

FORM FOR SCORING OF TRAINING RESOURCE TO FULFILL FEDERAL BUILDING PERSONNEL TRAINING ACT (FBPTA) CORE COMPETENCIES

The FBPTA requires Federal building personnel to demonstrate compliance with a set of Core Competencies. The General Services Administration (GSA) accepts submissions for courses, certificates, certifications, accreditations, registrations, licenses, and other qualifications that demonstrate alignment with the FBPTA Core Competencies. GSA will post resources that sufficiently map to FBPTA Core Competency requirements on the FMI webpage (www.fmi.gov) and may incorporate them into the Core Competency Web Tool. The Web Tool allows Federal buildings personnel to immediately claim credit for competencies met by completing approved training. FMI and the Core Competency Web Tool help Federal employees identify appropriate training, and allow Federal agencies to share information on training sources. To qualify for consideration, submitters complete this form describing how a specific training resource, certification / accreditation, license or other resource aligns with FBPTA core competencies through AskFMI@gsa.gov.

Initial Review Conducted By: Maria Fara

Initial Review Submission Completion Date: August 30, 2013

Technical Review Conducted By: Doug Yon and Conrad Kelso

Technical Review Submission Completion Date: October 24, 2013

Alignment of Competency with Functional Roles

-  Often Aligned with Facility Management roles (24/43 Core Competencies)
-  Often Aligned with Building Operations Professional roles (6/43 Core Competencies)
-  Often Aligned with Energy Management Role (7/43 Core Competencies)
-  Often Aligned with more than one role (6/43 Core Competencies)

1. Please complete the following for each training course submitted for consideration:

Training provider: **International Facility Management Association**

Provider address information (primary physical location, including address, city, state, zip code): **800 Gessner Road, Suite 900, Houston, TX 77024 USA**

Provider's primary point of contact for this learning resource (name, primary physical location (if different from provider address information), phone, and email):

Title of this training resource: **Sustainability Facility Professional (SFP)**

Type of training course: **The SFP is an assessment-based certificate program based on the Environmental Stewardship and Sustainability competency area determined by IFMA's Global Job Task Analysis. The first two courses (focus areas) consist of a 50-question online final assessment, while the 3rd course (focus area), consists of 100 questions. Successful completion of all three final assessments qualifies candidates for the SFP credential.**

Does this course provide CEUs (Continuing Education Units) and if so, how many and for what occupation or field?

Learning objective(s) associated with this certificate program course: **SFP Focus Area 1 - Strategy and Alignment for Sustainable Facility Management**

Chapter 1: Introduction to Sustainability

After completing this chapter, students will be able to:

- Define sustainability.
- Define the Triple Bottom Line and its intersections.
- State the organizational impact of the Triple Bottom Line.
- State the importance of sustainability to the organization.
- List how sustainability impacts the facility manager.
- List the key drivers for sustainability.
- List the benefits and risks of starting a sustainability initiative.
- List IFMA's eight major categories of sustainability.

Chapter 2: Organizational Strategies

After completing this chapter, students will be able to:

- Define strategy.
- State how sustainability impacts the strategic planning model.
- Define corporate social responsibility.
- List the strategies to keep leadership engaged in and committed to a sustainability initiative.
- Define stakeholder.
- List the benefits and risks of the champion role.
- List the benefits and risks of the insurgent role.

Chapter 3: Developing a Sustainability Strategy

After completing this chapter, students will be able to:

- State how to align the FM strategy with the overall organization's strategy.
- Discuss the four phases of developing an enterprise-wide sustainability plan.
- Explain how to perform a sustainability audit.
- Discuss the process of creating a sustainability assessment.
- Describe how to create and use a sustainability checklist.
- State how and why to build a business case.

Chapter 4: Sustainability Considerations

After completing this chapter, students will be able to:

- Identify and describe the five principles an SFP should focus on regarding sustainability.
- Define carbon footprint and describe its importance as a key metric.
- State the difference between primary and secondary carbon footprints.
- Explain the use of carbon offsets.
- Describe four financial tools commonly used as the basis for decision-making with regard to sustainability initiatives.
- Discuss the challenges in increasing sustainability.

Chapter 5: Sustainability Goals and Initiatives

After completing this chapter, students will be able to:

- Describe the SFP's responsibility in promoting sustainable facility management within the organization.
- List global sustainability goals and discuss ways to incorporate these goals into daily facility operations.
- Discuss factors to be considered in determining which sustainability initiatives to pursue.
- Describe sample initiatives for each of the major sustainability categories and explain the related metrics.

