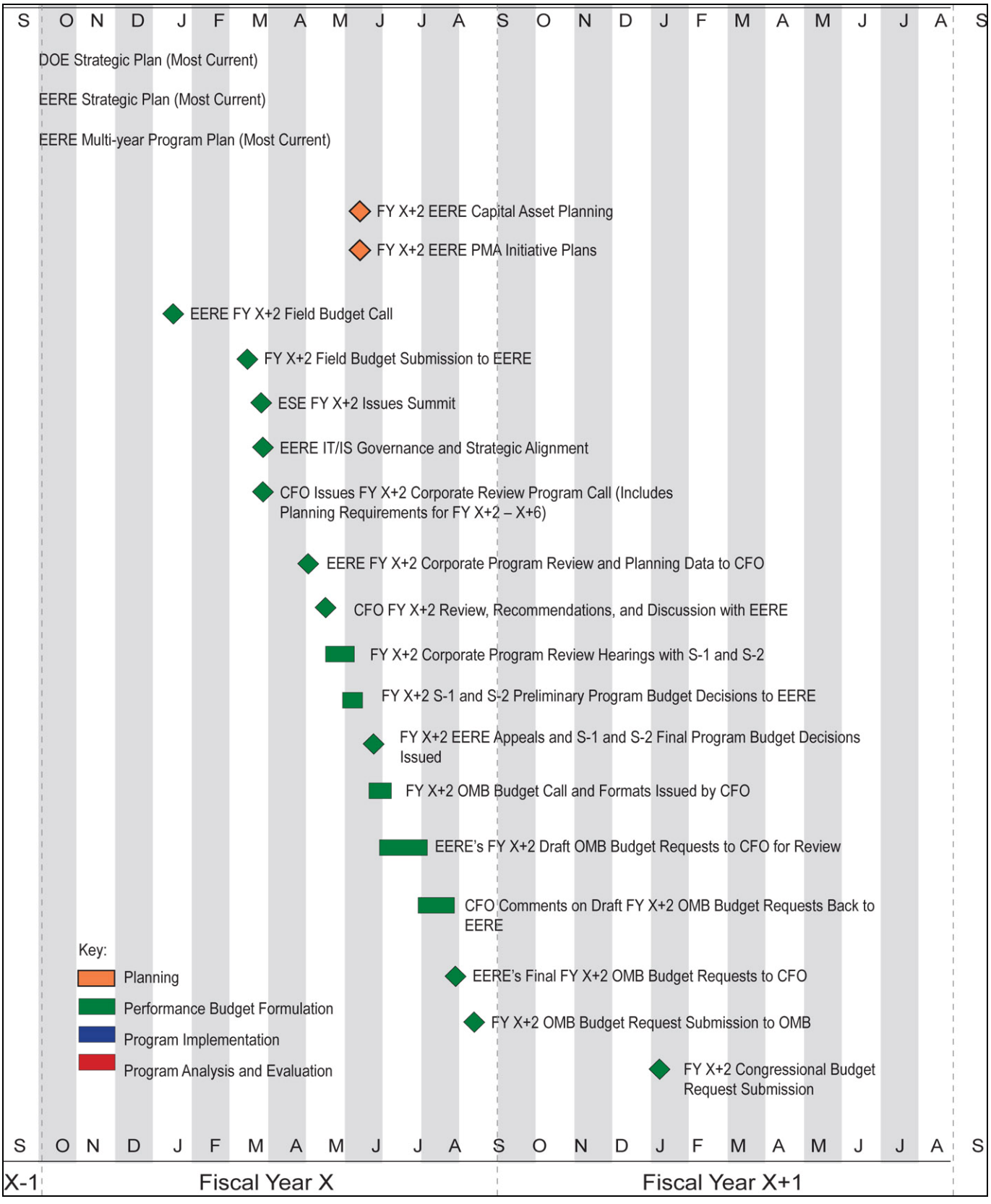

Figure 6: EERE Current Fiscal Year Planning and Performance Budget Formulation

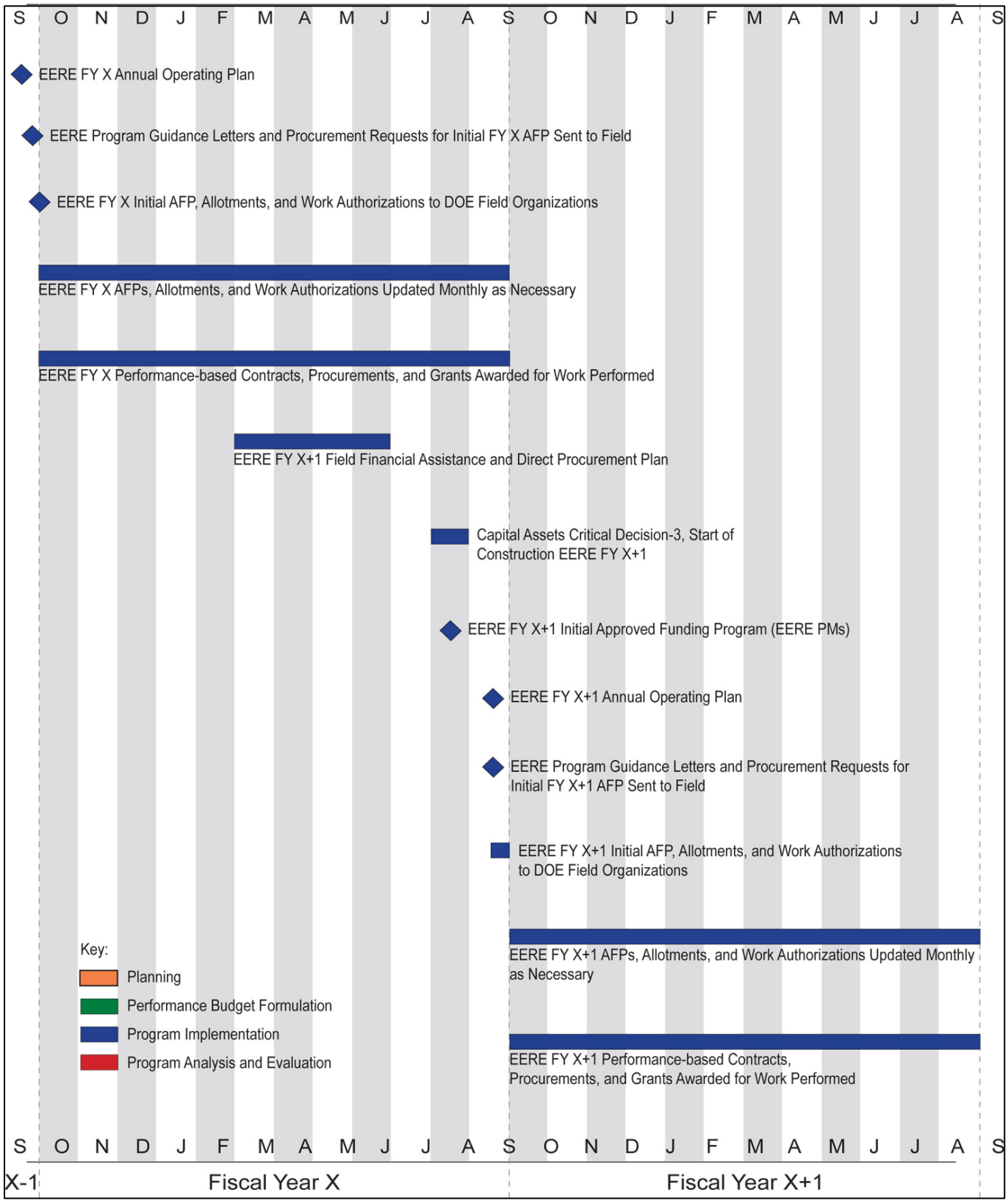

Figure 7: EERE Current Fiscal Year Program Implementation Calendars

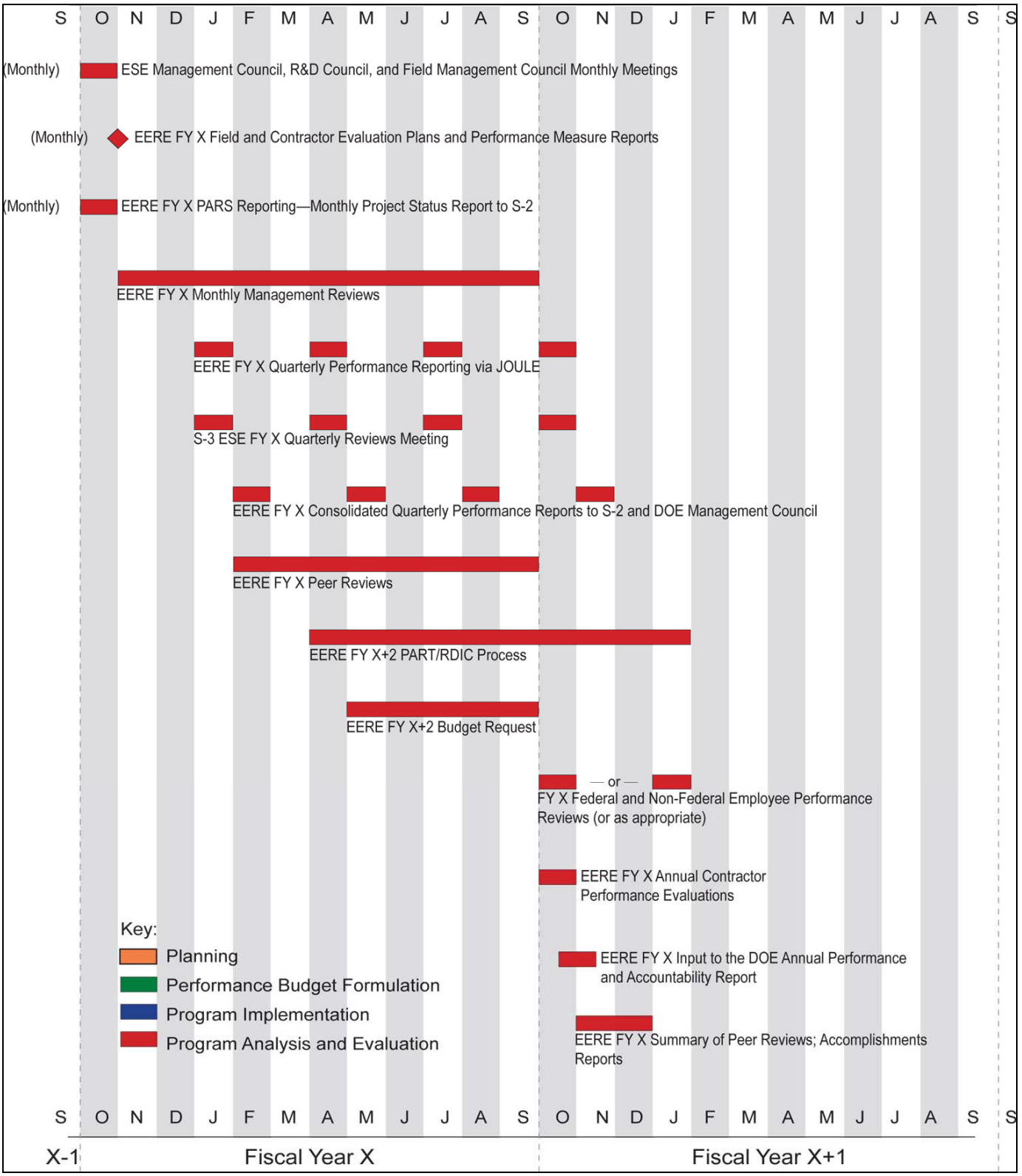

Figure 8: EERE Current Fiscal Year Analysis and Evaluation

Core Activities and Products	Target Date	Lead Role*
EERE FY 200X Annual Operating Plan (Sometimes Referred to as a Baseline Plan)	mid-Sept and after FY 200X Appropriations, 200(X-1)	PMs
EERE Program Guidance Letters and Procurement Requests for Initial FY 200X AFP Sent to Field	late Sept 200(X-1)	PMs
EERE FY 200X Initial AFP, Allotments, and Work Authorizations to DOE Field Organizations	late Sept 200(X-1) & Oct 1, 200X)	PMs, CFO
