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DNE SAFETY BOARD

**Department of Energy**

Washington, DC 20585

March 28, 2003

The Honorable John T. Conway
Chairman
Defense Nuclear Facilities Safety Board
625 Indiana Avenue N.W., Suite 700
Washington, D.C. 20004

Dear Mr. Chairman:

UPDATED LISTING OF DEPARTMENT PERSONNEL SERVING AS SUBJECT MATTER EXPERTS FOR SAFETY SYSTEM OVERSIGHT

In December 2002, the Department committed to provide the Defense Nuclear Facilities Safety Board (Board) with an updated list of personnel filling positions as subject matter experts at the Department's field and area offices. That updated listing is attached.

I am pleased to report that site managers are taking ownership of their subject matter expert (SME) programs and staffing. Twelve of 17 field offices (or 70 percent) have completed designation of SMEs for the identified safety systems at their sites. The Department has assigned a total of 64.23 Full-Time Equivalents (FTEs) out of a total of 77.71 FTEs needed for safety system oversight. Thus, 83 percent of the SME staffing needs have been met. Where SMEs have not yet been permanently assigned, sites are taking compensatory measures to accomplish the necessary safety system oversight.

The Department remains committed to full staffing of needed SMEs for safety system oversight. For the five field offices that are completing the staffing of their SME programs, paths forward have been provided to the extent possible. The Department will provide an updated status on paths forward to fill the remaining gaps by September 2003.

The personnel lists in the attached report are snapshots in time. Sites are maintaining lists of safety systems and personnel assigned for safety system oversight for their use. Sites are expected to make this information available to SMEs, contractor system engineers, DOE facility representatives, DOE managers and technical personnel, and other relevant personnel. In many cases, the site lists are in more detail than the attached report. Further inquiries about specific individual personnel assignments for safety system oversight responsibilities are most efficiently directed to the appropriate site.

The attached report shows that, in comparison to previous reports, some sites have revised their number of safety systems or their number of SMEs needed. The number of safety systems has tended to increase with identification of additional systems as a result of ongoing efforts to upgrade documented safety analyses. Site changes in the number of SMEs needed have been based on actual experience in implementing the SME programs performing safety system oversight. Whereas initial FTE estimates were more



theoretical, current FTE requirements are now more accurate, based on actual personnel assigned and performing the safety oversight duties.

In addition, work is underway by the Federal Technical Capability Panel (FTCP) to better define safety system oversight responsibilities and competencies, and to provide for more uniform implementation of safety system oversight throughout the Department.

If you have questions, please do not hesitate to contact me at (509) 376-6677.

Sincerely,

A handwritten signature in black ink, appearing to read "Roy J. Schepens". The signature is fluid and cursive, with a large initial "R" and "S".

Roy J. Schepens, Chairman
Federal Technical Capability Panel

cc: K. McSarrow, S-2
J. H. Roberson, EM-1
T. Przybylek, NA-2
M. B. Whitaker, S-3.1

**Analysis of Department of Energy
Federal Technical Staff Expertise
and Availability for Oversight of Safety Systems
at Defense Nuclear Facilities**



**Federal Technical Capability Panel
U. S. Department of Energy
March 2003**

Table of Contents

List of Acronyms	iii
Executive Summary	1
Introduction and Background	2
Objective	2
Methodology	2
Table 1 – Number of Safety Systems (NNSA)	3
Table 2 – Number of Safety Systems (EM)	3
Table 3 – Summary of Staffing Needs and Assignments (NNSA)	4
Table 4 – Summary of Staffing Needs and Assignments (EM)	4
Technical Skills Gaps	5
Table 5 – Summary of Technical Staffing Gaps (NNSA)	6
Table 6 – Summary of Technical Staffing Gaps (EM)	6
Conclusions	6

Appendix A – Safety System Oversight/Subject Matter Expertise by Site Office

Table A1 – Summary of Needs and Assignments: NNSA LASO	A-1
Table A2 – Summary of Needs and Assignments: NNSA LSO	A-2
Table A3 – Summary of Needs and Assignments: NNSA NSO	A-3
Table A4 – Summary of Needs and Assignments: NNSA ORO	A-4
Table A5 – Summary of Needs and Assignments: NNSA PXSO	A-5
Table A6 – Summary of Needs and Assignments: NNSA SRSO	A-6
Table A7 – Summary of Needs and Assignments: NNSA SSO	A-7
Table A8 – Summary of Needs and Assignments: NNSA YSO	A-8
Table A9 – Summary of Needs and Assignments: EM CBFO	A-9
Table A10 – Summary of Needs and Assignments: EM ID	A-10
Table A11 – Functional Area Expert Assignments: EM ID	A-11
Table A12 – Summary of Needs and Assignments: EM OH FEMP	A-12
Table A13 – Summary of Needs and Assignments: EM OH MEMP	A-13
Table A14 – Summary of Needs and Assignments: EM ORO	A-14
Table A15 – Summary of Needs and Assignments: EM ORP	A-15
Table A16 – Summary of Needs and Assignments: EM RFFO	A-16
Table A17 – Summary of Needs and Assignments: EM RL	A-17
Table A18 – Summary of Needs and Assignments: EM SR	A-18

List of Acronyms

C/SE (NPH)	Civil/Structural Engineering (Natural Phenomena Hazards)
CBFO	Carlsbad Field Office
ChE/PrE	Chemical Engineering/Process Engineering
CRIT	Criticality Safety Specialist
CTG	Core Technical Group
DNFSB	Defense Nuclear Facilities Safety Board
DOE	Department of Energy
EE	Electrical Engineering
EH	Office of Environment, Safety, and Health
EM	Office of Environmental Management
EP	Emergency Preparedness
ES&H	Environment, Safety, and Health
FP	Fire Protection
FR	Facility Representative
FTCP	Federal Technical Capability Panel
FTE or FT	Full Time Equivalent
I/C	Instrumentation and Control
ID	Idaho Operations Office
LASO	Los Alamos Site Office
LSO	Livermore Site Office
ME	Mechanical Engineering
N/A	Not Applicable
NE	Nuclear Engineering
NNSA	National Nuclear Security Administration
NSO	Nevada Site Office
OAK	Oakland Operations Office
OH-F	Ohio Field Office – Fernald
OH-M	Ohio Field Office – Mound
ORO	Oak Ridge Operations Office (EM or NNSA)
ORP	Office of River Protection
OS (IH)	Occupational Safety (Industrial Health)
PXSO	Pantex Site Office
RF	Rocky Flats Field Office
RL	Richland Operations Office
RP	Radiation Protection
SC	NNSA Service Center (Albuquerque Office)
SR	Savannah River Operations Office
SRSO	Savannah River Site Office
SS	Safety System
SSC	Structures, Systems and Components
SSO	Sandia Site Office
TQP	Technical Qualification Program
YSO	Y-12 Site Office

*Analysis of Department of Energy Federal Technical Staff Expertise
and Availability for Oversight of Nuclear Safety at Defense Nuclear Facilities*

Executive Summary

As part of the Department of Energy's (DOE) implementation plan for Board recommendation 2000-2, *Configuration Management, Vital Safety Systems*, the Department set forth to establish and staff its oversight function to ensure safety system readiness. The Federal Technical Capability Panel (FTCP) led an extensive effort in January 2002 to determine where gaps exist in critical technical expertise and to provide a path forward to address these gaps. This report updates the January 2002 effort. Since the last report, site offices have refined their identification of facility safety systems and the expertise needed for oversight. Changes in site office reports are based on experience in providing that safety system oversight. Site offices have also updated the names of the specific individuals assigned to provide oversight for identified safety system categories.

This report (in Tables 1 and 2) identifies a total of 821 safety systems at the Department's defense nuclear facilities that are subject to focused federal oversight. To meet this oversight need, the site offices have identified (in Tables 3 and 4) that a total of 77.71 FTEs need to be designated for safety system oversight. Most site offices have staffed up to fully meet their safety system oversight needs. In fact, 12 of 17 offices (or 70 percent) report no gaps in their staffing for federal safety system oversight. At present, a total of 64.23 FTEs (or 83 percent of the total FTEs needed) have been assigned to provide safety system oversight. A total gap of 13.48 FTEs remains to be filled (as reported in Tables 5 and 6). The technical discipline areas with most significant technical expertise gaps are electrical/ instrumentation & control engineers (4.9 FTEs), mechanical engineers (3.36 FTEs), and fire protection engineers (3.0 FTEs). Five offices are responsible for the remaining gap of 13.48 FTEs. Each of these offices has a current path forward for filling these gaps, as described in the following summary table.