Chapter 6: Communicating and Reporting on Sustainability

After completing this chapter, students will be able to:

- List the ten elements of a stronger communications strategy.
- Discuss the basic principles for communicating a sustainability strategy.
- Discuss the six principles of quality reporting.
- State the three primary questions to ask when deciding on a sustainability reporting strategy.

Learning objective(s) associated with this certificate program course: **SFP Focus Area 2 - Managing Sustainable Facilities**

Chapter 1: Sustainability Policy Development

After completing this chapter, students will be able to:

- Describe the typical elements of a sustainability policy.
- Explain the advantages of creating a topic matrix.
- Summarize the ten steps of creating a sustainability policy.
- Discuss the difference between hard and soft benefits and the techniques of using each type in a business case.

Chapter 2: Applying Sustainability to FM Plans

After completing this chapter, students will be able to:

- List the development phases of a sustainability plan.
- Describe the activities in the planning phase.
- Discuss how each aspect of the Triple Bottom Line fits into a business case.
- Explain the creative financing mechanisms available to reduce the initial cost of implementing sustainability initiatives.
- Discuss the importance and process of base lining the initiatives.
- Explain the difference between program management and project management and the role each plays in implementation.

Chapter 3: Sustainability Program Development and Implementation

After completing this chapter, students will be able to:

- Define the structure of a sustainability program.
- Discuss the process of implementing a sustainability program.
- Explain the use of a SWOT analysis.
- Discuss methods of gaining support for the sustainability program.
- Describe how to monitor a sustainability program.
- Explain the process and elements of evaluating the program.

Learning objective(s) associated with this certificate program course: **SFP Focus Area 3 - Operating Sustainable Facilities**

Chapter 1: Energy

After completing this chapter, students will be able to:

- Describe and illustrate the goals of sustainable energy use.
- Describe general approach to calculating greenhouse gas emissions.
- Describe the process of carbon trading and the role of carbon offsets and renewable energy credits.
- Distinguish between renewable and nonrenewable energy alternatives.
- Describe examples of distributed generation, including combined heat and power systems and on-site energy systems using renewable energy sources.
- Explain the purpose and process of buyback and net metering.
- Describe the organization and pricing practices of the natural gas and electric industries.
- Describe tools and strategies to help SFPs improve the sustainability of facility energy purchasing practices, including metering, load shedding and shifting, energy management systems and demand response.
- Describe the role of commissioning, energy audits, building automation systems and energy performance contracting in optimizing facility energy performance.
- Illustrate the purpose and benefits of performing a Triple Bottom Line analysis on energy initiatives.
- Provide examples of energy initiatives undertaken in facilities and their results.

Chapter 2: Water

After completing this chapter, students will be able to:

- Support the need for initiatives aimed at improving a facility's sustainable use of water resources.
- Summarize key goals in increasing the sustainability of a facility's water consumption.
- Provide examples of metrics related to an organization's water performance.
- Describe approaches to benchmarking facility water use.
- Trace the flow of water into, through, and out of a facility and describe the issues related to each part of that path.
- Describe ways to increase the efficiency of facility fixtures and fittings.
- List key elements in water-conserving landscaping.
- Discuss ways in which boiler and cooling tower operation can be improved to increase water efficiency.
- Outline a process for harvesting rainwater and list possible uses.
- Describe sources and uses for recycled graywater.
- Use the Triple Bottom Line to analyze a water conservation initiative.
- Provide examples of the types of projects facilities can undertake and their results.

Chapter 3: Materials and Resources

After completing this chapter, students will be able to:

- Describe sustainable goals for facility management of materials and resources.
- Provide examples of metrics for reporting and benchmarking.
- Explain how a facility's sustainable performance can be affected by its supply chain partners.
- Describe how a supply chain carbon footprint is calculated.
- Describe the process for calculating total cost of ownership and its usefulness to SFPs.
- Describe tools to calculate life-cycle cost analysis.
- Describe the contents and purpose of a total cost of ownership cash flow statement.
- Provide examples of other factors that may influence purchasing decisions.
- Provide examples of product sustainability labels.
- List sources to verify product sustainability claims.
- Define a green lease and describe its characteristics.
- Provide examples of the criteria that might be included in a green lease.
- Analyze the Triple Bottom Line implications of a materials and resources initiative.
- Provide examples of facility management of sustainable materials and resources.

