

National Synchrotron Light Source II



Diane R. Hatton
Project Support Division Director
August 14, 2009



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Outline

- NSLS-II Overview
- Organizational Structure
- NSLS-II Early Planning
- Progress

NSLS: Outstanding Scientific Productivity



- Operating since 1982

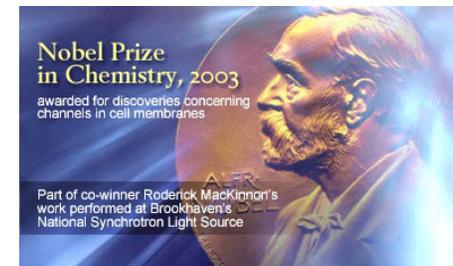
- Many Scientific Programs

Material & Chemical Sciences, Life Sciences, Geological & Environmental Sciences, Applied Science & Engineering, and others

- 2400 users/year

- Highly Productive & High Impact

900 publications per year



However, restricted capabilities of present NSLS limit the productivity and impact of its large user community

National Synchrotron Light Source II



The world's finest capabilities for x-ray imaging and high-resolution energy analysis, ~10 times better than any other synchrotron now operating or under construction.



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Project Scope & Cost

Accelerator Systems

- Storage Ring (~ 1/2 mile in circumference)
- Linac and Booster Injection System

Conventional Facilities

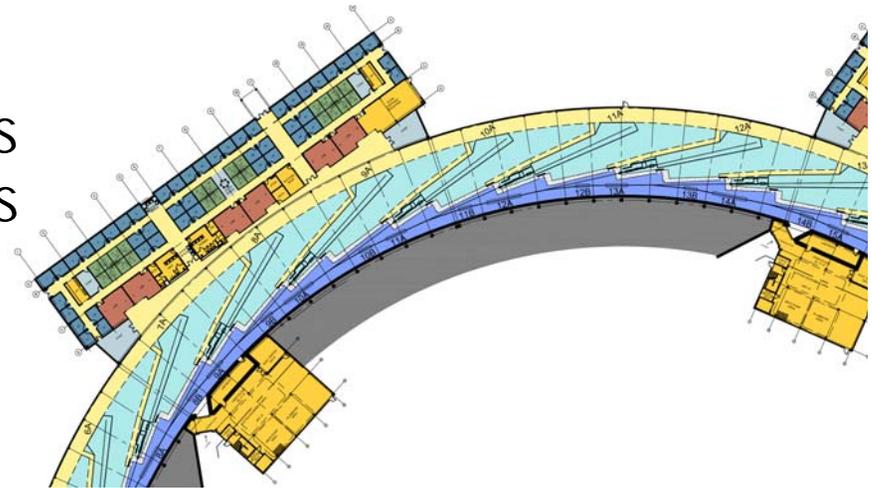
- Ring Building and Service Buildings
- Laboratory/Office Buildings (LOBs) to house beamline staff & users
- Total of ~ 400,000 gsf new construction

Experimental Facilities

- Initial suite of beamlines and instruments
- Capable of hosting at least 58 beamlines