Office	Current Situation
Los Alamos Site Office (LASO)	LASO has a gap of 6.5 FTEs. LASO is conducting a detailed re-review of its safety system oversight needs and gaps, to be completed by June 2003. LASO plans to hire additional safety system oversight personnel (a maintenance engineer and an occupational safety engineer). LASO has initiated actions to fill these positions and expects to have vacancy announcements issued by June 2003.
Livermore Site Office (LSO)	LSO has a gap of 2.0 FTEs. LSO is identifying these 2 vacancies as part of its managed staffing plan in support of the NNSA re-organization. LSO has initiated actions to fill these positions and expects to have vacancy announcements issued by June 2003.
Pantex Site Office (PXSO)	PXSO has a gap of 2.0 FTEs. PXSO plans to fill these positions. These positions are in the PXSO staffing plan, and position descriptions and qualification cards have been prepared. PXSO has initiated actions to fill these positions and expects to have vacancy announcements issued by June 2003.
Sandia Site Office (SSO)	SSO has a gap of 1.98 FTEs. SSO has selected a mechanical engineer who is being developed, and plans to hire an electrical engineer. SSO has initiated actions to fill this position and expects to have a vacancy announcement issued by September 2003.
Richland Ops. Office (RL)	RL has a gap of 1.0 FTE. RL has selected an individual to fill this gap and is awaiting approval and finalization of this hire.

Where technical gaps exist, they are being mitigated through compensatory measures using support service contractors, subject matter experts from the NNSA Service Center, and, in limited cases, facility representatives. The report describes specific compensatory measures in place at the affected offices.

*Analysis of Department of Energy Federal Technical Staff Expertise
and Availability for Oversight of Nuclear Safety at Defense Nuclear Facilities*

Introduction and Background

This report addresses the technical capabilities necessary for effective oversight of safety systems at the Department's defense nuclear facilities. DOE P 450.5, *Line Environment, Safety and Health Oversight*, sets forth the expectations for Environment, Safety, and Health (ES&H) oversight. The oversight role of the Federal workforce requires familiarity with safety systems. As such, there is a need to ensure that Federal technical personnel knowledgeable of those safety systems are available to ensure effective oversight, particularly when significant system problems arise.

In addition, DOE M 426.1-1, *Federal Technical Capability Manual*, requires senior managers to conduct an annual workforce analysis of their organizations and develop a staffing plan that identifies critical technical capabilities and positions that ensure safe operations at defense nuclear facilities. These staffing plans take into account critical safety needs and projected staffing needs for technical positions.

Objective

The objective of this report is to update the information in the *Analysis of Safety System Federal Staff Expertise and Availability* dated January 2002 (which was developed in fulfillment of commitments 17 and 18 in the Department's implementation plan for Board recommendation 2000-2).

To accomplish these objectives, this report identifies the following:

- The system expertise needed to ensure effective oversight of safety systems
- The system expertise available to ensure effective oversight of safety systems
- The resulting technical skill gaps
- The means of addressing critical skill gaps

Based on existing system categorization, this report identifies the number and type of safety systems that perform safety class, safety significant, or important defense-in-depth functions at each site. Based on actual experience, the number and type of Federal technical experts needed at each site to perform effective oversight of the systems is also provided. Based on assignments and assessment of site personnel by their managers, the numbers and types of technical experts who are available and capable of overseeing safety systems is provided. Skill gaps are identified by comparing the numbers and types of technical experts needed to the numbers and types of experts available. This report concludes by identifying the means to address these skill gaps.

Methodology

In order to determine the expertise needed and available within the Department to provide effective oversight of contractor safety systems, the Department used the same methodology as used for *Analysis of Safety System Federal Staff Expertise and Availability*, dated January 2002. The numbers and types of safety systems from that report were updated, as well as the technical expertise needed to assure effective oversight. Tables 1 and 2 provide the numbers and types of safety systems identified by each site office as of December 2002.

***Analysis of Department of Energy Federal Technical Staff Expertise
and Availability for Oversight of Nuclear Safety at Defense Nuclear Facilities***

Table 1 – Number of Safety Systems (NNSA)

System Category	Site Offices								Total
	LASO	LSO	NSO	ORO	PXSO	SRSO	SSO	YSO	
Confinement Ventilation	12	20	4	2	0	4	3	6	51
Fire Protection	16	10	6	2	13	3	0	11	61
Electrical	5	2	1	0	14	2	0	1	25
Radiation Monitoring	16	6	3	0	15	3	3	10	56
Hoist & Crane	1	1	3	2	12	0	0	0	19
Process	20	0	3	0	4	2	22	6	57
Communication	4	1	0	0	0	0	0	0	5
Gas & Air	6	2	1	0	0	0	2	1	12
Other	6	2	6	0	9	1	9	0	33
Total	86	44	27	6	67	15	39	35	319

Table 2 – Number of Safety Systems (EM)

System Category	Site Offices									Total
	CB	ID	OH-F	OH-M	ORO	ORP	RF	RL	SR	
Confinement Ventilation	2	3	0	2	6	9	9	31	23	85
Fire Protection	1	8	1	2	5	7	10	27	3	64
Electrical	0	1	0	0	0	1	5	5	20	32
Radiation Monitoring	1	3	1	5	5	12	11	14	24	76
Hoist & Crane	2	1	0	0	1	0	0	1	4	9
Process	0	2	0	0	0	4	4	16	18	44
Communication	1	0	0	0	0	0	6	2	0	9
Gas & Air	0	0	0	3	0	2	3	5	6	19
Other	1	131	4	4	3	0	0	1	20	164
Total	8	149	6	16	20	35	48	102	118	502

After the safety systems were identified and categorized, each site office determined how it would address system oversight and deploy staff. The number of system experts needed for each system category (e.g., confinement ventilation, fire protection, and electrical) and for each technical discipline (e.g., nuclear engineering, mechanical engineering, and electrical engineering) are shown in Tables 3 and 4. These tables also identify the number of available system experts. The top number (unshaded) is the number of experts currently available and assigned to provide oversight of safety systems, and the bottom number (shaded) is the total number of experts needed to provide oversight of the safety systems.

***Analysis of Department of Energy Federal Technical Staff Expertise
and Availability for Oversight of Nuclear Safety at Defense Nuclear Facilities***

Table 3 – Summary of Staffing Needs and Assignments (NNSA)

System Category	Technical Discipline Areas (consistent with TQP)												Total
	# of SS	NE	ME	EE	I/C	CRIT	ChE PrE	FP	OS (IH)	RP	C/SE (NPH)	EP	
Confinement Ventilation	51	.40	.95	-	-	-	-	-	.50	.20	.25	-	2.30
		.40	2.75	-	.50	-	-	-	.50	.20	.25	-	4.60
Fire Protection	61	-	.60	-	-	-	-	3.55	-	-	-	-	4.15
		-	.60	-	-	-	-	5.55	-	-	-	-	6.15
Electrical	25	.10	.25	-	-	-	-	-	.20	-	-	-	.55
		.10	.25	2.60	-	-	-	-	.20	-	-	-	3.15
Radiation Monitoring	56	.70	-	-	-	2.00	-	-	-	.80	-	-	3.50
		.70	-	0.30	-	2.00	-	-	-	1.92	-	-	4.92
Hoist & Cranes	19	-	.20	-	-	-	-	-	.35	-	-	-	.55
		-	.70	-	-	-	-	-	.35	-	-	-	1.05
Process	57	.60	.95	-	-	-	.80	-	-	.20	-	-	2.55
		.60	1.27	-	1.40	1.00	.80	-	-	.20	-	-	5.27
Communication	5	-	-	-	-	-	-	-	-	-	-	-	-
		-	-	.10	-	-	-	-	-	-	-	-	-
Gas & Air	12	.10	.10	-	-	-	.20	-	.20	-	-	-	.60
		.10	.74	-	-	-	.20	-	.20	-	-	-	1.24
Other	33	.30	2.20	-	-	-	-	-	-	.10	.75	-	3.35
		.30	2.30	-	-	-	-	-	-	.20	.75	-	3.55
Total FTEs Assigned	319	2.20	5.25	-	-	2.00	1.00	3.55	1.25	1.30	1.00	-	17.55
Total FTEs Needed		2.20	8.61	3.00	1.90	3.00	1.00	5.55	1.25	2.52	1.00	-	30.03