Chapter 4: Workplace Management

After completing this chapter, students will be able to:

- Explain how workplace management improves facility sustainability from environmental, economic and social perspectives.
- Provide examples of metrics that could be used to measure facility effectiveness in workplace management.
- Describe ways in which workplaces have evolved in current facilities.
- Illustrate ways in which SFPs can use facility space more flexibly to reduce churn or the effects of churn.
- Describe tools SFPs can use to support virtual workplaces.
- Provide guidelines that affect decisions about location of facility meeting rooms, amenities and services.
- Use the Triple Bottom Line to analyze a sustainable workplace management initiative.
- Provide examples of sustainable workplace management implemented by facilities.

Chapter 5: Indoor Environmental Quality

After completing this chapter, students will be able to:

- Define the components of indoor environmental quality (IEQ) and describe how IEQ contributes to sustainable facility management.
- List possible measures of indoor environmental quality.
- List common threats to indoor air quality (IAQ).
- Describe initiatives an SFP might implement to improve a facility's IAQ.
- Describe sustainable initiatives that can increase occupants' sense of thermal, visual and acoustical comfort.
- Describe at least one strategy to increase occupants' perception of control over their environment.
- List the characteristics of sustainable cleaning products and practices.
- Distinguish between conventional pest control and integrated pest management (IPM).
- List chemicals commonly found in facilities that pose a challenge to a sustainable IEQ.
- Describe steps an SFP can follow to manage on-site hazardous materials in a more sustainable manner.

After completing this chapter, students will be able to:

- Explain how facility services can be affected by organizational commitment to sustainability.
- Provide examples of metrics used to assess the quality of various facility services.
- Describe tactics to improve the sustainability of:
 - Mail services.
 - Printing and copying.
 - Content and document management.
 - Food service.
 - Meeting services.
 - Hardscape maintenance.
 - Landscaping and property amenities.
- Apply the Triple Bottom Line to analyze a facility services initiative.
- Provide examples of successful facility service initiatives.

Chapter 7: Waste

After completing this chapter, students will be able to:

- Define different types of waste and the process of waste management.
- List levels in the waste hierarchy.
- Provide examples of metrics used for reporting the sustainability of an organization's waste management practices.
- Describe how tools such as ISO 14001 certification and the EPA WasteWise program benefit a facility.
- Describe the different ways in which waste is collected and disposed of.
- Describe strategies for reducing waste.
- Describe the criteria for a successful recycling program.
- List and describe the steps in developing, implementing and tracking a facility recycling program.
- Describe how hazardous waste is managed in a sustainable facility.
- Use the Triple Bottom Line to analyze a waste management initiative.
- Describe an example of a successful facility waste management program.

Chapter 8: Site Impact

After completing this chapter, students will be able to:

- Describe sustainable site considerations that can help SFPs minimize the impact of the facility site on its surroundings.
- Provide examples of metrics used to report performance related to managing site impact.
- Describe how site impact can be reduced in the following areas:
 - Stormwater management
 - Light pollution
 - Heat island contributions
 - Transportation use
- Use the Triple Bottom Line to analyze an initiative aimed at reducing site impact.
- Provide an example of how a sustainable facility can reduce the impact of its site.

Chapter 6: Quality of Services

Delivery method and learning methods (delivery methods may include online instruction, classroom instruction, or other means, and learning methods could include lecture, group work, essay work, quizzes, or other learning activities): **This course is available in either a self-study format or as an instructor-led classroom course. Each student receives a printed course manual (either hard copy or e-book) and access to the online portal which offers activity-based learning, flashcards, case studies, chapter quizzes, and the final assessment. Students taking the instructor-led course also have access to the PowerPoint slides used by instructors to reinforce content. Those taking the self-study format should be self-motivated and able to learn by reading the material, answering progress check questions and completing chapter quizzes, and by taking advantage of the additional material available in the portal. Students in the classroom have those components available in addition to having the benefit of instructor lectures and slides, as well as class discussions and additional learning activities.**

Length of training (in hours): **At conferences or events and by chapters, the instructor-led version of this course is one-and-a-half days in length, plus reading to be done outside the classroom. Colleges and universities which offer this course determine their own schedule, usually a few hours per week over a quarter or semester. Completion of the self-study course varies according to the individual, but commonly takes at least ten hours..**

URL link to information about the training course, content, and/or syllabus: <http://www.ifmacroredentials.org/sfp/>

2. Review the course objective(s) that have been submitted as being aligned with required FBPTA performance criteria. Review the learning methods in the course that will support that learning objective(s).

