

Job Task Analysis and Competency Review

for All Level Competencies

Fire Protection Engineering FAQs

Initially conducted (expert competencies): August 2010

Updated (includes ALL Competencies): April 2011

Updated (includes ALL Competencies): October 2012

STEP 1: Job Task Analysis for Tasks

Task (and Number)	Source	Importance	Frequency
Serve as the subject matter expert in the area of fire protection, life safety, and fire department emergency related services.	FAQS Duties and Responsibilities Paragraph A	5	4
Review fire hazard analyses, assessments, and other fire safety documentation for compliance with applicable requirements.	FAQS Duties and Responsibilities Paragraph B	5	3
Evaluate the adequacy of site emergency services. This includes all facets of the fire department, brigade, and/or ambulance service that will respond to emergencies on site.	FAQS Duties and Responsibilities Paragraph C	5	3
Review the adequacy of contractor fire protection programs to ensure compliance with applicable codes, regulations, Departmental Orders, standards, guides, and accepted "Improved Risk" practices.	FAQS Duties and Responsibilities Paragraph D	5	3
Participate in site fire investigations and other accident/incident investigations as required.	FAQS Duties and Responsibilities Paragraph E	3	1
Interpret fire protection and fire department/brigade emergency services directives and make recommendations to Department management, facility representatives, contractor management, and line organizations.	FAQS Duties and Responsibilities Paragraph F	5	4
Represent the site and/or the Department at fire protection meetings, professional conferences, and technical standards committees.	FAQS Duties and Responsibilities Paragraph G	3	1

Provide oversight of the site fire protection, life safety, and fire department/brigade emergency services programs and their implementation.	FAQS Duties and Responsibilities Paragraph H	5	4
Evaluate the adequacy of facility design and occupancy in accordance with applicable fire protection criteria and recommend changes as applicable.	FAQS Duties and Responsibilities Paragraph I	4	2-3
Review and evaluate requests for fire safety exemptions and equivalencies.	FAQS Duties and Responsibilities Paragraph J	5	3-4
Participate in the development of fire safety-related contract requests, the annual budget, and planning for future fire safety and fire department/brigade emergency services activities.	FAQS Duties and Responsibilities Paragraph K	4	2-3
Maintain proficiency in fire protection engineering and fire department/brigade emergency services concepts and practices through practice, education, training, and a periodic review of fire protection codes and standards which apply to DOE and its contractors.	FAQS Duties and Responsibilities Paragraph L	5	4
Participate in special assignments and perform assessments related to fire protection.	FAQS Duties and Responsibilities Paragraph M	4	2
If qualified in the safety system oversight program, conduct periodic evaluations of fire protection safety-related equipment defined in DOE facility safety basis documentation.	FAQS Duties and Responsibilities Paragraph N	4	2-3

Importance Scale	Frequency
How important is this task to the job?	How often is the task performed?
0 = Not Performed	0 = Not Performed
1 = Not Important	1 = Every few months to yearly
2 = Somewhat Important	2 = Every few weeks to monthly
3 = Important	3 = Every few days to weekly
4 = Very Important	4 = Every few hours to daily
5 = Extremely Important	5 = Hourly to many times each hour

Step2: Job Analysis Worksheet for Competencies

Competency	Source	Importance	Need at Entry
<p>Fire protection engineers shall demonstrate an expert level of knowledge of the fire protection related aspects of the following directives or their successor documents:</p> <ul style="list-style-type: none"> • DOE Order (O) 151.1C, <i>Comprehensive Emergency Management System</i> • DOE Guide (G) 151-1.1A, <i>Management Fundamentals and the Operational Emergency Base</i> • DOE O 420.1B, <i>Facility Safety</i> • DOE O 440.1B, <i>Worker Protection Program for DOE (Including the National Nuclear Security Administration) Federal Employees</i> • DOE G 420.1-3, <i>Implementation Guide for DOE Fire Protection and Emergency Services Programs for Use with DOE O 420.1B, Facility Safety</i> • DOE-STD-1066-99, <i>Fire Protection Design Criteria</i> • DOE-STD-1088-95, <i>Fire Protection for Relocatable Structures</i> • 10 CFR Part 851, <i>Worker Safety and Health Program</i> • DOE-HDBK-1081-94, <i>Primer on Spontaneous Heating and Pyrophoricity</i> • DOE-HDBK-1163-2003, <i>Integration of Multiple Hazard Analysis Requirements and Activities</i> 	FAQS Comp #1	5	Q
Fire protection engineers shall demonstrate an expert level of knowledge of the requirements for fire protection and life safety related design control processes identified in DOE directives.	FAQS Comp #2	5	Q
Fire protection engineers shall demonstrate an expert level knowledge of typical fire suppression systems.	FAQS Comp #3	5	1
Fire protection engineers shall demonstrate an expert level knowledge of fire barriers and their related appurtenances.	FAQS Comp #4	5	1
Fire protection engineers shall demonstrate an expert level knowledge of a fire water distribution system.	FAQS Comp #5	5	1
Fire protection engineers shall demonstrate an expert level knowledge of a fire alarm and signaling system.	FAQS Comp #6	5	1
Fire protection engineers shall demonstrate an expert level knowledge of the life safety concepts.	FAQS Comp #7	5	1
Fire protection engineers shall demonstrate an expert level knowledge of a fire department/brigade operations and the "baseline needs assessment."	FAQS Comp #8	4	Q