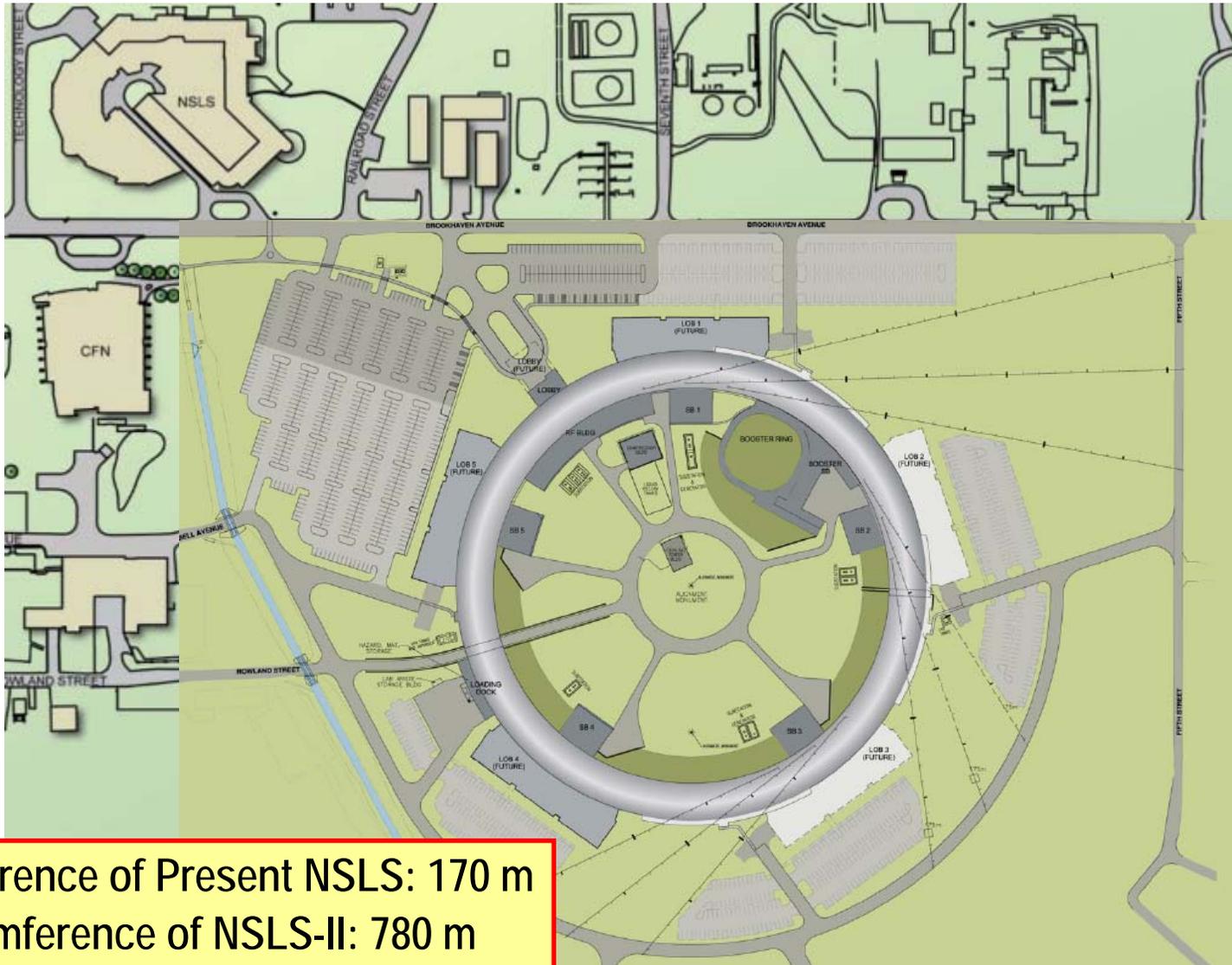
Research & Development

- Advanced optics
- Nanopositioning and mirror metrology
- Accelerator components



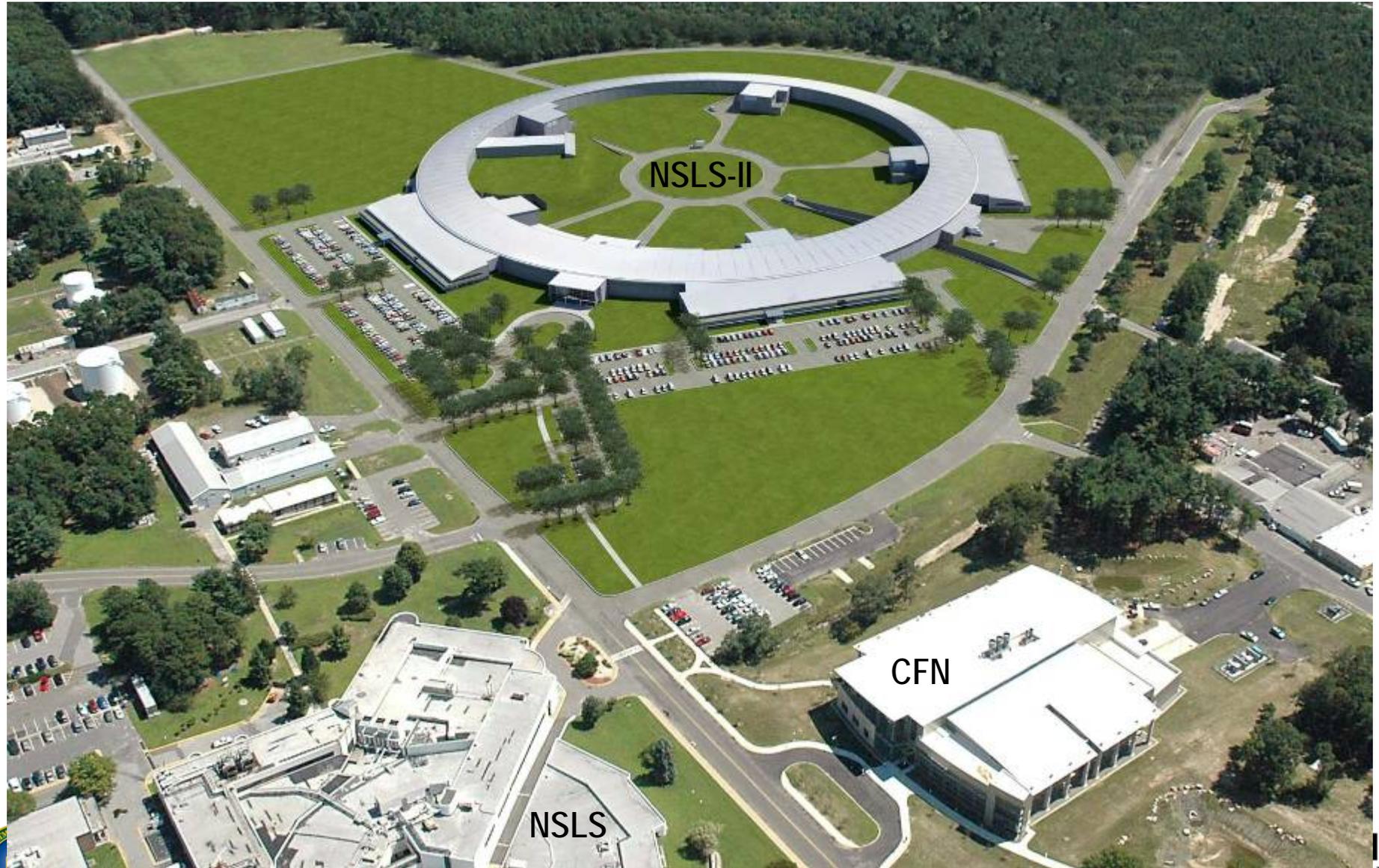
Total Project Cost = \$912M

Facility Site Plan



Circumference of Present NSLS: 170 m
Circumference of NSLS-II: 780 m
~ 400,000 sf of building construction