FBPTA Core Competency Area	Required FBPTA performance criteria	Based on technical review of learning objectives and skills, does this resource map to the performance criteria?	Initial Review: Are all submission requirements included?	Initial Review: Are descriptions clear and logical?	Initial Review: Are all materials referenced included with the	Technical Review: Learning Objectives Reviewed	Technical Review: Skills Reviewed	Technical Review: Are there any clarifications requested?	If clarification requested, note here	Clarification Response From Provider	Technical Review: Identify other materials submitted	Technical Review: Other Materials Reviewed	If partial, indicate reason.	If no, indicate reason.
2. Performance of Facilities O&M 2.1. Operating and Maintaining HVAC Systems	2.1.3. Demonstrate understanding of indoor air quality and how to test and adjust it.	Partial. This course received credit because the course provides general knowledge of indoor air quality. However, as the performance criteria is intended primarily for building operators, it does not provide information at the detailed level required for a building operator.	Yes	Yes	Yes	Yes	Yes	No			None	No		
	2.1.4. Demonstrate ability to analyze HVAC system performance.	No, based on the review of the learning objectives and the skills/materials covered, this course does not address the ability to analyze HVAC system performance (e.g., chillers, boilers, ventilation, pressure, temperature, amperage, voltage, air flow, water flow).	Yes	Yes	Yes	Yes	Yes	No			None	No		No, based on the review of the learning objectives and the skills/materials covered, this course does not address the ability to analyze HVAC system performance (e.g., chillers, boilers, ventilation, pressure, temperature, amperage, voltage, air flow, water flow). The course does not clearly map to the performance criteria of conducting performance tests, data collection, trends and data comparison, or report findings. Being taught about general sustainability practices and HVAC design, replacements and O&M activities falls short of actual tests and analysis of system performance.
	2.1.8. Demonstrate knowledge and ability to optimize HVAC controls.	No, based on the review of the learning objectives and the skills/materials covered, this course does not address the ability to optimize HVAC controls (e.g., calibrated energy savings, reduced ventilation where possible, hot/cold water resets, economizer control, start/stop timers, demand load shedding).	Yes	Yes	Yes	Yes	Yes	No		See Exhibit 2.1.8. SFP content is not at the technical / operator level, because different facilities in different locations will have unique equipment and operating conditions. However, since this performance criteria calls for the demonstration of knowledge and ability, and the SFP content does impart relevant knowledge, partial credit should be awarded.	None	No		No, based on the review of the learning objectives and the skills/materials covered, this course does not address the ability to optimize HVAC controls (e.g., calibrated energy savings, reduced ventilation where possible, hot/cold water resets, economizer control, start/stop timers, demand load shedding). The course does not clearly map to the performance criteria of control strategy optimization through operational sequences.
2.2. Operating and Maintaining Electrical and Mechanical Systems	2.2.1. Demonstrate knowledge and ability with Lighting Systems.	No, based on the review of the learning objectives and the skills/materials covered, this course does not address the knowledge or ability with lighting systems (e.g., troubleshoot lighting systems, adjust lighting programming, replace lamps, replace ballasts, maintain lamps and ballast inventory).	Yes	Yes	Yes	Yes	Yes	No		See Exhibit 2.2.1. SFP content is not at the technical / operator level, because different facilities in different locations will have unique equipment and operating conditions. However, since this performance criteria calls for the demonstration of knowledge and ability, and the SFP content does impart relevant knowledge, partial credit should be awarded.	None	No		No, based on the review of the learning objectives and the skills/materials covered, this course does not address the knowledge or ability with lighting systems (e.g., troubleshoot lighting systems, adjust lighting programming, replace lamps, replace ballasts, maintain lamps and ballast inventory). The course focuses on lighting efficiency and does not clearly map to the performance criteria of lighting system operations or maintenance.

