Training for the NCSX Project

Design & Fabrication Phase

Overview of Training for NCSX

Training is developed at PPPL using a systematic approach including five phases: analysis, design, development, implementation and evaluation. This analysis phase was completed with the Head of the NCSX Project and the Deputy Director of Human Resources and the training specialist. The information flushed out at this meeting resulted in the basis for the development of a training matrix for the NCSX Project. The Laboratory already has in place safety training classes, as well as policies and procedures for how we conduct business and training. The NCSX project has developed a web site that delineates all of their requirements for safety, engineering and quality control. In addition the training specialists interview managers and engineers in order to identify the training needs for their particular staffs who would be working on this project. Using this information the training group developed matrices which have been approved by the cognizant managers and the training office. These matrices reflect only the design and fabrication phase of the NSCX Project. The operations phase will be developed later.

Reference Documents

PPPL Policies	Staff Training & Development, Policy No. P-008 Subcontractor Training Requirements No. P-028
TR-001	Laboratory Training Program
GEN-008	Coordination of Visits and Assignments to PPPL and Site Access Requirements

General Information

Training matrices are approved, uncontrolled documents (they are assigned neither a document number nor revision level). The development of training matrices is recommended for all Laboratory groups. Training matrices are designed to detail training that is required and training that is recommended for a specific position. The information from the matrices is entered into the Laboratory's training database for each staff member identified. Reports are generated monthly, which delineate for managers training to be renewed over the next three months.

The following matrices are approved:

NCSX Diagnostics
NCSX Construction
NCSX Design & Fabrication (Engineering)
NCSX Neutral Beams

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Next Steps

The next phase of this project is to complete a gap analysis to identify which training the NCSX staff currently has and which training is left to be developed and/or completed. Routine safety training classes will continue to be provided for the NCSX staff. Reporting to managers on the status of safety training will continue per PPPL practice. This report is distributed monthly and informs the manager what training needs to be renewed in the coming three months.

The Training Office will notify project management which staff members have not had training on the specific engineering procedures indicated on the matrix and work with managers to complete this phase also. Specific training on NCSX procedures will be developed in the coming months and training will be scheduled. An Overview class has been completed and was attended by most of the NCSX engineers and WBS managers.

The expectation is that this will be completed by the end of CY 2003.

Susan Murphy-LaMarche
Office of Human Resources

Position/Person	GET	Basic Electrical Safety	Radiation Safety
	***	***	**
Doug Le Brie	X	X	X
Jim Gorman	X	X	X
Larry Guttadora	X	X	X
Mike Dimattia	X	X	X
Tom Holoman	X	X	X

Legend for Frequency of Training:

*	One time only
**	Every 2 years
***	Every 3 years
X	Required

Position/Person	Training Category	GET	Radiation Safety	Confined Space	Basic Electrical Safety	Hoisting & Rigging	Hazard Comm (RTK)	Lockout/ Tagout	Fire Exting. Fire Watch	CPR	Compressed Gases/ Cryo Liquids
		***	**	**	***	***	**	*	*	**	*
Field Crew	1	X	X	X	X		X	X	X		
Engineering/Design	3	X	X		X		X	X			
Non-field Technician	4	X	X		X		X				
Anderson, Michael	1	X	X	X	X	X	X	X	X	X	
Czeizinger, Tom	1	X	X	X	X	X	X	X	X		X
Desandro, John	1	X	X	X	X	X	X	X	X		X
Gething, Jerry	1	X	X	X	X	X	X	X	X		X
Gifford, Scott	1	X	X	X	X	X	X	X	X		
Hause, Christopher	1	X	X	X	X	X	X	X	X		
Herskowitz, Bob	1	X	X	X	X	X	X	X	X		
Jurczynski, Steve	4	X	X	X	X		X				
Kukon, James	1	X	X	X	X	X	X	X	X		X
Langella, Tony	3	X	X		X		X	X			
Meighan, Thomas	3	X	X	X	X		X	X	X	X	
Parsells, Robert	3	X	X		X		X	X			
Perry, Erik	3	X	X	X	X		X	X	X		
Semler, John	3	X	X	X	X		X	X	X		
Snead, Roland	1	X	X	X	X	X	X	X	X		
Vinson, Slyvester	1	X	X	X	X	X	X	X	X		
Viola, Michael	3	X	X	X	X	X	X	X	X		
Winston, Joseph	1	X	X	X	X	X	X	X	X		X

Legend for Frequency of Training:

*	One time only	1 Field Crew
**	Every 2 years	2 Door Guard
***	Every 3 years	3 Engineering./Design
X	Required	4 Non-Construction Tech

Position/Person	Training	Aerial	Access	Fall	Forklift	Scissor	ISM	Ladder	Penetration	Safeguards	Sexual	Electrical