Table 4 – Summary of Staffing Needs and Assignments (EM)

System Category	Technical Discipline Areas (consistent with TQP)												Total
	# of SS	NE	ME	EE	I/C	CRIT	ChE PrE	FP	OS IH	RP	C/SE NPH	EP	
Confinement Ventilation	85	2.80	5.75	.70	.10	-	-	-	-	.60	-	-	9.95
		2.80	5.75	.70	.10	-	-	-	-	.60	-	-	9.95
Fire Protection	64	.10	.05	.05	-	-	-	4.60	-	.30	-	-	5.10
		.10	.05	.05	-	-	-	5.60	-	.30	-	-	6.10
Electrical	32	.80	-	1.89	.10	.10	-	-	-	-	-	-	2.89
		.80	-	1.89	.10	.10	-	-	-	-	-	-	2.89
Radiation Monitoring	76	2.40	-	.40	1.20	2.20	-	-	-	1.40	-	-	7.60
		2.40	-	.40	1.20	2.20	-	-	-	1.40	-	-	7.60
Hoist & Cranes	9	.40	.44	.10	-	-	-	-	.10	-	-	-	1.04
		.40	.44	.10	-	-	-	-	.10	-	-	-	1.04
Process	44	3.10	.50	-	.30	.40	.60	-	-	.10	-	-	5.00
		3.10	.50	-	.30	.40	.60	-	-	.10	-	-	5.00
Communication	9	-	-	.20	-	-	-	-	-	-	-	.10	.30
		-	-	.20	-	-	-	-	-	-	-	.10	.30
Gas & Air	19	-	2.85	-	.10	-	.60	-	-	-	-	-	3.55
		-	2.85	-	.10	-	.60	-	-	-	-	-	3.55
Other	164	7.40	.10	-	-	2.20	-	-	1.00	.50	.05	-	11.25
		7.40	.10	-	-	2.20	-	-	1.00	.50	.05	-	11.25
Total FTEs Assigned	502	17.00	9.69	3.34	1.80	4.90	1.20	4.60	1.10	2.90	0.05	0.10	46.68
Total FTEs Needed		17.00	9.69	3.34	1.80	4.90	1.20	5.60	1.10	2.90	0.05	0.10	47.68

**Analysis of Department of Energy Federal Technical Staff Expertise
and Availability for Oversight of Nuclear Safety at Defense Nuclear Facilities**

The data presented in Tables 3 and 4 was evaluated using the facility oversight input from each office. Appendix A summarizes the systems expert assignments for each office. Some sites have revised their number of safety systems or their number of SMEs needed. Safety systems have tended to increase with identification of additional systems as a result of ongoing efforts to upgrade documented safety analyses. Site changes in the number of SMEs needed have been based on actual experience in implementing the SME programs performing safety system oversight. Whereas initial FTE estimates were more theoretical, current FTE requirements are now based on actual personnel assigned and performing the safety oversight duties.

The results are more accurate than the January 2002 report, and the results are consistent with the January 2002 report regarding the number of systems experts needed for adequate oversight of contractor safety systems (estimated to be in the range of 7-12 systems per expert for typical systems). Care must be taken in comparing the number of systems assigned to each system expert, as a result of factors such as system complexity, system safety function, system condition, facility lifecycle, and strength of contractor system engineering program. As such, the number of systems per expert cannot be meaningfully compared from site to site.

Technical Skills Gaps

Most offices (12 of 17) identified no technical skill gaps. A total of 13.48 additional FTEs are needed to provide the oversight of contractor safety systems (out of a total need of 76.82 FTEs). Site-by-site explanations of how gaps will be addressed are provided in Appendix A to the extent possible. These paths forward are expected to become clearer over the next several months, in part due to further implementation of the ongoing NNSA re-organization. The most significant technical expertise gaps are electrical/instrumentation & control engineers (4.9 FTEs), mechanical engineers (3.36 FTEs), and fire protection engineers (3.0 FTEs). Most of these gaps are spread across several system categories. The majority of remaining needs are for the NNSA activities at LASO, LSO, PXSO, and SSO.

Until filled, the technical gaps shown in Tables 5 and 6 are being mitigated through compensatory measures such as using support service contractors and subject matter experts from the NNSA Service Center, and, in limited cases, facility representatives. The NNSA Service Center (Office of the Associate Director for Technical Services, ES&H Department) provides services in specialized areas such as radiological protection, accident investigations, and safety basis and readiness reviews and has a staff of approximately 50 subject matter experts. NNSA has also established a Corporate Technical Group (CTG) that provides a comprehensive list of NNSA technical specialists. The CTG is being managed by the NNSA Service Center ES&H Department through a process for requesting and deploying these technical specialists across the NNSA complex as needed. The subject matter expert staff within the Service Center ES&H Department (discussed above) is included in the CTG and covers such functional areas and specialties as civil/structural engineering, electrical engineering, fire protection engineering, mechanical engineering, nuclear engineering, and nuclear criticality safety. In addition, there are about 10 members of the Service Center ES&H Department staff that are fully qualified as senior technical safety managers. The NNSA Service Center is developing service agreements with potential customers (headquarters and site offices),

***Analysis of Department of Energy Federal Technical Staff Expertise
and Availability for Oversight of Nuclear Safety at Defense Nuclear Facilities***

and these will include support of safety system oversight. EH staff expertise is also available under their support and assistance tasking and chartered through agreements with the organization needing support.

Table 5 – Summary of Technical Staffing Gaps (NNSA)

	NE	ME	EE	I/C	CRIT	ChE PrE	FP	OS (IH)	RP	C/SE (NPH)	EP	TOTAL
LASO	-	1.50	1.0	1.0	1.0	-	1.0	-	1.00	-	-	6.50
LSO	-	1.00	1.0	-	-	-	-	-	-	-	-	2.00
NSO	-	-	-	-	-	-	-	-	-	-	-	-
ORO	-	-	-	-	-	-	-	-	-	-	-	-
PXSO	-	-	1.0	-	-	-	1.0	-	-	-	-	2.00
SRSO	-	-	-	-	-	-	-	-	-	-	-	-
SSO	-	0.86	-	0.9	-	-	-	-	0.22	-	-	1.98
YSO	-	-	-	-	-	-	-	-	-	-	-	-
Totals	-	3.36	3.0	1.9	1.0	-	2.0	-	1.22	-	-	12.48

Table 6 – Summary of Technical Staffing Gaps (EM)

	NE	ME	EE	I/C	CRIT	ChE PrE	FP	OS (IH)	RP	C/SE (NPH)	EP	TOTAL
CBFO	-	-	-	-	-	-	-	-	-	-	-	-
ID	-	-	-	-	-	-	-	-	-	-	-	-
OH-F	-	-	-	-	-	-	-	-	-	-	-	-
OH-M	-	-	-	-	-	-	-	-	-	-	-	-
ORO	-	-	-	-	-	-	-	-	-	-	-	-
ORP	-	-	-	-	-	-	-	-	-	-	-	-
RF	-	-	-	-	-	-	-	-	-	-	-	-
RL	-	-	-	-	-	-	1.0	-	-	-	-	1.0
SR	-	-	-	-	-	-	-	-	-	-	-	-
Total	-	-	-	-	-	-	1.0	-	-	-	-	1.0

Conclusions

An update of the needs and assignments of safety system oversight personnel has been completed. Most site offices have fully staffed their identified needs. Five site offices (LASO, LSO, PXSO, SSO, and RL) have remaining gaps to be addressed. Site managers are taking ownership of these gaps. These sites have provided current paths forward to address these gaps. The identified gaps are in the technical discipline areas of mechanical engineering, electrical engineering/instrumentation and control, fire protection, radiation protection, and criticality. Multiple options exist to address gaps, including the NNSA Service Center, the Corporate Technical Group, support service contractors, qualified technical personnel already in site organizations, and new hires.