2. Performance of Facilities O&M	2.5. Best Practices and Innovation	2.5.4. Demonstrate knowledge of ALL types of commissioning, and what is required in the Energy Independence and Security Act 2007 (EISA). FEMP O&M Best Practices Release 3.0 pg. 7.1 AND EISA SEC 432.	Partial. This course received credit for demonstrating knowledge and providing an overview of commissioning only.	Yes	It is not clear that the course addresses Energy Independence and Security Act 2007 (EISA). Request clarification and course content relevant to this specific performance criteria.	See Exhibit 2.5.4. EISA is not discussed because it relates only to the US, but it can be included in the online Resource Center. However, because various types of commissioning are covered, it should get partial credit for imparting knowledge.	Exhibits for response to SFP technical review.pdf	Yes	Based on the review of the learning objectives, the skills/materials covered, and the provider clarification IFMA SFP course does address commissioning but does not cover Energy Independence and Security Act 2007 (EISA)						
		2.5.5. Demonstrate knowledge of metering and sub-metering for energy and water and how they contribute to systems optimization.	Yes based on the review of the learning objectives and the skills/materials covered, the topics listed should include knowledge of metering and sub-metering for energy and water and how they contribute to systems optimization.	Yes	Yes	Yes	Yes	Yes	No			None	No		
3. Technology	3.2. Building Automation Systems (BAS)	3.2.1. Demonstrate knowledge of a Building Automation System (BAS) and Maintenance Management Systems (MMS)	Partial. This course received credit for demonstrating knowledge and providing an overview of Building Automation Systems (BAS) only.	Yes	Yes	Yes	Yes	Yes	No		See Exhibit 3.2.1. SFP content is not at the technical / operator level, because different facilities in different locations will have unique equipment and operating conditions. However, since this performance criteria calls for the demonstration of knowledge, and the SFP content does impart relevant knowledge about Building Automation Systems, partial credit should be awarded.	None	No	Based on the review of the learning objectives and the skills/materials covered, this course does address an overview of a Building Automation Systems (BAS) but does not address Maintenance Management Systems (MMS). The course does not clearly map to the performance criteria of the specifics of operating and managing a BAS or MMS.	
4. Systems and Demand Reduction	4.1. Systems and Demand Reduction	4.1.2. Demonstrate knowledge of Combined Heat and Power (CHP) Systems and distributed generation.	Yes based on the review of the learning objectives and the skills/materials covered, the topics listed should demonstrate knowledge of Combined Heat and Power (CHP) Systems and distributed generation.	Yes	Yes	Yes	Yes	Yes	No			None	No		
		4.1.3. Demonstrate knowledge of Renewable Energy Systems – Solar (Thermal and Photovoltaic), Wind, Biomass, and Hydropower.	Yes based on the review of the learning objectives and the skills/materials covered, the topics listed should demonstrate knowledge of Renewable Energy Systems.	Yes	Yes	Yes	Yes	Yes	No			None	No		
		4.1.5. Demonstrate knowledge of Building Automation Systems (BAS) and Control Systems.	Yes based on the review of the learning objectives and the skills/materials covered, the topics listed should demonstrate knowledge of Building Automation Systems (BAS) and Control Systems	Yes	Yes	Yes	Yes	Yes	No			None	No		
		4.1.7. Demonstrate knowledge of Energy Management Systems (EMS) and Energy Information Systems (EIS).	Partial. This course received credit for demonstrating knowledge and providing an overview of Energy Management Systems (EMS) only.	Yes	Yes	Yes	Yes	Yes	Yes	It is not clear that the course addresses Energy Information Systems (EIS) - energy performance monitoring, analysis, and visualization tools. Request clarification and course content relevant to this specific performance criteria.	See Exhibit 4.1.7. SFP content does not cover EIS; however it does include information on Energy Management Systems so partial credit should be awarded.	Exhibits for response to SFP technical review.pdf	Yes	Based on the review of the learning objectives, the skills/materials covered, and the provider clarification IFMA SFP course does address Energy Management Systems (EMS) but does not cover Energy Information Systems (EIS) - energy performance monitoring, analysis, and visualization tools.	
		4.2.1. Demonstrate knowledge of how to perform an Energy Savings Assessment http://www1.eere.energy.gov/femp/program/om_gresources.html	Partial. This course received credit for demonstrating knowledge of how to perform an energy savings assessment, including the role of energy audits and the utility bill analysis only.	Yes	Yes	Yes	Yes	Yes	Yes	It is not clear that the course addresses the various levels of energy audit types or utility bill analysis. Is the energy audit performance methodology addressed? Is a full range of energy audit techniques covered along with evaluation options? Request clarification and course content relevant to this specific performance criteria.	See Exhibit 4.2.1 regarding utility bill analysis. Course does not cover energy audit types in depth.	Exhibits for response to SFP technical review.pdf	Yes	Based on the review of the learning objectives, the skills/materials covered, and the provider clarification IFMA SFP course does not cover the three types of Energy Audits.	