	Category	Boom Lift	To NSX	Protection		Lift		Safety	Drilling	& Security	Harassment	Utilization
Field Crew	1		X	X			X	X	X	X	X	X
Engineering/Design	3		X				X			X	X	
Non-field Technician	4						X			X	X	
Anderson, Michael	1		X	X		X	X	X	X	X	X	
Czeizinger, Tom	1		X	X			X	X	X	X	X	
Desandro, John	1	X	X	X		X	X	X	X	X	X	
Gething, Jerry	1		X	X			X	X	X	X	X	
Gifford, Scott	1		X	X	X	X	X	X	X	X	X	
Hause, Christopher	1		X	X	X	X	X	X	X	X	X	
Herskowitz, Bob	1		X	X			X	X	X	X	X	
Jurczynski, Steve	4						X			X	X	
Kukon, James	1		X	X		X	X	X	X	X	X	
Langella, Tony	3		X				X			X	X	X
Meighan, Thomas	3		X	X			X	X	X	X	X	X
Parsells, Robert	3		X				X			X	X	
Perry, Erik	3		X	X			X	X	X	X	X	X
Semler, John	3		X	X			X	X	X	X	X	
Snead, Roland	1	X	X	X	X	X	X	X	X	X	X	
Vinson, Slyvester	1	X	X	X	X	X	X	X	X	X	X	
Viola, Michael	3		X	X			X	X	X	X	X	
Winston, Joseph	1		X	X			X	X	X	X	X	

Legend for Frequency of Training:

*	One time only	1 Field Crew
**	Every 2 years	2 Door Guard
***	Every 3 years	3 Engineering./Design
X	Required	4 Non-Construction Tech

NCSX- Design & Fabrication Phase

Safety Training Matrix

Position	GET	ISM	Basic Electrical Safety	Electrical Utilization	Cryogenic Safety	Confined Space	Vacuum Technology /OJT	Radiation Safety	Laser Safety
Frequency									
Project Management	X	X							
Engineering Design	X	X							
Vacuum Systems	X	X					X		
Cryo Systems	X	X	X	X	X	X	X		
Electrical Systems	X	X	X	X				X	
Coil Systems	X	X	X		X	X			
Neutral Beams	X	X	X						
Facilities Systems	X	X				X		X	
Instrumentation & Control Systems	X	X	X						
Diagnostic Systems	X	X	X			X		X	X

Empty space = training not needed for that position
X = training needed

Offsite Collaborators will follow the requirements of GEN-008
And receive site specific training as required by their job responsibilities

NCSX- Design & Fabrication Phase

Training Matrix

Position	Overview of Web-Based Project Engineering System for NCSX	ESH-04 Job Hazard Analysis	ESH-014 NEPA Review System	ENG-030 PPPL Technical Procedures for Experimental Facilities	ENG-032 Work Planning	ENG-033 Design Validation	NCSX Procedures NCSX-PROC-002-006
Frequency							
Project Management	X	X	X	X	X	X	X
Engineering Design	X	X	X	X	X	X	X
Vacuum Systems	X	X	X	X	X	X	X
Cryo Systems	X	X	X	X	X	X	X
Electrical Systems	X	X	X	X	X	X	X
Coil Systems	X	X	X	X	X	X	X
Neutral Beams	X	X	X	X	X	X	X
Facilities Systems	X	X	X	X	X	X	X
Instrumentation & Control Systems	X	X	X	X	X	X	X
Diagnostic Systems	X	X	X	X	X	X	X

Approved by: _____
(Division Head) (Date)

Approved by: _____
(Office of Human Resources) (Date)

Legend for Frequency of Training

- One time only
- Annual
- Every 2 years
- Every 3 years

X = training needed
Empty space = training not needed for that position

Position/Person	Training Category	GET	Radiation Safety	Confined Space	Basic Electrical Safety	Hoisting & Rigging	Hazard Comm (RTK)	Lockout Tagout	Fire Exting/ Fire Watch	CPR
		***	**	**	***	***	**	*	*	**
NBI Field Crew	1	X	X	X	X		X	X	X	
NBI Engineering	3	X	X		X		X	X		
NBI Technician	4	X		X	X		X	X		
J. Carson	4									
G. Gibilisco	4									
L. Halvorsen	4									
A. Patterson	4									
Field Crew TBD	1									
Field Crew TBD	1									
Field Crew TBD	1									

Legend for Frequency of Training:

X Required
* One time only
** Every 2 years
*** Every 3 years

1 Field Crew
2 Door Guard
3 Engineering/Design
4 NBI Technician

Position/Person	Training Category	Access to NSTX	Fall Protection	ISM	Ladder Safety	Safeguards & Security	Sexual Harassment	Electrical Utilization
		**	***	*	*	**	*	***
NBI Field Crew	1	X	X	X	X	X	X	X
NBI Engineering	3	X		X		X	X	X
NBI Technician	4			X		X	X	X
J. Carson	4							
G. Gibilisco	4							
L. Halvorsen	4							
A. Patterson	4							
Field Crew TBD	1							
Field Crew TBD	1							
Field Crew TBD	1							

Legend for Frequency of Training:

X	Required
*	One time only
**	Every 2 years
***	Every 3 years

1	Field Crew
2	Door Guard
3	Engineering Design
4	NBI Technician