Appendix A –
Safety System Oversight/Subject Matter Expertise
by Site Office

**Table A1 – Summary of Needs and Assignments: NNSA LASO
Los Alamos Site Office ***

Safety System Category	Applicable Technical Qualification Area (FTEs Assigned/FTEs Needed for Safety System Oversight)												
	# of SSs	NE	ME	EE	I/C	CRIT	ChE PrE	FP	OS (IH)	RP	C/SE (NPH)	EP	Total
Confinement Ventilation	12	/	0/0.5	/	0/0.5	/	/	/	/	/	/	/	0/1.0
Fire Protection	16	/	/	/	/	/	/	0/1	/	/	/	/	0/1.0
Electrical	5	/	/	0/1	/	/	/	/	/	/	/	/	0/1.0
Radiation Monitoring	16	/	/	/	/	/	/	/	/	0/1	/	/	0/1.0
Hoist & Crane	1	/	0/0.5	/	/	/	/	/	/	/	/	/	0/0.5
Process	20	/	/	/	0/0.5	0/1	/	/	/	/	/	/	0/1.5
Communication	4	/	/	/	/	/	/	/	/	/	/	/	/
Gas & Air	6	/	0/0.5	/	/	/	/	/	/	/	/	/	0/0.5
Other	6	/	/	/	/	/	/	/	/	/	/	/	/
Total	86	/	0/1.5	0/1	0/1	0/1	/	0/1	/	0/1	/	/	0/6.5

Subject Matter Experts by System Category	FTEs needed for SS oversight	Names *	Comments
Confinement Ventilation	1.0	Joe Houghton	Bill Gentile (back-up) LASO; Service Center (SC) as needed
Fire Protection	1.0	Bill Gall	Pat Copp (back-up); Service Center
Electrical	1.0	Willie Molina	Service Center as needed
Radiation Monitoring	1.0	Dave Styers	Brad Eichorst and Donnie Brady (back-up); Service Center as needed
Hoist & Crane	0.5	Allan Herbach (SC)	Service Center as needed
Process	1.5	Steve Payne (SC)	Service Center as needed
Communication	-		Service Center as needed
Gas & Air	0.5	Bill Gentile (FR)	Joe Houghton (back-up); Service Center as needed
Other	-		Service Center as needed

* LASO is conducting a review of safety system oversight personnel needs and assignments. This detailed review of manpower need and type of expertise will be finalized by June 2003. The identified gaps are likely to be over estimated given the recent hiring and assignments. LASO hired a Fire Protection engineer who is supporting safety system oversight. LASO plans to hire additional safety system oversight personnel (a maintenance engineer and an occupational safety engineer). LASO has initiated actions to fill these positions and expects to have vacancy announcements issued by June 2003.

**Table A2 – Summary of Needs and Assignments: NNSA LSO
Livermore Site Office**

Safety System Category	Applicable Technical Qualification Area (FTEs Assigned/FTEs Needed for Safety System Oversight)												
	# of SSS	NE	ME	EE	I/C	CRIT	ChE PrE	FP	OS (IH)	RP	C/SE (NPH)	EP	Total
Confinement Ventilation	20	/	0/0.9	/	/	/	/	/	/	0.2/0.2	0.25/0.25	/	0.45/1.35
Fire Protection	10	/	/	/	/	/	/	1/1	/	/	/	/	1/1
Electrical	2	/	/	0/0.9	/	/	/	/	/	/	/	/	0/0.9
Radiation Monitoring	6	/	/	/	/	1/1	/	/	/	0.3/0.3	/	/	1.3/1.3
Hoist & Crane	1	/	/	/	/	/	/	/	0.1/0.1	/	/	/	0.1/0.1
Process	0	/	/	/	/	/	/	/	/	/	/	/	/
Communication	1	/	/	0/0.1	/	/	/	/	/	/	/	/	0/0.1
Gas & Air	2	/	0/0.1	/	/	/	/	/	/	/	/	/	0/0.1
Other	2	/	1/1	/	/	/	/	/	/	0.1/0.1	0.75/0.75	/	1.85/1.85
Total	44	/	1/2	0/1.0	/	1/1	/	1/1	0.1/0.1	0.6/0.6	1.0/1.0	/	4.7/6.7

Subject Matter Experts by System Category	FTEs needed for SS oversight	Names *	Comments
Confinement Ventilation	1.35	Steve Lasell (0.2) Teh Hsieh (0.25) ME Vacancy (0.9)	Harvey Grasso and Ari Krasopoulos serving in SME role as compensatory measure for ME vacancy.
Fire Protection	1.0	James Chawng	
Electrical	0.9	EE Vacancy	Carol Sohn serving in SME role as compensatory measure.
Radiation Monitoring	1.3	Steve Lasell (0.3) Mark Lee (1.0)	
Hoist & Crane	0.1	Y. T. Wang	
Process	-		
Communication	0.1	EE Vacancy	James Chwang serving in SME role as compensatory measure.
Gas & Air	0.1	ME Vacancy	Andy Delapaz serving in SME role as compensatory measure.
Other	1.85	Steve Lasell (0.1) Teh Hsieh (0.75) Frank Proto (1.0)	Other systems NPH support to all SMEs above Maintenance support to all SMEs above

* A managed staffing plan for LSO, in support of the NNSA re-organization, is required to be submitted to NNSA in April 2003. That plan will include the 2 vacancies noted above (ME and EE). LSO has initiated actions to fill these positions and expects to have vacancy announcements issued by June 2003.

Appendix A
Safety System Oversight/Subject Matter Expertise by Site Office

**Table A3 – Summary of Needs and Assignments: NNSA NSO
Nevada Site Office**

Safety System Category	Applicable Technical Qualification Area (FTEs Assigned/FTEs Needed for Safety System Oversight)												
	# of SSs	NE	ME	EE	I/C	CRIT	ChE PrE	FP	OS (IH)	RP	C/SE (NPH)	EP	Total
Confinement Ventilation	4	/	/	/	/	/	/	/	0.5/0.5	/	/	/	0.5/0.5
Fire Protection	6	/	/	/	/	/	/	1.0/1.0	/	/	/	/	1.0/1.0
Electrical	1	/	/	/	/	/	/	/	0.2/0.2	/	/	/	0.2/0.2
Radiation Monitoring	3	/	/	/	/	/	/	/	/	0.5/0.5	/	/	0.5/0.5
Hoist & Crane	3	/	/	/	/	/	/	/	0.2/0.2	/	/	/	0.2/0.2
Process	3	/	/	/	/	/	/	/	/	0.2/0.2	/	/	0.2/0.2
Communication	0	/	/	/	/	/	/	/	/	/	/	/	/
Gas & Air	1	/	/	/	/	/	/	/	0.2/0.2	/	/	/	0.2/0.2
Other	6	/	0.7/0.7	/	/	/	/	/	/	/	/	/	0.7/0.7
Total	27	/	0.7/0.7	/	/	/	/	1.0/1.0	1.1/1.1	0.7/0.7	/	/	3.5/3.5

Subject Matter Experts by System Category	FTEs needed for SS oversight	Names	Comments
Confinement Ventilation	0.5	Clark Weaver	
Fire Protection	1.0	Dario Luna	
Electrical	0.2	Clark Weaver	
Radiation Monitoring	0.5	David Wheeler, Bruce Hurley	
Hoist & Crane	0.2	Charles White	
Process	0.2	Angela Colarruso	
Communication	-		
Gas & Air	0.2	Clark Weaver	
Other	0.7	Jim Owens, John Robson, Clayton Barrow, Leslie Winfield	

