

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: Angela Lewis

Technical Review Submission Completion Date: January 3, 2014

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: BOMI International

Provider address information (primary physical location, including address, city, state, zip code): One Park Place Suite 475, Annapolis, MD 21401

Provider's primary point of contact for this learning resource (name, primary physical location (if different from provider address information), phone, and email): Ron Bishop, (410) 974-1410 x1259, rbishop@bomi.org

Title of this training resource: Refrigeration Systems and Accessories

Type of training course: Property and Facilities Management

Does this course provide CEUs (Continuing Education Units) and if so, how many and for what occupation or field? Yes, 24 CE hours towards LEED Credential Maintenance Program, plus 2 ACE semester hours.

Learning objective(s) associated with this certificate program course: Demonstrate a working knowledge of refrigeration systems and describe how they can be integrated into an existing building, Recognize, set up, and maintain a reliable and effective refrigeration system, Troubleshoot refrigeration systems and accessories, and perform general maintenance, Understand the computer technology used to operate refrigeration systems.

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): Instructor Led Online, Self-Study, Live Classroom/Accelerated Review. Learning Methods, lecture, group work, quizzes, practice exam, 3rd Party proctored final exam.

Length of training (in hours): 24 Hours

URL link to information about the training course, content, and/or syllabus: <http://www.bomi.org/Courses/Refrigeration-Systems-and-Accessories/>

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	FBPTA Core Competency	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 submission?	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	
1. Management of Facilities O&M	1.1. Management of Building Systems	1.1.1. Demonstrate familiarity with Building Systems.	Partial. Based on the scope of this course, partial credit is awarded for demonstration of knowledge of refrigeration systems. The course does not cover other building systems, such as electrical systems, structural and roofing systems.	Yes	Yes	Yes	Yes	Yes	No	N/A				
		1.1.6. Demonstrate ability to monitor and evaluate how well building systems perform.	Partial. Based on the scope of this course, partial credit is awarded for demonstration of the ability to monitor and evaluate how well refrigeration systems perform. The course does not cover other building systems, such as electrical systems, structural and roofing systems.	Yes	Yes	Yes	Yes	Yes	No	N/A				
		1.1.7. Demonstrate ability to manage corrective, preventive and predictive maintenance.	Partial. Based on the scope of this course, partial credit is awarded for demonstration of the ability to manage corrective and preventive maintenance for refrigeration systems.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Request clarification. Although the information provided about the learning objectives and skills/materials covered provide details about various maintenance activities, it is not clear that the course describes the maintenance activities in the context of the specific maintenance strategies listed: corrective, preventive and predictive. Please specifically state how the course addresses the three maintenance strategies. If the course discusses maintenance activities within the context of these maintenance strategies for refrigeration systems partial credit may be awarded.	For corrective and preventive maintenance, checklists are provided for specific components of the refrigeration system. Preventive and ongoing maintenance in BOMI courses includes maintaining operations logs, reviewing logs and performance data, and other steps characteristic of predictive maintenance.		