Fire protection engineers shall demonstrate an expert level knowledge of the essential elements of a documented fire safety program.	FAQS Comp #9	5	Q
Fire protection engineers shall demonstrate at the expert level the ability to conduct fire protection and emergency services assessments, develop corrective actions and recommendations, communicate assessment results verbally and in writing, and develop supporting results.	FAQS Comp #10	5	Q
Engineers (including fire protection engineers and safety system oversight personnel) who are assigned safety system oversight for specific fire protection system(s) shall demonstrate a working level knowledge of the system(s) they have assigned oversight responsibility.	FAQS Comp #11	5	4
Engineers who are assigned safety system oversight for specific fire protection system(s) but have no other fire protection responsibilities shall demonstrate a familiarity level knowledge of the DOE fire protection program.	FAQS Comp #12	5	4

Importance Scale	Need At Entry Scale
How important is this competency for effective job performance?	When is this competency needed for effective job performance?
1 = Not Important	1 = Needed the first day
2 = Somewhat Important	2 = Must be acquired within the first 3 months
3 = Important	3 = Must be acquired within the first 4-6 months
4 = Very Important	4 = Must be acquired after the first 6 months
5 = Extremely Important	Q = Must be acquired before full qualification, within 18 months

Step 3: Job Analysis Worksheet for Task and Competency Linkage

Task Number	Competency Number											
	1	2	3	4	5	6	7	8	9	10	11	12
1	4-5	4-5	5	5	5	5	5	4	4-5	4-5	4-5	1
2	4	4	5	5	5	5	5	4	4	4	4-5	4-5
3	3	3	2	2	4	2	3	5	4	4-5	1	1
4	4-5	4	4	4	4	4	4	4	3	4-5	4-5	4-5
5	2	4	2	2	2	2	4	3	3	3	1	1
6	4	1	1	1	3	1	1	5	4	4-5	3	3
7	3	1	3	3	3	3	3	3	3	3	3	1
8	4	3	4	4	4	4	4	4	4	5	4-5	4
9	4	4-5	4-5	4-5	4-5	4-5	4-5	2	4	4-5	3	3
10	4-5	3-4	4	4	4	4	4	4	4	4	1	1
11	4	2	3	3	4	3	3	4	4	4	1	1
12	3	2	4	4	4	4	4	4	4	4-5	4	4
13	3	3	4	4	4	4	4	4	4	3	4	4
14	4	4	5	5	5	5	2-3	4	4	4-5	5	5

Linkage Scale

How important is this competency for effective task performance?

1 = Not Important

2 = Somewhat Important

3 = Important

4 = Very Important

5 = Extremely Important

N/A = Not Applicable

Step 4: Sponsor Recommendation of Appropriate Competency Level

Competency	Recommended Level	Justification
<p>#1 Fire protection engineers shall demonstrate an expert level of knowledge of the fire protection related aspects of the following directives or their successor documents:</p> <ul style="list-style-type: none"> • DOE Order (O) 151.1C, <i>Comprehensive Emergency Management System</i> • DOE Guide (G) 151-1.1A, <i>Management Fundamentals and the Operational Emergency Base</i> • DOE O 420.1B, <i>Facility Safety</i> • DOE O 440.1B, <i>Worker Protection Program for DOE (Including the National Nuclear Security Administration) Federal Employees</i> • DOE G 420.1-3, <i>Implementation Guide for DOE Fire Protection and Emergency Services Programs for Use with DOE O 420.1B, Facility Safety</i> • DOE-STD-1066-99, <i>Fire Protection Design Criteria</i> • DOE-STD-1088-95, <i>Fire Protection for Relocatable Structures</i> • 10 CFR Part 851, <i>Worker Safety and Health Program</i> • DOE-HDBK-1081-94, <i>Primer on Spontaneous Heating and Pyrophoricity</i> • DOE-HDBK-1163-2003, <i>Integration of Multiple Hazard Analysis Requirements and Activities</i> 	Working	Down-graded to “Working Level” in accordance with FTCP Issue Paper 12-001, July 2, 2012.
<p>#2 Fire protection engineers shall demonstrate an expert level of knowledge of the requirements for fire protection and life safety related design control processes identified in DOE directives.</p>	Working	Down-graded to “Working Level” in accordance with FTCP Issue Paper 12-001, July 2, 2012.
<p>#3 Fire protection engineers shall demonstrate an expert level knowledge of typical fire suppression systems.</p>	Working	Down-graded to “Working Level” in accordance with FTCP Issue Paper 12-001, July 2, 2012.
<p>#4 Fire protection engineers shall</p>	Working	Down-graded to “Working Level” in