**Table A4 – Summary of Needs and Assignments: NNSA ORO
Oak Ridge Operations Office (Building 3019)**

Safety System Category	Applicable Technical Qualification Area (FTEs Assigned/FTEs Needed for Safety System Oversight)												
	# of SSs	NE	ME	EE	I/C	CRIT	ChE PrE	FP	OS (IH)	RP	C/SE (NPH)	EP	Total
Confinement Ventilation	2	/	0.05/0.05	/	/	/	/	/	/	/	/	/	0.05/0.05
Fire Protection	2	/	/	/	/	/	/	0.05/0.05	/	/	/	/	0.05/0.05
Electrical	0	/	/	/	/	/	/	/	/	/	/	/	/
Radiation Monitoring	0	/	/	/	/	/	/	/	/	/	/	/	/
Hoist & Crane	2	/	/	/	/	/	/	/	0.05/0.05	/	/	/	0.05/0.05
Process	0	/	/	/	/	/	/	/	/	/	/	/	/
Communication	0	/	/	/	/	/	/	/	/	/	/	/	/
Gas & Air	0	/	/	/	/	/	/	/	/	/	/	/	/
Other	0	/	/	/	/	/	/	/	/	/	/	/	/
Total	6	/	0.05/0.05	/	/	/	/	0.05/0.05	0.05/0.05	/	/	/	0.15/0.15

Subject Matter Experts by System Category	FTEs needed for SS oversight	Names	Comments
Confinement Ventilation	0.05	Rick Daniels (FR)	Workload does not interfere with fulfillment of FR responsibilities
Fire Protection	0.05	Jim Landmesser	
Electrical	-		
Radiation Monitoring	-		
Hoist & Crane	0.05	Doug Paul	
Process	-		
Communication	-		
Gas & Air	-		
Other	-		

**Table A5 – Summary of Needs and Assignments: NNSA PXSO
Pantex Site Office**

Safety System Category	Applicable Technical Qualification Area (FTEs Assigned/FTEs Needed for Safety System Oversight)												
	# of SSs	NE	ME	EE	I/C	CRIT	ChE PrE	FP	OS IH	RP	C/SE (NPH)	EP	Total
Confinement Ventilation	0	/	/	/	/	/	/	/	/	/	/	/	/
Fire Protection	13	/	0.6/0.6	/	/	/	/	0/1	/	/	/	/	0.6/1.6
Electrical	14	/	/	0/0.7	/	/	/	/	/	/	/	/	0.0/0.7
Radiation Monitoring	15	/	/	0/0.3	/	/	/	/	/	/	/	/	0.0/0.3
Hoist & Crane	12	/	0.2/0.2	/	/	/	/	/	/	/	/	/	0.2/0.2
Process	4	/	0.2/0.2	/	/	/	/	/	/	/	/	/	0.2/0.2
Communication	0	/	/	/	/	/	/	/	/	/	/	/	/
Gas & Air	0	/	/	/	/	/	/	/	/	/	/	/	/
Other *	9	/	0.5/0.5	/	/	/	/	/	/	/	/	/	0.5/0.5
Total	67	/	1.5/1.5	0/1.0	/	/	/	0/1	/	/	/	/	1.5/3.5

Subject Matter Experts by System Category	FTEs needed for SS oversight	Names **	Comments
Confinement Ventilation	-		
Fire Protection	1.6	Terry Zimmerman - 0.6 FTE (Vacant FP) – 1 FTE	Dave Nester serving in SME role as a compensatory measure.
Electrical	0.7	Vacant EE	Includes Thermal Monitoring Systems; Bob Young serving in SME role as compensatory measure.
Radiation Monitoring	0.3	Vacant EE	Includes RAD-SAFE System; Bob Young serving in SME role as compensatory measure.
Hoist & Crane	0.2	Terry Zimmerman	
Process	0.2	Jefferson Tedrow	
Communication	-		
Gas & Air	-		
Other	0.5	Jefferson Tedrow	

* Criticality Safety Oversight (0.1 FTE) is being covered by the Service Center.

** SME matrix support from other on-site groups available to provide coverage until positions can be permanently filled. PXSO has initiated actions to fill these positions and expects to have vacancy announcements issued by June 2003.

**Table A6 – Summary of Needs and Assignments: NNSA SRSO
Savannah River Site Office**

Safety System Category	Applicable Technical Qualification Area (FTEs Assigned/FTEs Needed for Safety System Oversight)												
	# of SSs	NE	ME	EE	I/C	CRIT	ChE PrE	FP	OS (IH)	RP	C/SE (NPH)	EP	Total
Confinement Ventilation	4	0.4/0.4	/	/	/	/	/	/	/	/	/	/	0.4/0.4
Fire Protection	3	/	/	/	/	/	/	0.5/0.5	/	/	/	/	0.5/0.5
Electrical	2	0.1/0.1	/	/	/	/	/	/	/	/	/	/	0.1/0.1
Radiation Monitoring	3	0.3/0.3	/	/	/	/	/	/	/	/	/	/	0.3/0.3
Hoist & Crane	0	/	/	/	/	/	/	/	/	/	/	/	/
Process	2	0.1/0.1	/	/	/	/	/	/	/	/	/	/	0.1/0.1
Communication	0	/	/	/	/	/	/	/	/	/	/	/	/
Gas & Air	0	/	/	/	/	/	/	/	/	/	/	/	/
Other	1	0.3/0.3	/	/	/	/	/	/	/	/	/	/	0.3/0.3
Total	15	1.2/1.2	/	/	/	/	/	0.5/0.5	/	/	/	/	1.7/1.7

Subject Matter Experts by System Category	FTEs needed for SS oversight	Names	Comments
Confinement Ventilation	0.4	Rick Haynes Brent Gutierrez	
Fire Protection	0.5	Glenn Morton David Boyll	
Electrical	0.1	Fred Black Karey McAlhany Rick Haynes	
Radiation Monitoring	0.3	Richard Huskin Rick Haynes	
Hoist & Crane	-		
Process	0.1	Karey McAlhany Rick Haynes	
Communication	-		
Gas & Air	-		
Other	0.3	Karey McAlhany Rick Haynes	

**Table A7 – Summary of Needs and Assignments: NNSA SSO
Sandia Site Office**

Safety System Category	Applicable Technical Qualification Area (FTEs Assigned/FTEs Needed for Safety System Oversight)												Total
	# of SSs	NE	ME	EE	I/C	CRIT	ChE PrE	FP	OS (IH)	RP	C/SE (NPH)	EP	
Confinement Ventilation	3	/	0/0.4	/	/	/	/	/	/	/	/	/	0/0.4
Fire Protection		/	/	/	/	/	/	/	/	/	/	/	/
Electrical		/	/	/	/	/	/	/	/	/	/	/	/
Radiation Monitoring	3	/	/	/	/	/	/	/	/	0/0.12	/	/	0/0.12
Hoist & Crane		/	/	/	/	/	/	/	/	/	/	/	/
Process	22	/	0/0.32	/	0/0.9	/	/	/	/	/	/	/	0/1.22
Communication		/	/	/	/	/	/	/	/	/	/	/	/
Gas & Air	2	/	0/0.04	/	/	/	/	/	/	/	/	/	0/0.04
Other	9	/	0/0.1	/	/	/	/	/	/	0/0.1	/	/	0/0.2
Total	39	/	0/0.86	/	0/0.9	/	/	/	/	0/0.22	/	/	0/1.98

Subject Matter Experts by System Category	FTEs needed for SS oversight	Names *	Comments *
Confinement Ventilation	0.40	Rich Clement (FR) Kevin Gray (FR)	Support Contractor (ME Compensatory) Michael Ortega (ME Permanent – 0.40 FTE)
Fire Protection	-		
Electrical	-		
Radiation Monitoring	0.12	Donny Brady (RP)	Brady is provided by Service Center
Hoist & Crane	-		
Process	1.22	Rich Clement (FR) Kevin Gray (FR)	Support Contractor (ME Compensatory), Support Contractor (I&C Compensatory), Michael Ortega (ME Permanent – 0.32 FTE), TBD (I&C Permanent – 0.90 FTE)
Communication	-		
Gas & Air	0.04	Rich Clement (FR) Kevin Gray (FR)	Support Contractor (ME Compensatory) Michael Ortega (ME Permanent – 0.04 FTE)
Other	0.20	Rich Clement (FR) Kevin Gray (FR) Donny Brady (RP)	Support Contractor (ME Compensatory) Michael Ortega (ME Permanent – 0.10 FTE) Brady is provided by Service Center.

