HWDB: Operations at the Spallation Neutron Source

Workshop on Accelerator Operations August 6-10, 2012

Glen D. Johns Accelerator Operations Manager





Outline

- Facility overview
- Organization
- Shift schedule
- Operating schedule
- Availability



Where is SNS? Eastern Tennessee as part of Oak Ridge National Lab



What is SNS?

- World's highest power pulsed spallation neutron source
- Consists of a 1 GeV superconducting linear accelerator, accumulator ring, and a flowing liquid mercury target
- Operates as a National User Facility for conducting neutron scattering research
 - 13 instruments in User Program
 - 6 in commissioning or under construction
- Funded by the Department of Energy's Office of Basic Energy Sciences (~\$181M/year)





















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Research Accelerator Division (~370)



Accelerator Operations Group (18)





Shift Schedules

Accelerator Operations personnel

	Μ	Т	W	Th	F	Sa	Su	м	Т	W	Th	F	Sa	Su	М	Т	W	Th	F	Sa	Su	Μ	Т	W	Th	F	Sa	Su	Μ	Т	W	Th	F	Sa	Su
CRSS		Ν	n			Ν	n	Ν			N	n				D	d			D	d	D			D	d			Т	Т	Т	Т			
CRSS		n	Ν			n	Ν	n			n	Ν				d	D			d	D	d			d	D			Т	Т	Т	Т			
CRAS		n	n			n	n	n			n	n				d	d			d	d	d			d	d			Т	Т	Т	Т			
CRSS	Т	Т	Т	Т					Ν	n			Ν	n	Ν			Ν	n				D	d			D	d	D			D	d		
CRSS	Τ	Т	Т	Т					n	Ν			n	Ν	n			n	Ν				d	D			d	D	d			d	D		
CRAS	Т	Т	Т	Т					n	n			n	n	n			n	n				d	d			d	d	d			d	d		
CRSS	D			D	d			Т	Т	Т	Т					N	n			Ν	n	Ν			Ν	n				D	d			D	d
CRSS	d			d	D			Т	Т	Т	Т					n	N			n	Ν	n			n	Ν				d	D			d	D
CRAS	d			d	d			Т	Т	Т	Т					n	n			n	n	n			n	n				d	d			d	d
CRSS		D	d			D	d	D			D	d			Т	Т	Т	Т					Ν	n			Ν	n	Ν			Ν	n		
CRSS		d	D			d	D	d			d	D			Т	Т	Т	Т					n	Ν			n	Ν	n			n	Ν		
CRAS		d	d			d	d	d			d	d			Т	Т	Т	Т					n	n			n	n	n			n	n		
CRSS	N			n	Ν				D	d			D	d	D			D	d			Т	Т	Т	Т					n	Ν			Ν	n
CRSS	n			Ν	n				d	D			d	D	d			d	D			Т	Τ	Τ	Т					Ν	n			n	Ν
CRAS	n			n	n				d	d			d	d	d			d	d			Т	Т	Т	Т					n	n			n	n

CRSS - Control Room Shift Supervisor CRAS - Control Room Accelerator Specialist

- D Day shift chief N - Night shift chief
- T Training (8h)
- 12 hour shifts D - 0600-1820
- N 1800-0620

Additional on-shift support personnel

	Μ	Т	W	Th	F	Sa	Su	М	Т	W	Th	F	Sa	Su	М	Т	W	Th	F	Sa	Su	М	Т	W	Th	F	Sa	Su
1	D	D	D	D							Ν	Ν	Ν	Ν					D	D	D	D	D	D				
2					D	D	D	D	D	D					D	D	D	D							Ν	Ν	N	Ν
3	N	Ν	Ν	Ν							D	D	D	D					N	Ν	Ν	Ν	Ν	Ν				
4					Ν	Ν	Ν	Ν	Ν	Ν					Ν	Ν	Ν	Ν							D	D	D	D

RCT - Radiological Control Technician OST - Operations Shift Technician IHC - Instrument Hall Coordinator

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N - 1830-0700



FY12 Operating Schedule

Rui	n Sch	nedul	e fo	r FY 2	2012																				
	Oct		Nov	1	Dec	;	Jan		Feb		Mar		Apr		Мау		June		July		Aug		Sept		
1		1		1		1		1		1		1		1		1		1		1		1			
2		2		2		2		2		2		2		2		2		2		2		2			
3		3		3		3		3		3		3		3		3		3		3		3			
4		4		4		4		4		4		4		4		4		4		4		4			
5		5		5		5		5		5		5		5		5		5		5		5			
6		6		6		6		6		6		6		6		6		6		6		6			
7		7		7		7		7		7		7		7		7		7		7		7			
8		8		8		8		8		8		8		8		8		8		8		8			
9		9		9		9		9		9		9		9		9		9		9		9			
10		10		10		10		10		10		10		10		10		10		10		10			
11		11		11		11		11		11		11		11		11		11		11		11			
12		12		12		12		12		12		12		12		12		12		12		12			
13		13		13		13		13		13		13		13		13		13		13		13			
14		14		14		14		14		14		14		14		14		14		14		14			
15		15		15		15		15		15		15		15		15		15		15		15			
16		16		16		16		16		16		16		16		16		16		16		16			
17		17		17		17		17		17		17		17		17		17		17		17			
18		18		18		18		18		18		18		18		18		18		18		18			
19		19		19		19		19		19		19		19		19		19		19		19			
20		20		20		20		20		20		20		20		20		20		20		20			
21		21		21		21		21		21		21		21		21		21		21		21			
22		22		22		22		22		22		22		22		22		22		22		22			
23		23		23		23		23		23		23		23		23		23		23		23			
24		24		24		24		24		24		24		24		24		24		24		24			
25		25		25		25		25		25		25		25		25		25		25		25			
26		26		26		26		26		26		26		26		26		26		26		26			
27		27		27		27		27		27		27		27		27		27		27		27			
28		28		28		28		28		28		28		28		28		28		28		28			
29		29		29		29		29		29		29		29		29		29		29		29			
30		30		30		30				30		30		30		30		30		30		30			
31				31		31				31				31				31		31					
	Oct		Nov	,	Dec	;	Jan		Feb		Mar		Apr		Мау		June		July		Aug		Sept		
				Acceler	ator Phys	sics				Machine	Downtime	Major	Periods(M	laintena	ance/Upgra	ides)			Transition to Neutron Production						
				Acceler	ator Star	tup/Rest	ore			Schedule	ed Mainten	ance (s	starts at 06	6:30)				Holiday							
				Acceler	ator Phy:	sics/Mair	tenance	Periods		Neutron	Production								Weekend						

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G. Johns, WAO, Aug. 6-10, 2012

~ CAK

How are we doing?