Aerial View: NSLS-II, NSLS & CFN



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Building Exterior



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Front Entrance



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Laboratory and Office Building



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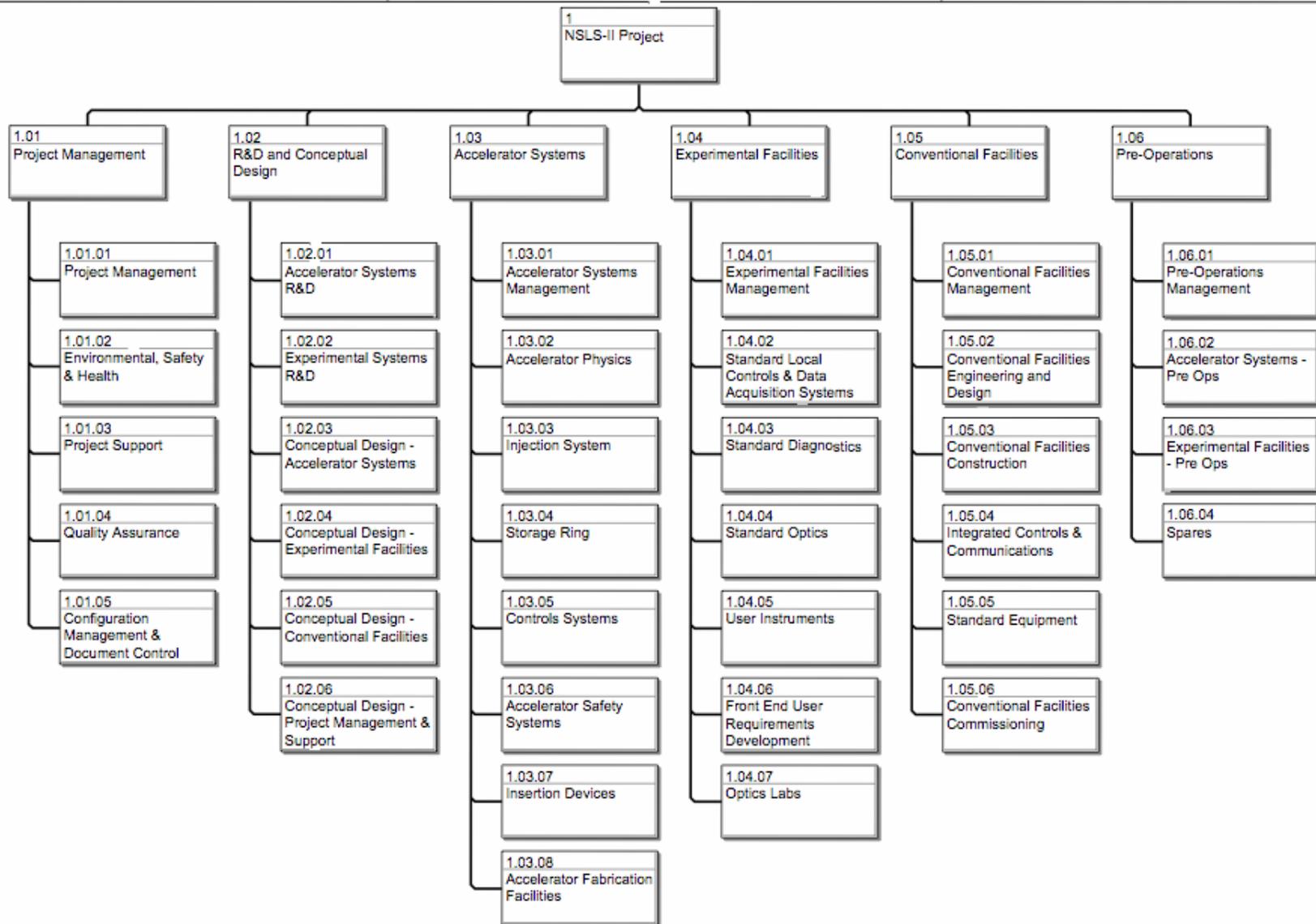
Sustainable Design

- Approach is to obtain LEED (Leadership in Energy and Environmental Design) Certification with possible silver rating.
- Facility design will strive to meet guiding principles of sustainable design
 - Employ Integrated Design Principles
 - Optimize Energy Performance
 - Protect and Conserve Water
 - Enhance Indoor Environmental Quality
 - Reduce Environmental Impact of Materials
- Current LEED checklist status