demonstrate an expert level knowledge of fire barriers and their related appurtenances.		accordance with FTCP Issue Paper 12-001, July 2, 2012.
#5 Fire protection engineers shall demonstrate an expert level knowledge of a fire water distribution system.	Working	Down-graded to "Working Level" in accordance with FTCP Issue Paper 12-001, July 2, 2012.
#6 Fire protection engineers shall demonstrate an expert level knowledge of a fire alarm and signaling system.	Working	Down-graded to "Working Level" in accordance with FTCP Issue Paper 12-001, July 2, 2012.
#7 Fire protection engineers shall demonstrate an expert level knowledge of the life safety concepts.	Working	Down-graded to "Working Level" in accordance with FTCP Issue Paper 12-001, July 2, 2012.
#8 Fire protection engineers shall demonstrate an expert level knowledge of a fire department/brigade operations and the "baseline needs assessment."	Working	Down-graded to "Working Level" in accordance with FTCP Issue Paper 12-001, July 2, 2012.
#9 Fire protection engineers shall demonstrate an expert level knowledge of the essential elements of a documented fire safety program.	Working	Down-graded to "Working Level" in accordance with FTCP Issue Paper 12-001, July 2, 2012.
#10 Fire protection engineers shall demonstrate at the expert level the ability to conduct fire protection and emergency services assessments, develop corrective actions and recommendations, communicate assessment results verbally and in writing, and develop supporting results.	Working	Down-graded to "Working Level" in accordance with FTCP Issue Paper 12-001, July 2, 2012.
#11 Engineers (including fire protection engineers and safety system oversight personnel) who are assigned safety system oversight for specific fire protection system(s) shall demonstrate a working level knowledge of the system(s) they have assigned oversight responsibility.	Working	Maintain at working knowledge because competency requires knowledge to assess operations/activities or consult reference materials to ensure the safety of DOE activity.
#12 Engineers who are assigned safety system oversight for specific fire protection system(s) but have no other fire protection responsibilities shall demonstrate a familiarity level knowledge of the DOE fire protection program.	Familiarity	No change recommended

Sponsor and Working Group Additional Recommendations:

Rec. Number	Recommendation	Working Group Resolution/Status
1	Better define "Qualified DOE FPE" - Series 804 or NCEES FPE	Added sentence in 1st para of "Initial Qualification and Training" Section. Also added paragraph in "Initial Qualification and Training" Section. Nothing in OPM 0800 or 0804 on continuing training.
2	Create Competency #1 that specifies 804 or NCEES FPE qualification requirements.	Added FPE PE prerequisite requirement sentence to 1st para of "Required Technical Competencies" section. Additionally Re-worded 'grandfather' clause. Located in both sections: "Initial Qualification and Training" and "Required Technical Competencies" sections.
3	Clarify/emphasize existing "Evaluation Requirements" and "Background and Experience" Sections of 1137	Revised both sections for FPE PE reqt and QO qualified FPE.
4	Address the 18-month training schedule	Add section in "Initial Qualification and Training" section on allowed time-frames (18-month) Find source of 18-monts. Obtaining PE License can take up to 6-years.
5	Clarify the qualification requirements of the FPE QO	Revised "Evaluation Requirement" Section with QO FPE reqt. Also Added 1 sentence to 2nd Para. " The QO shall be qualified in the fire protection FAQs.
6	Include a 'grand-father' clause as appropriate	Added a Sentence to the Initial Qualification and Training Section" and "Required Technical Competencies" sections. For individuals who qualified on

		previous versions of the standard do not need to requalify to the latest version.
7	Add some type of historical review to Competency 1	Not to be included at this time due to the issue that creation of an historical document is not within the scope of this working group.
8	Evaluate and revise existing competencies; compare with SFPE	Added NFPA 68, 69, 92A, 92B & 204 to Competency #1. These address: Explosion protection and prevention; Smoke Management Systems.
9	Clarify Comp 1-11 FPE's Comp 12 SSO only	Added a paragraph clarification in "Required Technical Competency Section"
10	EM FAQs and Comp #8 FPE FAQs	Recommendation to have Leader communicate with DOE-STD-1177 FAQs working group stating that since Emergency Management must be familiar with fire department operations and capabilities that are defined by the BNA, as specified in DOE O 420.1B, the FPE FAQs working group feels strongly that the next revision to DOE-STD-1177 should include the BNA – FPE FAQs working group (or a representative) will assist in the wording to assist the 1177 working group.