4.5. Planning, P	4.5.9. Demonstrate knowledge and ability to monitor facility energy projects.	Yes based on the review of the learning objectives and the skills/materials covered, the topics listed should include the knowledge and ability to monitor facility energy projects.	Yes	Yes	Yes	Yes	Yes	No			None	No		
	4.5.11. Demonstrate knowledge and ability to manage an energy awareness program and establish/support an awards program recognizing energy efficiency efforts.	Yes based on the review of the learning objectives and the skills/materials covered, the topics listed should include the knowledge and ability to manage an energy awareness program and establish and support an awards program recognizing energy efficiency efforts.	Yes	Yes	Yes	Yes	Yes	No			None	No		
	4.5.12. Demonstrate knowledge and ability to develop and distribute energy articles, newsletters, notices, posters, and signs.	Yes based on the review of the learning objectives and the skills/materials covered, the topics listed should include the knowledge and ability to develop and distribute energy articles, newsletters, notices, posters, and signs.	Yes	Yes	Yes	Yes	Yes	No			None	No		
	4.5.13. Demonstrate knowledge and ability to coordinate Energy Awareness Week/Month.	Yes based on the review of the learning objectives and the skills/materials covered, the topics listed should include the knowledge and ability to coordinate Energy Awareness Week and Month.	Yes	Yes	Yes	Yes	Yes	No			None	No		
5. Safety	5.2. Infrastructure	5.2.1. Demonstrate knowledge of control systems for: mold, asbestos, Histoplasmosis, and PCB in transformers.	No, based on the review of the learning objectives and the skills/materials covered, this course does not address knowledge of control systems for: mold, asbestos, Histoplasmosis, and PCB in transformers.	Yes	Yes	Yes	Yes	Yes	Yes	It is not clear that the course addresses fungi, asbestos, or PCBs. Request clarification and course content relevant to this specific performance criteria.	Please see Exhibit 5.2.1. Although PCBs are not addressed, material covers other components of indoor environmental quality.	Exhibits for response to SFP technical review.pdf	Yes	Although the course covers the overall knowledge of the potential for mold, asbestos, and other IEQ issues, it does not address control systems for these items. The intent of the performance criteria is to be able to inspect, prevent, document, and provide temporary measures to control risk until remediation is conducted.
		5.2.2. Demonstrate knowledge of proper water treatment to prevent Legionnaire's Disease.	Non based on the review of the learning objectives and the skills/materials covered, this course does not address the knowledge of proper water treatment to prevent Legionnaire's Disease.	Yes	Yes	Yes	Yes	Yes	No			None	No	No, based on the review of the learning objectives and the skills/materials covered, this course does not address the knowledge of proper water treatment to prevent Legionnaire's Disease.
		5.2.3. Demonstrate knowledge of ventilation systems and prevention of contaminant introduction and cross contamination.	Yes based on the review of the learning objectives and the skills/materials covered, the topics listed should demonstrate knowledge of ventilation systems and prevention of contaminant introduction and cross contamination.	Yes	Yes	Yes	Yes	Yes	No			None	No	
	5.3. Contractor Program Oversight	5.3.4. Demonstrate knowledge of proper disposal of hazardous, toxic, and biologic materials.	Yes based on the review of the learning objectives and the skills/materials covered, the topics listed should demonstrate knowledge of proper disposal of hazardous, toxic, and biologic materials.	Yes	Yes	Yes	Yes	Yes	Yes	It is not clear that the course addresses contract management knowledge of the proper disposal practices for hazardous, toxic, and biologic materials. Request clarification and course content relevant to this specific performance criteria.	The course covers the disposal of hazardous, toxic and biologic materials but does not cover management of contracts for that service.	Exhibits for response to SFP technical review.pdf	Yes	