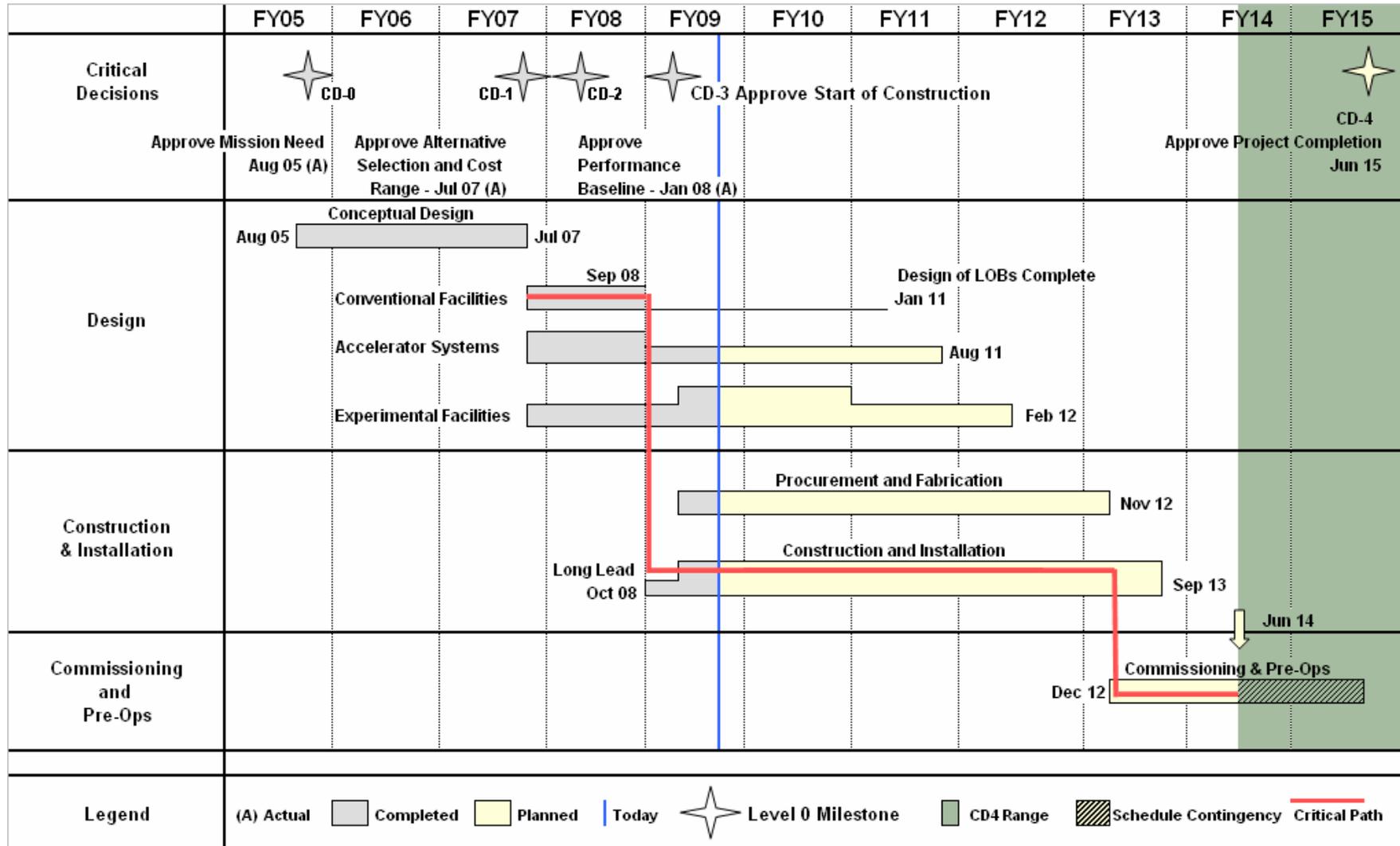
28	18	23	Project Totals (pre-certification estimates)			
Y	M	N	Certified 26-32 points	Silver 33-38 points	Gold 39-51 points	Platinum 52-69 points



Work Breakdown Structure (WBS)

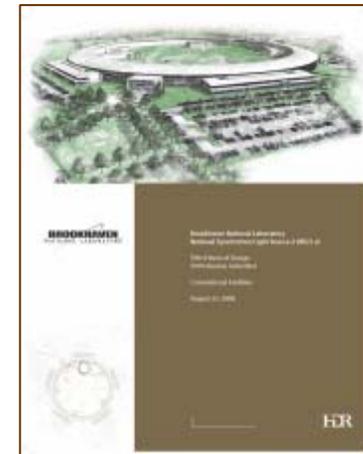
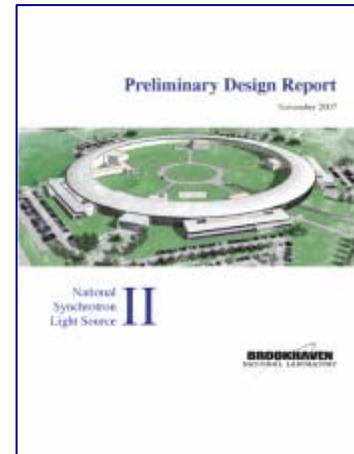
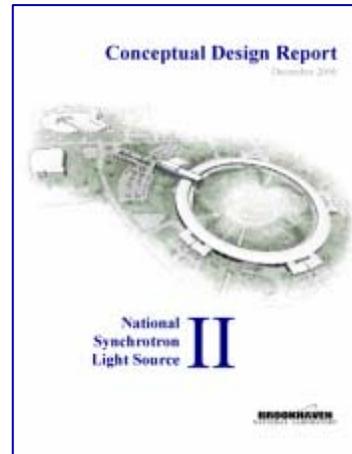
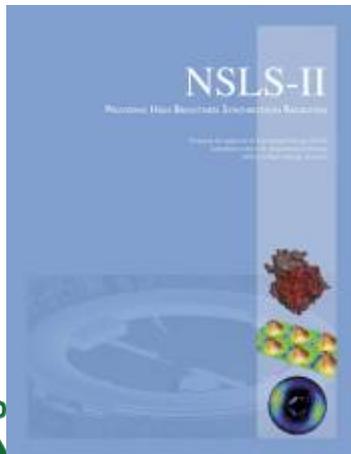