ESE Management Council, R&D Council, and Field Management Council Monthly Meetings	Oct 200X, monthly	S-3, Council Members
EERE FY 200X PARS Reporting—Monthly Project Status Report to S-2	Oct 200X, monthly	EERE
EERE FY 200X AFPs, Allotments, and Work Authorizations Updated Monthly as Necessary	Oct 1, 200X – Sept 30, 200X	PMs
EERE FY 200X Performance-based Contracts, Procurements, and Grants Awarded and Work Performed	Oct 1, 200X – Sept 30, 200X	EERE, FO, Contractors
EERE FY 200X Field and Contractor Evaluation Plans and Performance Measure Reports	Oct 31, 200X, monthly	FO, Contractors
EERE FY 200X Monthly Management Reviews	Nov 200(X-1) – Sept 200X	EERE
EERE FY 200(X+2) Field Budget Call	Jan 17, 200X	CFO
EERE FY 200X Quarterly Performance Reporting via JOULE	Jan, Apr, Jul 200X, Oct 200(X+1)	PMs
S-3 ESE FY 200X Quarterly Review Meetings	Jan, Apr, Jul 200X, Oct 200(X+1)	S-3, ASEE
EERE FY 200X Consolidated Quarterly Performance Reports to S-2 and DOE Management Council	Feb, May, Aug 200X, Nov 200(X+1)	PMs
EERE FY 200X Peer Reviews	Feb – Sept 200X	PMs
FY 200(X+2) Field Budget Submission to EERE	Mar 18, 200X	FOs
DOE Strategic Plan	Mar 200X	S-1, S-2, S-3, CFO
EERE Strategic Plan	Most Current (2002)	ASEE
EERE FY 200(X+1) Procurement Plan	Mar – Jun 200X	ASEE, PMs
ESE FY 200(X+2) Issues Summit	late Mar 200X (proposed)	S-3, ASEE
EERE IT/IS Governance and Strategic Alignment	late Mar 200X	EERE, CIO
CFO Issues FY 200(X+2) Corporate Program Review Call (Includes Planning Requirements for FY 200(X+2)–2012)	Mar 28, 200X	CFO
EERE FY 200(X+2) PART/RDIC Process	Apr 200X – Jan 200(X+1)	PMs, OMB
FY 200(X+2) OMB Budget Call and Formats Issued by CFO	early May	CFO

* ASEE Assistant Secretary for EERE
CFO DOE Office of the Chief Financial Officer
CIO DOE Office of the Chief Information Officer
EERE Office of Energy Efficiency and Renewable Energy
FO EERE Field Organizations
PM EERE Program Manager
S-1 DOE Secretary
S-2 DOE Deputy Secretary
S-3 DOE Under Secretary for Energy, Science and Environment (ESE)

Figure 9: EERE SMS Core Activities, Schedule, and Lead Roles Through Oct 200(X^1+1)