* Facility Representatives (FRs) have been providing most of the safety system oversight. Although this approach has provided adequate coverage, dedicated safety systems oversight personnel are now being requested. The site office is requesting additional support services for two SMEs to perform the safety system oversight as a compensatory measure. The site office has revised its staffing plan to include both a mechanical and electrical (I&C) engineer to fill these positions permanently. The site office is developing position descriptions for these new positions. The mechanical engineer has been selected and is being developed; however the electrical engineer position has not yet been posted. SSO has initiated actions to fill this position and expects to have a vacancy announcement issued by September 2003.

**Table A8 – Summary of Needs and Assignments: NNSA YSO
Y-12 Site Office**

Safety System Category	Applicable Technical Qualification Area (FTEs Assigned/FTEs Needed for Safety System Oversight)												
	# of SSs	NE	ME	EE	I/C	CRIT	ChE PrE	FP	OS (IH)	RP	C/SE (NPH)	EP	Total
Confinement Ventilation	6	/	0.9/0.9	/	/	/	/	/	/	/	/	/	0.9/0.9
Fire Protection	11	/	/	/	/	/	/	1.0/1.0	/	/	/	/	1.0/1.0
Electrical	1	/	0.25/0.25	/	/	/	/	/	/	/	/	/	0.25/0.25
Radiation Monitoring	10	0.4/0.4	/	/	/	1.0/1.0	/	/	/	/	/	/	1.4/1.4
Hoist & Crane	0	/	/	/	/	/	/	/	/	/	/	/	/
Process	6	0.5/0.5	0.75/0.75	/	/	/	0.8/0.8	/	/	/	/	/	2.05/2.05
Communication	0	/	/	/	/	/	/	/	/	/	/	/	/
Gas & Air	1	0.1/0.1	0.1/0.1	/	/	/	0.2/0.2	/	/	/	/	/	0.4/0.4
Other	0	/	/	/	/	/	/	/	/	/	/	/	/
Total	35	1.0/1.0	2.0/2.0	/	/	1.0/1.0	1.0/1.0	1.0/1.0	/	/	/	/	6.0/6.0

Subject Matter Experts by System Category	FTEs needed for SS oversight	Names *	Comments
Confinement Ventilation	0.9	Rick Swatzell	
Fire Protection	1.0	Jim Hutton	J. Hutton is YSO's Fire Protection Engineer and is carrying out the duties of the Fire Protection System Engineer.
Electrical	0.25	David McGinty	
Radiation Monitoring	1.4	Jay McDonald (1.0) Ken Rhyne (0.4)	
Hoist & Crane	-		
Process	2.05	David McGinty (0.75) Ken Rhyne (0.5) Chelsea Hubbard (0.8)	
Communication	-		
Gas & Air	0.4	Chelsea Hubbard (0.2) Ken Rhyne (0.1) Rick Swatzell (0.1)	
Other	-		

* To address short-term supplemental needs, YSO intends to utilize the Corporate Technical Group for Support, and existing staff expertise that resides in other parts of the YSO organization. Also, YSO will continue to use one full time support contractor for Criticality Safety System Oversight.

**Table A9 – Summary of Needs and Assignments: EM CBFO
Carlsbad Field Office**

Safety System Category	Applicable Technical Qualification Area (FTEs Assigned/FTEs Needed for Safety System Oversight)												
	# of SSs	NE	ME	EE	I/C	CRIT	ChE PrE	FP	OS (IH)	RP	C/SE (NPH)	EP	Total
Confinement Ventilation	2	/	0.2/0.2	0.1/0.1	/	/	/	/	/	/	/	/	0.3/0.3
Fire Protection	1	/	0.05/0.05	0.05/0.05	/	/	/	0.1/0.1	/	/	/	/	0.2/0.2
Electrical	0	/	/	/	/	/	/	/	/	/	/	/	/
Radiation Monitoring	1	0.1/0.1	/	0.1/0.1	/	/	/	/	/	0.1/0.1	/	/	0.3/0.3
Hoist & Crane	2	/	0.1/0.1	0.1/0.1	/	/	/	/	/	/	/	/	0.2/0.2
Process	0	/	/	/	/	/	/	/	/	/	/	/	/
Communication	1	/	/	0.1/0.1	/	/	/	/	/	/	/	0.1/0.1	0.2/0.2
Gas & Air	0	/	/	/	/	/	/	/	/	/	/	/	/
Other	1	/	0.1/0.1	/	/	/	/	/	/	/	/	/	0.1/0.1
Total	8	0.1/0.1	0.45/0.45	0.45/0.45	/	/	/	0.1/0.1	/	0.1/0.1	/	0.1/0.1	1.3/1.3

Subject Matter Experts by System Category	FTEs needed for SS oversight	Names	Comments
Confinement Ventilation	0.3	Jack Gilbert	
Fire Protection	0.2	J. R. Galle	
Electrical	-		
Radiation Monitoring	0.3	Rich Farrell	
Hoist & Crane	0.2	Jack Gilbert	
Process	-		
Communication	0.2	Mike Oliver	
Gas & Air	-		
Other	0.1	Beth Bennington	

**Table A10 – Summary of Needs and Assignments: EM ID
Idaho Operations Office ***

Safety System Category	Applicable Technical Qualification Area (FTEs Assigned/FTEs Needed for Safety System Oversight)												
	# of SSs	NE	ME	EE	I/C	CRIT	ChE PrE	FP	OS (IH)	RP	C/SE (NPH)	EP	Total
Confinement Ventilation	3	/	0.05/0.05	0.10/0.10	/	/	/	/	/	/	/	/	0.15/0.15
Fire Protection	8	/	/	/	/	/	/	0.4/0.4	/	/	/	/	0.40/0.40
Electrical	1	/	/	0.04/0.04	/	/	/	/	/	/	/	/	0.04/0.04
Radiation Monitoring	3	/	/	/	/	/	/	/	/	0.1/0.1	/	/	0.10/0.10
Hoist & Crane	1	/	0.14/0.14	/	/	/	/	/	/	/	/	/	0.14/0.14
Process	2	/	/	/	/	/	0.1/0.1	/	/	/	/	/	0.10/0.10
Communication	0	/	/	/	/	/	/	/	/	/	/	/	/
Gas & Air	0	/	/	/	/	/	/	/	/	/	/	/	/
Other	131	4.1/4.1	/	/	/	2/2	/	/	/	/	/	/	6.10/6.10
Total	149**	4.1/4.1	0.19/0.19	0.14/0.14	/	2/2	0.1/0.1	0.4 /0.4	/	0.1/0.1	/	/	7.03/7.03

Subject Matter Experts by System Category	FTEs needed for SS oversight	Names	Comments
Confinement Ventilation	0.15		
Fire Protection	0.40		
Electrical	0.04		
Radiation Monitoring	0.10		
Hoist & Crane	0.14		
Process	0.10		
Communication	-		
Gas & Air	-		
Other	6.10		
Total	7.03	Julie Conner Mike Schultz Paul Contreras Bob Boston Craig Enos Arnie Preece Christian Natoni	TRA Hot Cells TANO RWMC ATR INTEC INTEC PBF

* ID has a total FTE need of seven, with seven subject matter experts assigned by name to cover the safety systems at specific facilities. ID has also assigned twenty-three functional area experts, shown on the next page (Table A-11), to support the seven subject matter experts. The seven system subject matter experts call upon the functional area experts for technical expertise and support as needed.

** In the January 2002 analysis, ID identified 22 safety systems at 5 pilot facilities. This update encompasses all 25 defense nuclear facilities at Idaho. ID is now reporting a total of 149 safety systems at 25 facilities. Many of ID's systems do not fit well within the defined system categories and have been categorized as "other." For example, Hot Cells, Fuel Storage Racks, and Reactor Protection Systems were categorized as "other." ID has assigned SMEs to all identified safety systems.