Schedule



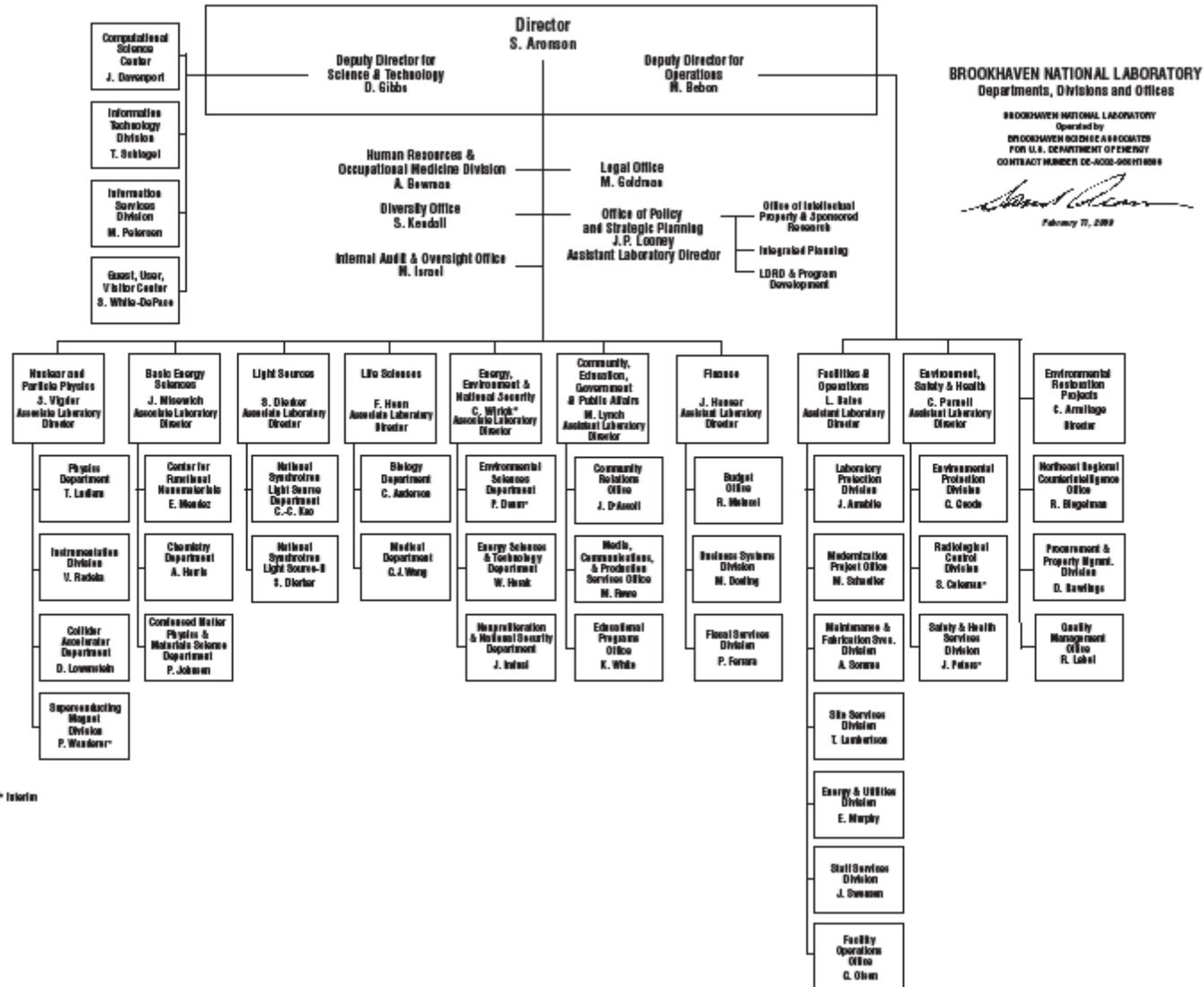
Key Project Milestones

Aug 2005	CD-0, Approve Mission Need	(Complete)
Jul 2007	CD-1, Approve Alternative Selection and Cost Range	(Complete)
Jan 2008	CD-2, Approve Performance Baseline	(Complete)
Jan 2009	CD-3, Approve Start of Construction	(Complete)
Feb 2009	Contract Award for Ring Building	(Complete)
Aug 2009	Contract Award for Storage Ring Magnets	
Mar 2010	Contract Award for Booster System	
Feb 2011	1 st Pentant Ring Building Beneficial Occupancy; Begin Accelerator Installation	
Feb 2012	Beneficial Occupancy of Experimental Floor	
Oct 2013	Start Accelerator Commissioning	
Jun 2014	Early Project Completion; Ring Available to Beamlines	
Jun 2015	CD-4, Approve Start of Operations	