Core Activities and Products	Target Date	Lead Role*
EERE FY 200(X+2) Corporate Program Review and Planning Data to CFO	May 12, 200X	EERE
CFO FY 200(X+2) Reviews, Recommendations, and Discussions with ASEE	May 13 – Jun 5, 200X	CFO, EERE
EERE FY 200(X+2) Budget Request Benefits Analysis	May – Sept 200X	PMs
FY 200(X+2) Corporate Review Budget Hearings with S-1 and S-2	Jun 6 – 21, 200X	S-1,2,3, CFO, ASEE
FY 200(X+2) EERE Capital Asset Planning (mission need approval)	mid-Jun 200X	PMs, FO
FY 200(X+2) EERE Capital Asset Planning (baseline validation)	late Jun 200X	PMs, FO
EERE FY 200(X+2) PMA Initiative Plans (Facilities, Human Capital)	Jun 15, 200X	PMs, FO
FY 200(X+2) S-1 and S-2 Preliminary Program Budget Decisions Issued to ASEE	Jun 26, 200X	S-1, S-2
FY 200(X+2) EERE Appeals and S-1 and S-2 Final Program Budget Decisions Issued	Jun 27 – Jul 5, 200X	S-1, S-2
EERE FY 200(X+1) Capital Assets Critical Decision-3, Completion of Construction Planning Prior to Construction	Aug 200X	PMs
EERE FY 200(X+2) Draft OMB Budget Requests to CFO for Review	Jul – Early Aug 200X	EERE
EERE FY 200(X+1) Initial Approved Funding Program	Aug 12, 200X	PMs
CFO Comments on Draft FY 200(X+2) OMB Budget Requests Back to ASEE	Aug 23 – 30, 200X	CFO
EERE Final FY 200(X+2) OMB Budget Request to CFO	Sept 7, 200X	EERE
FY 200(X+2) OMB Budget Request Submission to OMB	Sept 11, 200X	CFO
EERE FY 200(X+1) Annual Operating Plan (Sometimes Referred to as a Baseline Plan)	mid-Sept & after FY 200(X+1) Appropriations, 200X	PMs
EERE Program Guidance Letters and Procurement Requests for Initial FY 200(X+1) AFP Sent to Field	mid-Sept 200X	PMs
EERE FY 200(X+1) Initial AFP, Allotments, and Work Authorizations to DOE Field Organizations	mid-Sept 200X & Oct 1, 200(X+1)	PMs, CFO
EERE FY 200(X+1) AFPs, Allotments, and Work Authorizations Updated Monthly as Necessary	Oct 1, 200(X+1) – Sept 30, 200(X+1)	PMs
EERE FY 200(X+1) Performance-based Contracts, Procurements, and Grants Awarded and Work Performed	Oct 1, 200(X+1) – Sept 30, 200(X+1)	EERE, FO, Contractors
FY 200X Federal and Non-Federal Employee Performance Reviews	Oct 200(X+1) or Jan 200(X+2)	EERE, FO, Contractors
EERE FY 200X Annual Contractor Performance Evaluations	Oct 200(X+1)	PMs, FO
EERE FY 200X Input to the DOE Annual Performance and Accountability Report	mid-Oct 200(X+1) – Nov 15, 200(X+1)	EERE, CFO
EERE FY 200X Summary of Peer Reviews; Accomplishments Reports	Nov – Dec 200X	EERE, FO
FY 200(X+2) Congressional Budget Request Submission	early EERE 200(X+1)	CFO
EERE FY 200(X+2) Multi-Year Program Plans (Includes 5-Year Funding Plan)	Mar 1, 200(X+1)	PMs

* ASEE Assistant Secretary for EERE
CFO DOE Office of the Chief Financial Officer
CIO DOE Office of the Chief Information Officer
EERE Office of Energy Efficiency and Renewable Energy
FO EERE Field Organizations
PM EERE Program Manager
S-1 DOE Secretary
S-2 DOE Deputy Secretary
S-3 DOE Under Secretary for Energy, Science and Environment (ESE)

Figure 9: EERE SMS Core Activities, Schedule, and Lead Roles Through Oct 200(X^1+1) (continued)

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VIII. EERE Information and Business Management Systems

Efficient and effective program management relies on accurate and timely data and information to support each of the major elements of the EERE SMS: planning, budget formulation, program implementation, and analysis and evaluation. This information needs to link and flow through and across SMS program management cycles to ensure consistent and timely preparation of products and effective tracking of implementation. EERE's information and business management systems continue to evolve for federal employees and contractors. EERE's information management systems cover an array of EERE-specific tasks from corporate planning and reporting to human resources to federal hiring practices. Currently, EERE operates three business systems: CPS, EIS, and WinSAGA. It is EERE's goal to consolidate the systems it operates.

EERE Corporate Planning System

CPS may be accessed at http://CPS.ee.doe.gov

The EERE CPS is a comprehensive strategic planning system developed in response to EERE's need to aggregate and report project data across program offices (see Figure 10). Prior to CPS, individual sectors and programs used their own systems to collect project information and respond to inquiries. These individual systems lacked common data definitions and software packages, and did not interface with one another. Maintaining numerous financial management systems was costly and did not provide EERE with integrated system benefits. Through a single system, EERE management has access to complete, accurate, and uniform information from which to make informed decisions and respond to inquiries from Congress or other government entities in a timely manner.