**Table A11 – Functional Area Expert Assignments: EM ID
Idaho Operations Office ***

Functional Area	Functional Area Expert
Nuclear Safety Systems	Jacque Carrozza Thomas Wichmann
Criticality Safety	Adolph Garcia Dave Neil
Health Physics	Kenneth Whitham Richard Dickson
Electrical Systems	Michael Hicks
Mechanical Systems	Paul Contreras
Occupational Safety	Richard Caummisar Jack Heier Eric Roy
Fire Protection	Taryn Couchman
Industrial Hygiene	Thomas Must Cheryl Floreen
Technical Training	Steve Somers
Quality Assurance	Robert Davis Randy Kay
Emergency Preparedness	Allen Dudziak Clayton Ogilvie Stacey Madson
Transportation and Traffic Management	Miriam Taylor
Facility Maintenance Management	Brian Conlon
Project Management	William Lattin

* ID has a total FTE need of seven, with seven subject matter experts assigned by name to cover the safety systems at specific facilities. ID has also assigned twenty-three functional area experts to support the seven subject matter experts. The seven system subject matter experts (shown on Table A-10) call upon the functional area experts for technical expertise and support as needed.

**Table A12 – Summary of Needs and Assignments: EM OH FEMP
 Ohio Operations Office, Fernald Environmental Management Project**

Safety System Category	Applicable Technical Qualification Area (FTEs Assigned/FTEs Needed for Safety System Oversight)												Total
	# of SSs	NE	ME	EE	I/C	CRIT	ChE PrE	FP	OS (IH)	RP	C/SE (NPH)	EP	
Confinement Ventilation	0	/	/	/	/	/	/	/	/	/	/	/	/
Fire Protection	1	/	/	/	/	/	/	1.0/1.0	/	0.3/0.3	/	/	1.3/1.3
Electrical	0	/	/	/	/	/	/	/	/	/	/	/	/
Radiation Monitoring	1	/	/	/	/	/	/	/	/	0.2/0.2	/	/	0.2/0.2
Hoist & Crane	0	/	/	/	/	/	/	/	/	/	/	/	/
Process	0	/	/	/	/	/	/	/	/	/	/	/	/
Communication	0	/	/	/	/	/	/	/	/	/	/	/	/
Gas & Air	0	/	/	/	/	/	/	/	/	/	/	/	/
Other	4	/	/	/	/	/	/	/	/	0.5/0.5	/	/	0.5/0.5
Total	6	/	/	/	/	/	/	1.0/1.0	/	1.0/1.0	/	/	2.0/2.0

Subject Matter Experts by System Category	FTEs needed for SS oversight	Names	Comments
Confinement Ventilation	-		
Fire Protection	1.3	Victor Taylor (1.0), Pete Darnell (0.3)	
Electrical	-		
Radiation Monitoring	0.2	Pete Darnell	
Hoist & Crane	-		
Process	-		
Communication	-		
Gas & Air	-		
Other	0.5	Pete Darnell	

**Table A13 – Summary of Needs and Assignments: EM OH MEMP
Ohio Operations Office, Mound Environmental Management Project**

Safety System Category	Applicable Technical Qualification Area (FTEs Assigned/FTEs Needed for Safety System Oversight)												Total
	# of SSs	NE	ME	EE	I/C	CRIT	ChE PrE	FP	OS (IH)	RP	C/SE (NPH)	EP	
Confinement Ventilation	2	/	0.5/0.5	0.5/0.5	/	/	/	/	/	0.5/0.5	/	/	1.5/1.5
Fire Protection	2	/	/	/	/	/	/	0.2/0.2	/	/	/	/	0.2/0.2
Electrical	0	/	/	/	/	/	/	/	/	/	/	/	/
Radiation Monitoring	5	/	/	/	/	/	/	/	/	0.5/0.5	/	/	0.5/0.5
Hoist & Crane	0	/	/	/	/	/	/	/	/	/	/	/	/
Process	0	/	/	/	/	/	/	/	/	/	/	/	/
Communication	0	/	/	/	/	/	/	/	/	/	/	/	/
Gas & Air	3	/	0.5/0.5	/	/	/	0.5/0.5	/	/	/	/	/	1.0/1.0
Other	4	/	/	/	/	/	/	/	1.0/1.0	/	/	/	1.0/1.0
Total	16	/	1.0/1.0	0.5/0.5	/	/	0.5/0.5	0.2/0.2	1.0/1.0	1.0/1.0	/	/	4.2/4.2

Subject Matter Experts by System Category	FTEs needed for SS oversight	Names	Comments
Confinement Ventilation	1.5	Danny Punch (0.5), John Saluke (0.5), David Kent (0.5)	
Fire Protection	0.2	Howard Etkind	
Electrical	-		
Radiation Monitoring	0.5	David Kent	
Hoist & Crane	-		
Process	-		
Communication	-		
Gas & Air	1.0	Danny Punch (0.5), Ron Berry (FR* - 0.5)	
Other	1.0	Kimberly Torrey	

* Mound is a closure site. Berry is able to perform part-time FR duties as well as part-time SME duties, consistent with the changing site closure missions.

**Table A14 – Summary of Needs and Assignments: EM ORO
Oak Ridge Operations Office**

Safety System Category	Applicable Technical Qualification Area (FTEs Assigned/FTEs Needed for Safety System Oversight)												
	# of SSs	NE	ME	EE	I/C	CRIT	ChE PrE	FP	OS (IH)	RP	C/SE (NPH)	EP	Total
Confinement Ventilation	6	/	0.3/0.3	/	/	/	/	/	/	/	/	/	0.3/0.3
Fire Protection	5	/	/	/	/	/	/	0.3/0.3	/	/	/	/	0.3/0.3
Electrical	0	/	/	/	/	/	/	/	/	/	/	/	/
Radiation Monitoring	5	/	/	0.3/0.3	/	/	/	/	/	/	/	/	0.3/0.3
Hoist & Crane	1	/	/	/	/	/	/	/	0.1/0.1	/	/	/	0.1/0.1
Process	0	/	/	/	/	/	/	/	/	/	/	/	/
Communication	0	/	/	/	/	/	/	/	/	/	/	/	/
Gas & Air	0	/	/	/	/	/	/	/	/	/	/	/	/
Other	3	/	/	/	/	0.2/0.2	/	/	/	/	0.05/0.05	/	0.25/0.25
Total	20	/	0.3/0.3	0.3/0.3	/	0.2/0.2	/	0.3/0.3	0.1/0.1	/	0.05/0.05	/	1.25/1.25

Subject Matter Experts by System Category	FTEs needed for SS oversight	Names	Comments
Confinement Ventilation	0.3	David Queen	
Fire Protection	0.3	Jim Landmesser	
Electrical	-		
Radiation Monitoring	0.3	Tom Youngblood	
Hoist & Crane	0.1	Dave Worrall	
Process	-		
Communication	-		
Gas & Air	-		
Other	0.25	Kevin Reynolds – criticality (0.2) Gary Riner - structural (0.05)	

* ORO-EM currently in the process of reviewing/approving 10 CFR 830 compliant DSAs; revisions to resource needs may occur commensurate with safety systems credited.

**Table A15 – Summary of Needs and Assignments: EM ORP
Office of River Protection**

Safety System Category	Applicable Technical Qualification Area (FTEs Assigned/FTEs Needed for Safety System Oversight)												
	# of SSs	NE	ME	EE	I/C	CRIT	ChE PrE	FP	OS (IH)	RP	C/SE (NPH)	EP	Total
Confinement Ventilation	9	/	0.5/0.5	/	/	/	/	/	/	/	/	/	0.5/0.5
Fire Protection	7	/	/	/	/	/	/	0.5/0.5	/	/	/	/	0.5/0.5
Electrical	1	/	/	0.25/0.25	/	/	/	/	/	/	/	/	0.25/0.25
Radiation Monitoring	12	/	/	/	1.0/1.0	/	/	/	/	/	/	/	1.0/1.0
Hoist & Crane	0	/	/	/	/	/	/	/	/	/	/	/	/
Process	4	/	0.5/0.5	/	/	/	/	/	/	/	/	/	0.5/0.5
Communication	0	/	/	/	/	/	/	/	/	/	/	/	/
Gas & Air	2	/	0.25/0.25	/	/	/	/	/	/	/	/	/	0.25/0.25
Other	0	/	/	/	/	/	/	/	/	/	/	/	/
Total	35	/	1.25/1.25	0.25/0.25	1.0/1.0	/	/	0.5/0.5	/	/	/	/	3.0/3.0

Subject Matter Experts by System Category	FTEs needed for SS oversight	Names	Comments
Confinement Ventilation	0.5	Ben Harp (FR)*	Craig Groendyke in-training
Fire Protection	0.5	Walter Scott	
Electrical	0.25	Russ Harwood	
Radiation Monitoring	1.0	Dale Splett (0.5) Russ Harwood (0.5)	
Hoist & Crane	-		
Process	0.5	Ken Wade (FR)*	Vic Callahan in-training
Communication	-		
Gas & Air	0.25	Ken Wade (FR)*	Vic Callahan in-training
Other	-		

* Facility Representatives (FRs) will be replaced in the subject matter expert role by September 30, 2003. FRs are currently training their replacements.