5.4. Occupant Interface	5.4.2.Demonstrate knowledge of and ability to manage proper storage of hazardous, toxic, and biologic materials.	Yes based on the review of the learning objectives and the skills/materials covered, the topics listed should demonstrate knowledge of and ability to manage interfacing with occupants regarding proper storage of hazardous, toxic, and biologic materials.	Yes	Yes	Yes	Yes	Yes	No			None	No		
	5.4.3.Demonstrate knowledge of and ability to manage proper disposal of hazardous (such as kitchen grease) and biologic materials (medical or research).	Yes based on the review of the learning objectives and the skills/materials covered, the topics listed should demonstrate knowledge of and ability to manage interfacing with occupants regarding proper disposal of hazardous (e.g., kitchen grease) and biologic materials (e.g., medical or research).	Yes	Yes	Yes	Yes	Yes	No			None	No		
	5.4.5.Demonstrate knowledge of and ability to manage adequate ventilation of work spaces, adequate exhaust and makeup air, no short circuit designs.	Yes based on the review of the learning objectives and the skills/materials covered, the topics listed should demonstrate knowledge of and ability to manage adequate ventilation of work spaces, adequate exhaust and makeup air, no short circuit designs.	Yes	Yes	Yes	Yes	Yes	No	It is not clear that the course addresses knowledge of and ability to interact with occupants for managing adequate ventilation of work spaces and adequate exhaust and makeup air. Request clarification and course content relevant to this specific performance criteria.	Please see Exhibit 5.4.5. The course does not cover the ability to interact with occupants specifically on the subject of adequate ventilation of work spaces. However, interaction with occupants is discussed in various places throughout the program.	Exhibits for response to SFP technical review.pdf	Yes		
6. Design	6.1. Planning	6.1.5.Demonstrate knowledge of certification systems used by the Federal Government and industry (e.g., Leadership Energy Environmental Design (LEED), Green Globes).	Yes based on the review of the learning objectives and the skills/materials covered, the topics listed should include the knowledge of certification systems used by the Federal Government and industry (e.g., Leadership Energy Environmental Design (LEED), Green Globes).	Yes	Yes	Yes	Yes	Yes	No		None	No		
7. Sustainability	7.1. Background	7.1.1."Sustainability" broadly defined as framed by High Performance Buildings in EISA 07.	Yes based on the review of the learning objectives and the skills/materials covered, the topics listed should include the definition of Sustainability and ideals of the Triple Bottom Line	Yes	Yes	Yes	Yes	Yes	No		None	No		
		7.3.1.Demonstrate knowledge and ability to develop and/or coordinate sustainability-related programs at the building-level.	Yes based on the review of the learning objectives and the skills/materials covered, the topics listed should include the knowledge and ability to develop and coordinate: o A recycling program o A HAZMAT reduction program o A green purchasing program o Alternative transportation and workplace strategies o Sustainability audit and inspection programs o Universal Waste Audit o Water Audit o Energy Audit	Yes	Yes	Yes	Yes	Yes	No		None	No		
	7.3. Implementation	7.3.2.Demonstrate knowledge of how the above comes together in the Sustainability Section of the Facility Master Plan.	Yes based on the review of the learning objectives and the skills/materials covered, the topics listed should include knowledge of how the above comes together in the Sustainability Section of the Facility Master Plan.	Yes	Yes	Yes	Yes	Yes	No		None	No		

8. Water Efficiency	8.1. Regulations, Goals and Best Practices	8.1.1. Demonstrate knowledge of water efficiency principles that are applicable in both the public and private arenas.	Yes based on the review of the learning objectives and the skills/materials covered, the topics listed should demonstrate knowledge and ability to develop and coordinate the noted sustainability related activities.	Yes	Yes	Yes	Yes	Yes	No			None	No		
		8.1.5. Demonstrate knowledge of how the following affect water use and efficiency and ability to make recommendations based on lifecycle analysis and best practices to facilities team:	Yes based on the review of the learning objectives and the skills/materials covered, the topics listed should demonstrate knowledge of how the following affect water use and efficiency; ability to make recommendations based on lifecycle analysis and best practices to facilities team: <ul style="list-style-type: none"> o Distribution System Audits, leak detection and repair o Water-efficient landscaping with focus on Xeriscaping (landscaping method that employs drought-resistant plants in an effort to conserve resources, especially water) o Toilets and Urinals o Showerhead and Faucets o Boilers and Steam Systems o Single-pass Cooling Equipment o Cooling Tower Management o Any miscellaneous high water-using processes o Water Reuse and Recycling 	Yes	It is not clear that the course demonstrates knowledge of how the noted items affect water use and efficiency; ability to make recommendations based on lifecycle analysis and best practices to facilities team. Identify those items that are specifically addressed in the learning objectives and skills taught. Request clarification and course content relevant to this specific performance criteria.	Please see Exhibits 8.1.5. Ability to make recommendations based on lifecycle analysis [See SA, page 79-85] and best practices to facilities team: <ul style="list-style-type: none"> o Distribution System Audits, leak detection and repair [See OSF page 91, bottom bullet] o Water-efficient landscaping with focus on Xeriscaping (landscaping method that employs drought-resistant plants in an effort to conserve resources, especially water) [see OSF page 92-93] o Toilets and Urinals [See Increasing efficiency of fixtures and appliances, OSF, page 91-92] o Showerhead and Faucets [See Increasing efficiency of fixtures and appliances, OSF, page 91-92] o Boilers and Steam Systems [See Improving boiler operation, OSF, page 93-94] o Single-pass Cooling Equipment [Defined on OSF, page 90, bullet 3] o Cooling Tower Management [See Improving cooling tower water use, OSF, page 94-96] o Any miscellaneous high water-using processes o Water Reuse and Recycling [See Reusing and recycling water resources, OSF, page 96-99] 	Exhibits for response to SFP technical review.pdf	Yes							