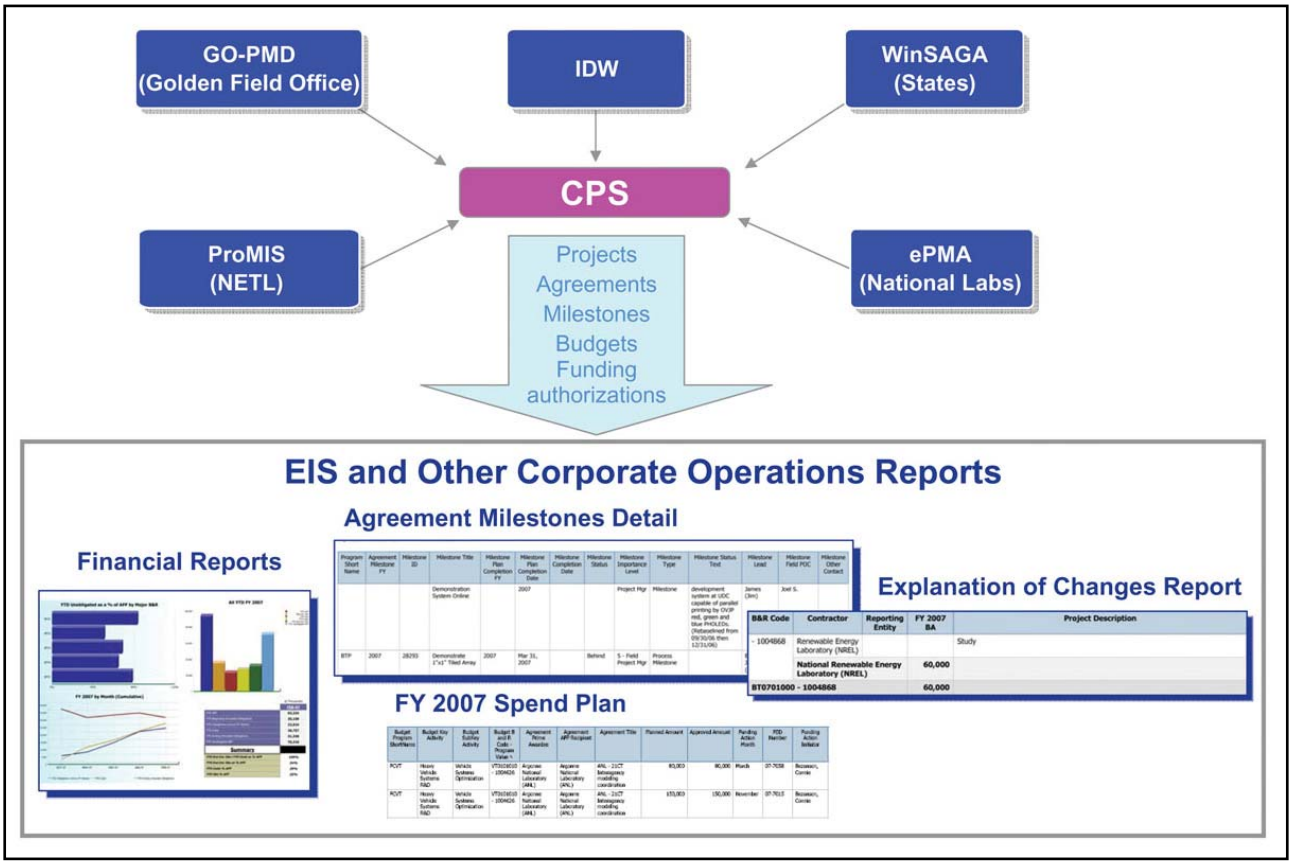

Figure 10: EERE CPS/EERE Information System Integration

The CPS is also EERE's corporate system for monitoring, tracking, and managing program operations. It is a Web-based system that contains planning, financial, and technical data to support EERE's need for uniform corporate planning, execution, and reporting. As a central repository for program and project information, it provides management with the capability to create MYPPs, AOPs, and annual Spend Plans; develop and execute program guidance, projects, and agreements; and issue standard reports on performance such as schedules, costs, and milestones.

The CPS has connectivity to three field systems: NETL's Project Management Information System (ProMIS), GO's Database Management System, and the PMC's WinSAGA. CPS also interfaces with the HQ financial system and the Office of Science's Electronic Proposal Management Application. These interfaces are integral to ensuring that CPS has accurate and up-to-date data from corporate systems of record information to support EERE's program and project management activities.