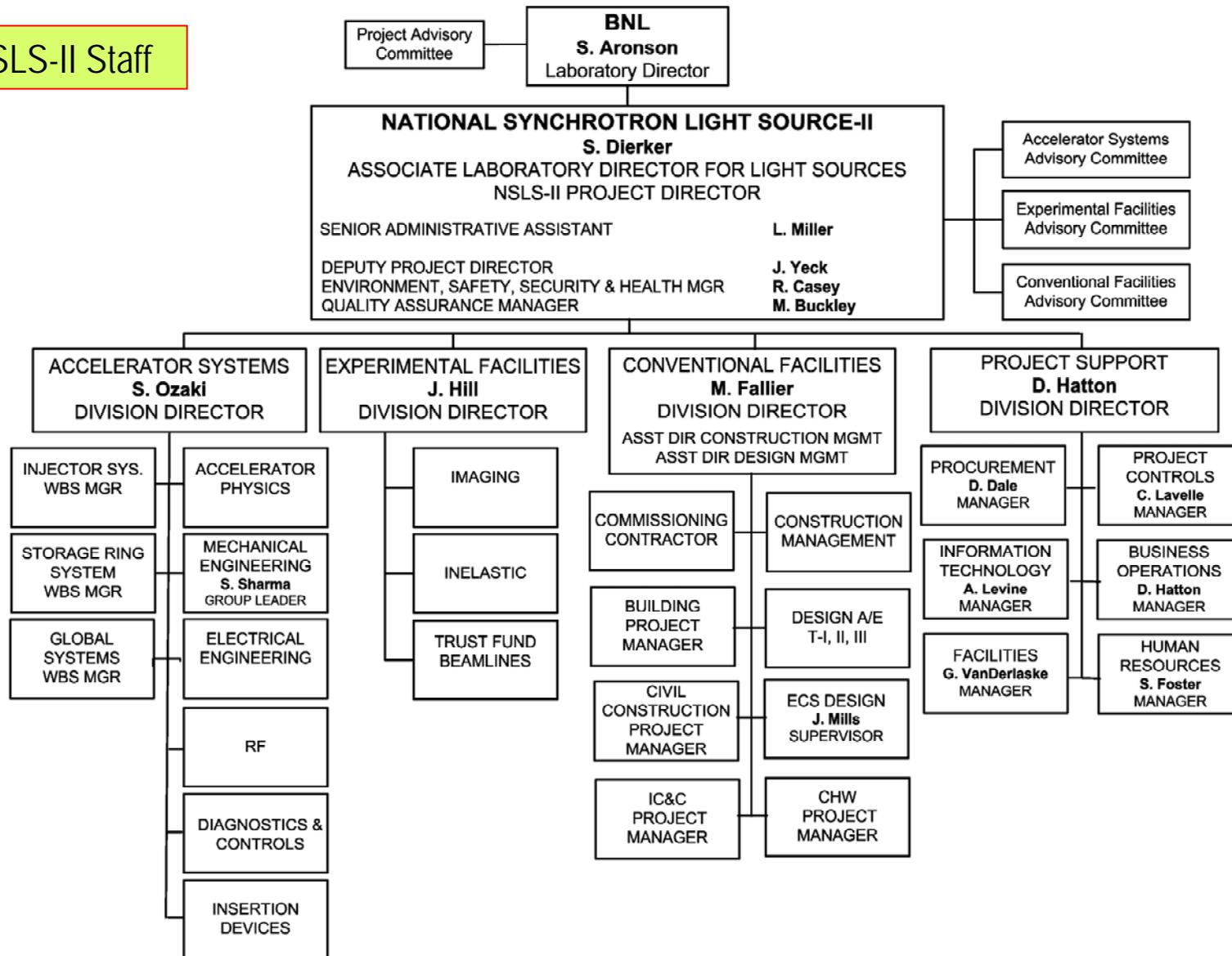
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BNL Organization Chart