10. Business, Budget and Contracting	10.1. Total Cost of Ownership (TCO)	10.1.2. Demonstrate knowledge that the TCO is best determined through Life-Cycle Cost Analysis (LCCA) for facilities. Take course - http://www.wbdg.org/education/lifecyclecosting.php	Yes based on the review of the learning objectives and the skills/materials covered, the topics listed should demonstrate knowledge that the TCO is best determined through Life-Cycle Cost Analysis (LCCA) for facilities.	Yes	Yes	Yes	Yes	Yes	No			None	No			
		10.1.3. Demonstrate knowledge of how to find and calculate the basic costs required for an LCCA. Take course - http://www.wbdg.org/education/lifecyclecosting.php	Yes based on the review of the learning objectives and the skills/materials covered, the topics listed should demonstrate how to find and calculate the basic costs required for an LCCA.	Yes	Yes	Yes	Yes	Yes	Yes	Yes			None	No		
		10.1.4. Demonstrate knowledge of additional methods for calculating TCO and other economic analyses. Take course - http://www.wbdg.org/education/lifecyclecosting.php	Yes based on the review of the learning objectives and the skills/materials covered, the topics listed should demonstrate knowledge of additional methods for calculating TCO and other economic analyses	Yes	Yes	Yes	Yes	Yes	Yes	Yes			None	No		
		10.3. Contracting	10.3.2. Demonstrate knowledge of rules and requirements for purchasing products and services.	Yes based on the review of the learning objectives and the skills/materials covered, the topics listed should demonstrate knowledge of rules and requirements for purchasing products and services.	Yes	Yes	Yes	Yes	Yes	No			None	No		

11.3. Innovation	11.3.2. Demonstrate knowledge and ability to assess risks and opportunities.	Yes based on the review of the learning objectives and the skills/materials covered, the topics listed should include knowledge and ability to assess risks and opportunities.	Yes	Yes	Yes	Yes	Yes	No				None	No		
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11. Leadership and Innovation	11.4. Enterprise Knowledge and Strategic Decision Making	11.4.3.Demonstrate knowledge and ability to drive a "Change Management" process - a structured approach to shifting/transitioning individuals, teams, and organizations from a current state to a desired future state.	Yes based on the review of the learning objectives and the skills/materials covered, the topics listed should include knowledge and ability to drive a "Change Management" process - a structured approach to shifting/transitioning individuals, teams, and organizations from a current state to a desired future state.	Yes	Yes	Yes	Yes	Yes	No			None	No		
		11.4.6.Demonstrate ability to provide decision makers with better information about the total long-term costs and consequences of a particular course of action.	Yes based on the review of the learning objectives and the skills/materials covered, the topics listed should include ability to provide decision makers with better information about the total long-term costs and consequences of a particular course of action.	Yes	Yes	Yes	Yes	Yes	No			None	No		
		11.4.7.Demonstrate ability to participate in the organization's strategic planning at the executive level in order to translate between the organization's missions and its facilities portfolio and clearly communicate how real estate and facilities can support these missions.	Yes based on the review of the learning objectives and the skills/materials covered, the topics listed should include ability to participate in the organization's strategic planning at the executive level in order to translate between the organization's missions and its facilities portfolio and clearly communicate how real estate and facilities can support these missions.	Yes	Yes	Yes	Yes	Yes	No			None	No		
12. Performance Measures	12.3. Establishment and Implementation	12.3.1.Demonstrate knowledge of Performance Measurement concepts (ex. SMART – Specific, Measureable, Actionable, Time-bound) REVIEW - http://www.wbdg.org/resources/measperfsubstbldgs.php	Yes based on the review of the learning objectives and the skills/materials covered, the topics listed should include knowledge of Performance Measurement concepts (ex. SMART – Specific, Measureable, Actionable, Time-bound)	Yes	Yes	Yes	Yes	Yes	No			None	No		
		12.3.2.Demonstrate ability to use measures to inform decision-making and resource allocation.	Yes based on the review of the learning objectives and the skills/materials covered, the topics listed should include demonstration of the ability to use measures to inform decision-making and resource allocation.	Yes	Yes	Yes	Yes	Yes	No	Request clarification. It's not clear the learning objective and the skill/material provided address: demonstrate ability to use measures to inform decision-making and resource allocation. Request clarification and course content relevant to this specific performance criteria.	Please see Exhibit 12.3.2, which covers the project selection and decision-making process.	Exhibits for response to SFP technical review.pdf	Yes		
		12.3.4.Demonstrate ability to establish baselines from which progress toward attainment of goals can be measured.	Yes based on the review of the learning objectives and the skills/materials covered, the topics listed should include the ability to establish baselines from which progress toward attainment of goals can be measured.	Yes	Yes	Yes	Yes	Yes	No			None	No		