EERE Information System

The EIS may be accessed at http://ee-report.ee.doe.gov/cognos8

The EIS is EERE's primary reporting tool. The EIS brings all EERE-relevant data from various databases into a single information warehouse (called the DataMart) for ease in formatting and reporting. The EIS standardizes and integrates EERE financial, procurement, and acquisition information in a virtual warehouse where DOE-level databases have been selected and downloaded specifically for EERE use, including CPS and STARS data.

The EIS is a two-unit operation: 1) The DataMart unit is the collection point (warehouse) for all EERE-relevant information from the various EERE and DOE databases; and 2) The reporting software formats the information to meet the reporting requirements.

Generic reports, dashboards, and analysis "cubes" are created that can combine data from these two systems to provide an integrated view of the work being performed under the direction of EERE. EIS contains a broad array of standard reports and graphs for analysis, as well as providing an ad-hoc capability. Several dashboard, report, and analysis elements support "drill-through," which allows users to begin at a high level (e.g., EERE and program) and traverse summarized information to reveal its lower-level details (e.g., subprograms or program activities). Each of the systems is represented in Figure 11 below.

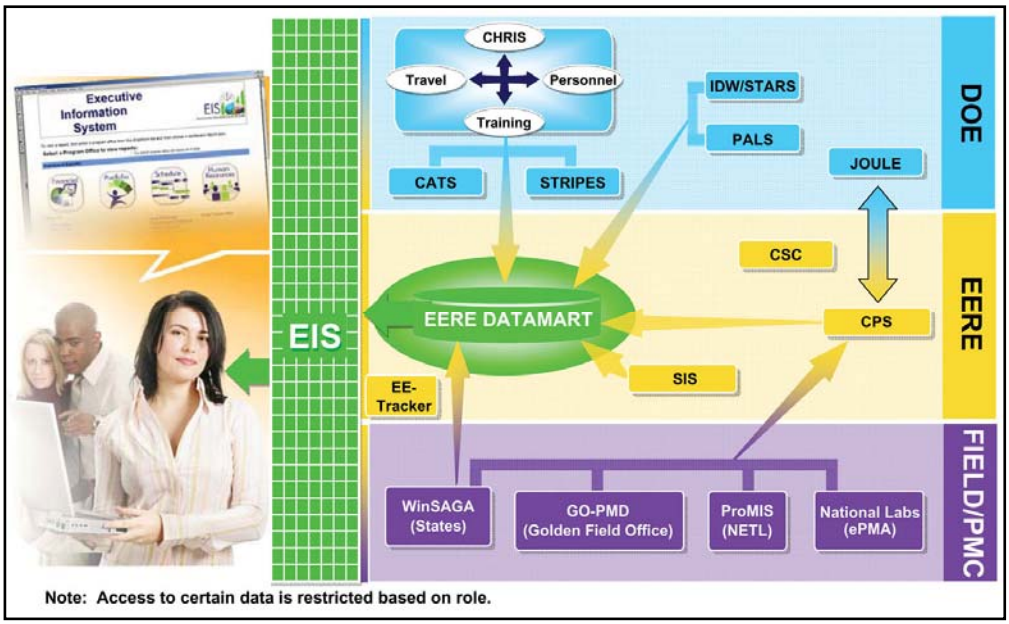

Figure 11: EIS: EERE's Central Repository and Reporting

Windows-Based Systems Approach to Grants Administration

The WinSAGA database may be accessed at https://www.eere-pmc.energy.gov/WinSAGA.aspx

The Windows-Based Systems Approach to Grants Administration (WinSAGA) is a national database of program management information that supports the administration of all EERE grants awarded by the EERE PMC, including those awarded to the states. The system has been installed in almost every state and interfaces with other DOE information and accounting systems. Compared with previous requirements, WinSAGA reduces data redundancy and paperwork.

WinSAGA collects the following data for the Weatherization Assistance Program and State Energy Program:

- State applications, including master and annual files;
- Grant applications and awards;
- Budgets;
- Payment information;
- Financial status reports;
- Quarterly program reports, including program status reports;
- Other quarterly and semiannual reports; and
- Assurances and certifications.