**Table A16 – Summary of Needs and Assignments: EM RFFO
Rocky Flats Field Office**

Safety System Category	Applicable Technical Qualification Area (FTEs Assigned/FTEs Needed for Safety System Oversight)												
	# of SSs	NE	ME	EE	I/C	CRIT	ChE PrE	FP	OS (IH)	RP	C/SE (NPH)	EP	Total
Confinement Ventilation	9	/	0.3/0.3	/	/	/	/	/	/	/	/	/	0.3/0.3
Fire Protection	10	/	/	/	/	/	/	0.3/0.3	/	/	/	/	0.3/0.3
Electrical	5	/	/	0.3/0.3	/	/	/	/	/	/	/	/	0.3/0.3
Radiation Monitoring	11	/	/	/	/	0.3/0.3	/	/	/	0.2/0.2	/	/	0.5/0.5
Hoist & Crane	0	/	/	/	/	/	/	/	/	/	/	/	/
Process	4	/	/	/	/	/	0.1/0.1	/	/	/	/	/	0.1/0.1
Communication	6	/	/	0.1/0.1	/	/	/	/	/	/	/	/	0.1/0.1
Gas & Air	3	/	/	/	/	/	0.1/0.1	/	/	/	/	/	0.1/0.1
Other	0	/	/	/	/	/	/	/	/	/	/	/	/
Total	48	/	0.3/0.3	0.4/0.4	/	0.3/0.3	0.2/0.2	0.3/0.3	/	0.2/0.2	/	/	1.7/1.7

Subject Matter Experts by System Category	FTEs needed for SS oversight	Names	Comments
Confinement Ventilation	0.3	Richard Thomas (FR) *	Part-time SME duties
Fire Protection	0.3	Bob Williams	
Electrical	0.3	Paul Bakke	
Radiation Monitoring	0.5	Bob Wilson, Bruce Wallin	
Hoist & Crane	-		
Process	0.1	Jerry Stakebake	
Communication	0.1	Paul Bakke	
Gas & Air	0.1	Wayne Seyfert	
Other	-		

* Rocky Flats is a closure site. Thomas is able to perform FR duties as well as SME duties.

**Table A17 – Summary of Needs and Assignments: EM RL
Richland Operations Office ***

Safety System Category	Applicable Technical Qualification Area (FTEs Assigned/FTEs Needed for Safety System Oversight)												Total
	# of SSs	NE	ME	EE	I/C	CRIT	ChE PrE	FP	OS (IH)	RP	C/SE (NPH)	EP	
Confinement Ventilation	31	/	1.2/1.2	/	0.1/0.1	/	/	/	/	0.1/0.1	/	/	1.4/1.4
Fire Protection	27	/	/	/	/	/	/	1.0/2.0	/	/	/	/	1.0/2.0
Electrical	5	/	/	0.3/0.3	0.1/0.1	/	/	/	/	/	/	/	0.4/0.4
Radiation Monitoring	14	/	/	/	0.2/0.2	1.5/1.5	/	/	/	0.3/0.3	/	/	2.0/2.0
Hoist & Crane	1	/	0.2/0.2	/	/	/	/	/	/	/	/	/	0.2/0.2
Process	16	/	/	/	0.3/0.3	/	/	/	/	0.1/0.1	/	/	0.4/0.4
Communication	2	/	/	/	/	/	/	/	/	/	/	/	/
Gas & Air	5	/	0.4/0.4	/	0.1/0.1	/	/	/	/	/	/	/	0.5/0.5
Other	1	/	/	/	/	/	/	/	/	/	/	/	/
Total	102	/	1.8/1.8	0.3/0.3	0.8/0.8	1.5/1.5	/	1.0/2.0	/	0.5/0.5	/	/	5.9/6.9

Subject Matter Experts by TQP Functional Area	FTEs needed for SS oversight	Names	Comments
Mechanical (including Confinement Ventilation)	1.8	Mark Hahn, Al Colburn	
Electrical	0.3	Dor Collado	
Instrumentation and Control	0.8	Jim McCracken	
Criticality	1.5	Tom Nirider, Shiv Seth (0.5)	
Fire Protection	2.0	Craig Christensen, FP Vacancy	Selection to fill vacancy made on 2/07/03, pending approval from EM-1
Radiological Protection	0.5	Brenda Pangborn	

* RL groups its safety systems into functional area categories for subject matter expert assignments. Many of these systems are in facilities that are in the surveillance and maintenance mode. RL also has back-up safety personnel assigned to safety programs.

**Table A18 – Summary of Needs and Assignments: EM SR
Savannah River Operations Office**

Safety System Category	Applicable Technical Qualification Area (FTEs Assigned/FTEs Needed for Safety System Oversight)												
	# of SSs	NE	ME	EE	I/C	CRIT	ChE PrE	FP	OS (IH)	RP	C/SE (NPH)	EP	Total
Confinement Ventilation	23	2.8/2.8	2.7/2.7	/	/	/	/	/	/	/	/	/	5.5/5.5
Fire Protection	3	0.1/0.1	/	/	/	/	/	0.8/0.8	/	/	/	/	0.9/0.9
Electrical	20*	0.8/0.8	/	1.0/1.0	/	0.1/0.1	/	/	/	/	/	/	1.9/1.9
Radiation Monitoring	24	2.3/2.3	/	/	/	0.4/0.4	/	/	/	/	/	/	2.7/2.7
Hoist & Crane	4	0.4/0.4	/	/	/	/	/	/	/	/	/	/	0.4/0.4
Process	18	3.1/3.1	/	/	/	0.4/0.4	0.4/0.4	/	/	/	/	/	3.9/3.9
Communication	0	/	/	/	/	/	/	/	/	/	/	/	0.0/0.0
Gas & Air	6	/	1.7/1.7	/	/	/	/	/	/	/	/	/	1.7/1.7
Other	20	3.3/3.3	/	/	/	/	/	/	/	/	/	/	3.3/3.3
Total	118	12.8/12.8	4.4/4.4	1.0/1.0	/	0.9/0.9	0.4/0.4	0.8/0.8	/	/	/	/	20.3/20.3

* Equivalent system numbers due to a large majority of smaller components within a total number of 124 SSCs.

Subject Matter Experts by System Category	FTEs needed for SS oversight	Names	Comments
Confinement Ventilation	5.5	Billy Hudson, Bill Erickson, Jerry Taylor, Jim Kekacs, Ray Robinson, Tim Smith, Sue Aleman, Don Blake, Tom Temple, Fred Schultz	Shultz provides support to others on an as-needed basis only.
Fire Protection	0.9	David Boyll, Glenn Morton, Garry Yaffe (FR)	Yaffe's system oversight workload is small (about 10% of his time) and does not interfere with his FR duties.
Electrical	1.9	DeWilson Rogers, Marc Woodworth, Sue Aleman, Jimmy Guerry	Components were consolidated into system equivalents.
Radiation Monitoring	2.7	Dick Huskin, Chuck Radford, Bill Frazier, Sue Aleman, Don Blake, Jimmy Guerry, Tom Temple	Due to similarity and reliability of systems, actual workload is much less than 2.7 FTEs.
Hoist & Crane	0.4	Gary Borba	
Process	3.9	Jerry Taylor, Jim Kekacs, Tim Smith, Ray Robinson, Billy Hudson, Bill Erickson, Sue Aleman, Jimmy Guerry, Pat Suggs, Larry Ling	
Communication	-		
Gas & Air	1.7	Sue Aleman, Don Blake, Jimmy Guerry, Tom Temple, Jean Ridley	
Other	3.3	Sue Aleman, Don Blake, Jimmy Guerry, Tom Temple, Jean Ridley	