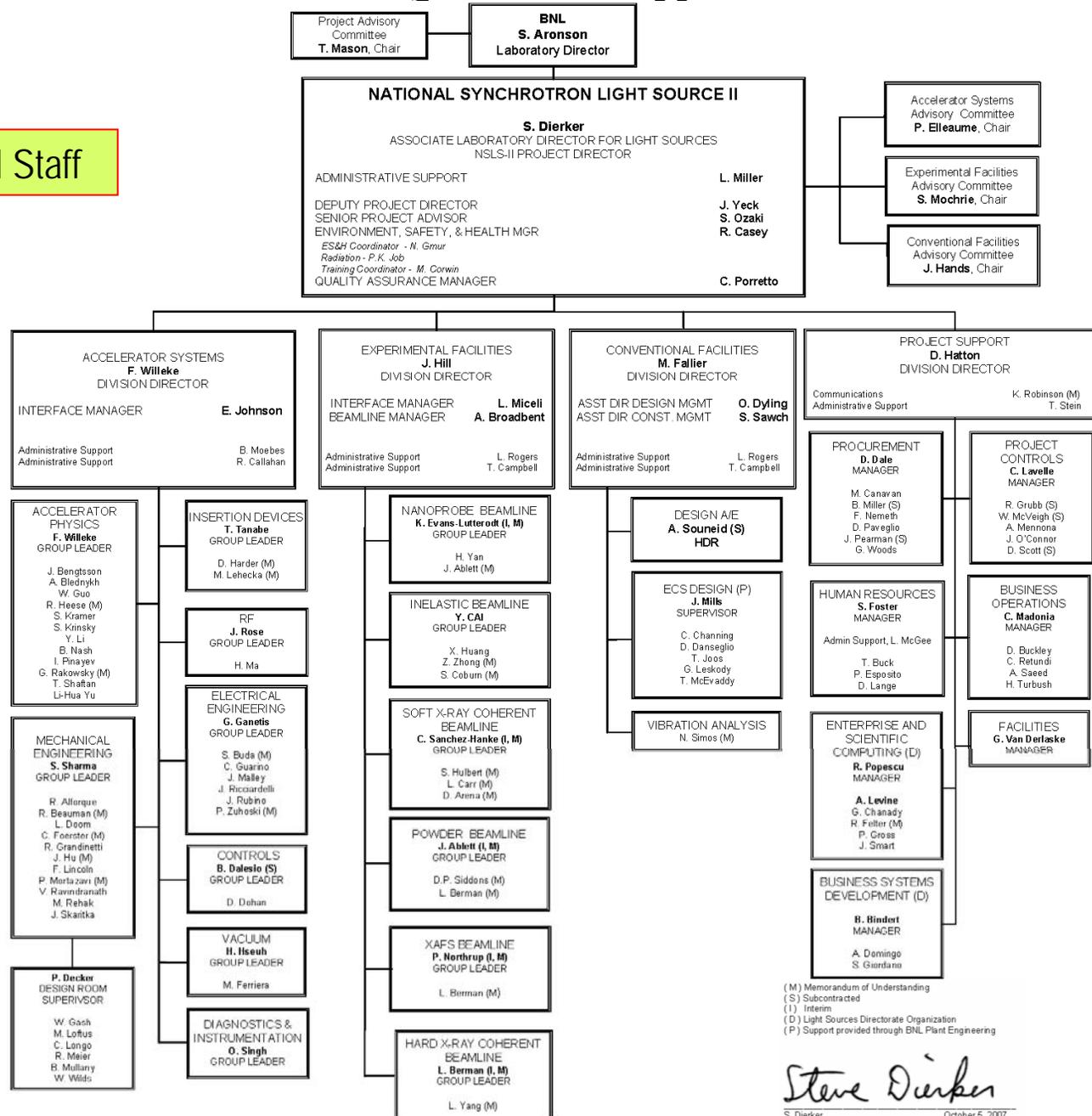
CD-1 Project Organization

40 NSLS-II Staff



CD-2 Project Organization

90 NSLS-II Staff

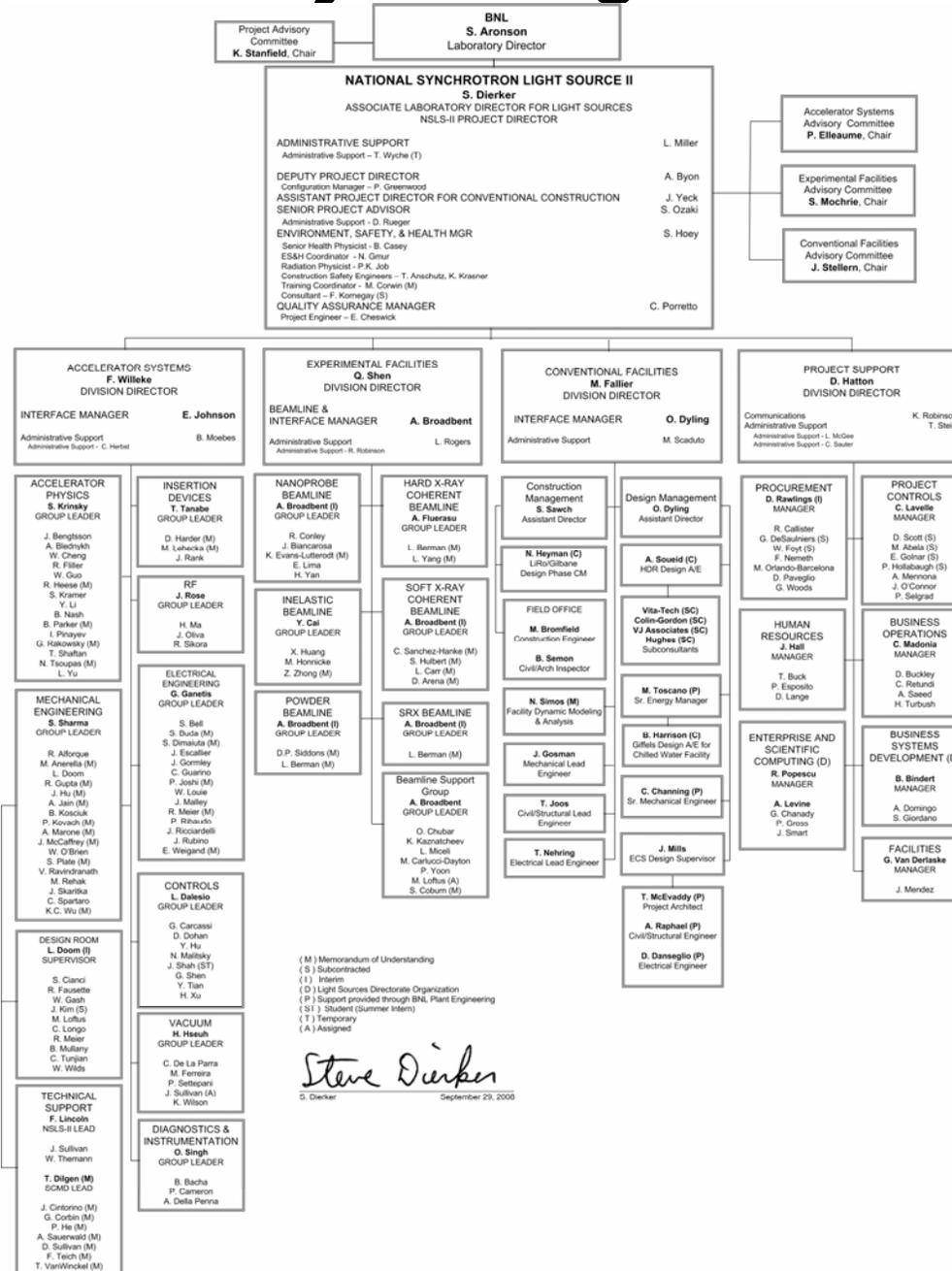


(M) Memorandum of Understanding
 (S) Subcontracted
 (I) Interim