2. Performance of Facilities O&M	2.1. Operating and Maintaining HVAC Systems	2.1.1. Demonstrate ability to collect Operating Data on system.	Partial. Based on the scope of this course, partial credit is awarded for demonstration of the ability to collect operating data for refrigeration systems.	Yes	Yes	Yes	Yes	Yes	Yes	Request clarification. It is clear that the course provides learners the opportunity to gain the ability to read refrigeration system data. However, it is not clear if the course includes information about logging the information or reporting inconsistencies. If the course includes these two topics partial credit may be awarded for refrigeration systems.	Maintaining operating logs, reviewing logs, and identifying and addressing inconsistencies are addressed as key to operating refrigeration systems throughout the course.		
		2.2.6. Demonstrate knowledge and ability to all drains and backflow preventers.	Partial. Based on the scope of this course, partial credit is awarded for knowledge of the maintenance of refrigeration system drains.	Yes	Yes	Yes	Yes	Yes	Yes	Request clarification. It is clear that the course provides learners with the opportunity to gain knowledge about backflow preventers. However, it is unclear if information about drains is included. It is also not clear if the course provides learners with the ability to maintain drains or backflow preventers. Please describe how the course provides learners with the opportunity to gain the ability to maintain backflow preventers and drains. The learning methods provided state that simulation and other resources are used. Is simulation used to demonstrate ability? If so, please provide more information or course material.	Maintenance of backflow preventers is better addressed in the course Air Handling, Water Treatment, and Plumbing Systems. Proper maintenance of drains related to refrigeration systems is included in the troubleshooting chapter of this course		
	2.2.7. Demonstrate knowledge and ability to maintain pressure-reducing valves.	No, based on review of the learning objectives and skills/materials covered, this course does not provide the learner an opportunity to gain knowledge or the ability to maintain pressure reducing valves. The course does not map to performance criteria 2.2.7.	Yes	Yes	Yes	Yes	Yes	Yes	Request clarification. The information provided is for performance criteria 2.2.7 is about pressure relief devices for refrigeration systems. However, the performance criteria specifically requests information about pressure reducing valves that are part of plumbing systems.	PRVs are better addressed in the BOMI courses Air Handling, Water Treatment, and Plumbing Systems; and Boilers, Heating Systems, and Applied Mathematics.			
2. Performance of Facilities O&M	2.5. Best Practices and Innovation	2.5.7. Demonstrate knowledge of advanced troubleshooting techniques on a systems-wide basis.	Partial. Based on the scope of this course, partial credit is awarded for demonstration of knowledge and ability of advanced troubleshooting techniques for refrigeration systems.	Yes	Yes	Yes	Yes	Yes	No				
3. Technology	3.1. Technology Solutions	3.1.9. Demonstrate ability to manage corrective, preventive, and predictive maintenance.	No, based on review of the learning objectives and skills/materials covered, this course does not demonstrate the ability to manage corrective, preventive or predictive maintenance. Although the course includes refrigeration systems maintenance practice, the course does not discuss maintenance within the context of the three strategies requested: corrective, preventive and predictive and does not relate to technology solutions.	Yes	Yes	Yes	Yes	Yes	Yes	Request clarification. Although it is clear that the course provides information about troubleshooting and maintenance requirements of refrigeration systems, it is not clear if the maintenance requirements are discussed within the context of corrective, preventive and predictive maintenance.	For corrective and preventive maintenance, checklists are provided for specific components of the refrigeration system. Preventive and ongoing maintenance in BOMI courses includes maintaining operations logs, reviewing logs and performance data, and other steps characteristic of predictive maintenance.		
3. Technology	3.2. Building Automation Systems (BAS)	3.2.3. Demonstrate ability to conduct trouble-shooting procedures at the equipment, system, and building levels.	Partial. Based on the scope and content within this course, partial credit is awarded. The course includes information about trouble-shooting procedures of refrigeration systems, but does not provide learners the opportunity to demonstrate troubleshooting abilities.	Yes	Yes	Yes	Yes	Yes	Yes	Request clarification. From review of the learning objectives and skills/materials covered, as well as the scope of the course, it is clear that the course includes information about troubleshooting refrigeration systems at the equipment and systems level. However, it is not clear that the course provides learners with the opportunity to gain the ability to gain skills to conduct troubleshooting at any of the three levels: equipment, system or building. The learning methods provided state that simulation and other resources are used. Is simulation used to demonstrate ability? If so, please provide more information or course material.	Troubleshooting procedures and checklists are provided. Regarding course delivery, integrating simulations is done at the discretion of the instructor and the client.		
4. Energy Management	4.1. Systems and Demand Reduction	4.1.1. Demonstrate knowledge of building systems and how they affect energy use	Partial. Based on the scope of this course, partial credit is awarded for knowledge of how refrigeration systems affect energy use.	Yes	Yes	Yes	Yes	Yes	Yes	Request clarification. It is clear that the course includes information about HVAC systems. However, it is not clear that HVAC systems are discussed within the context of how they use energy. From the scope of this course, it is understood that the course does not cover electrical systems, motors and drives, lighting, building envelope or fuel systems. Therefore the partial credit is the most that can be awarded for this performance criteria.	LO 4.1--Explain the differences among various evaporators and condensers. • High-efficiency compared to standard-efficiency condensers • Standards used to compare refrigeration system efficiency: coefficient of performance, energy efficiency ratio, seasonal energy efficiency ratio • Increasing condenser surface area directly impacts efficiency		
5. Safety	5.2. Infrastructure	5.2.2. Demonstrate knowledge of proper water treatment to prevent Legionnaire's Disease.	Yes, based on review of the learning objectives and skills/materials covered, the course should provide learners with knowledge of proper water treatment to prevent Legionnaire's disease.										
6. Design	6.2. Infrastructure Systems	6.2.1. Demonstrate knowledge and understanding of the design basis of all applicable Architectural and Engineering Systems.	Partial. It is clear that the course includes information about HVAC systems. From the scope of the course, it is understood that it does not include information about roofing systems, building envelope systems, window systems, electrical systems, telecommunication systems, lighting systems, fire protection systems, BAS, IT systems, interior design, landscape architecture, plumbing systems, occupant needs and requirements or resource flows.	Yes	Yes	Yes	Yes	Yes	No				