 (D) Light Sources Directorate Organization
 (P) Support provided through BNL Plant Engineering

Steve Dierker
 S. Dierker October 5, 2007

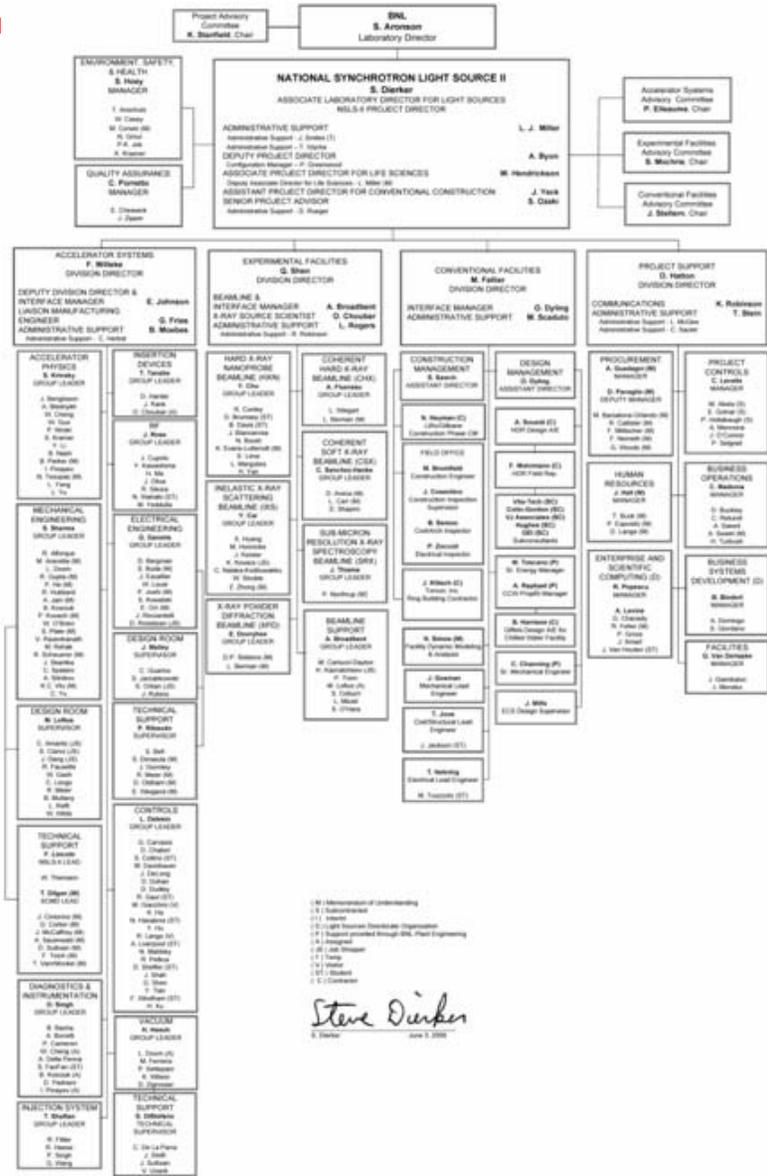
CD-3 Project Organization

140 NSLS-II Staff



NSLS-II Current Organization Chart

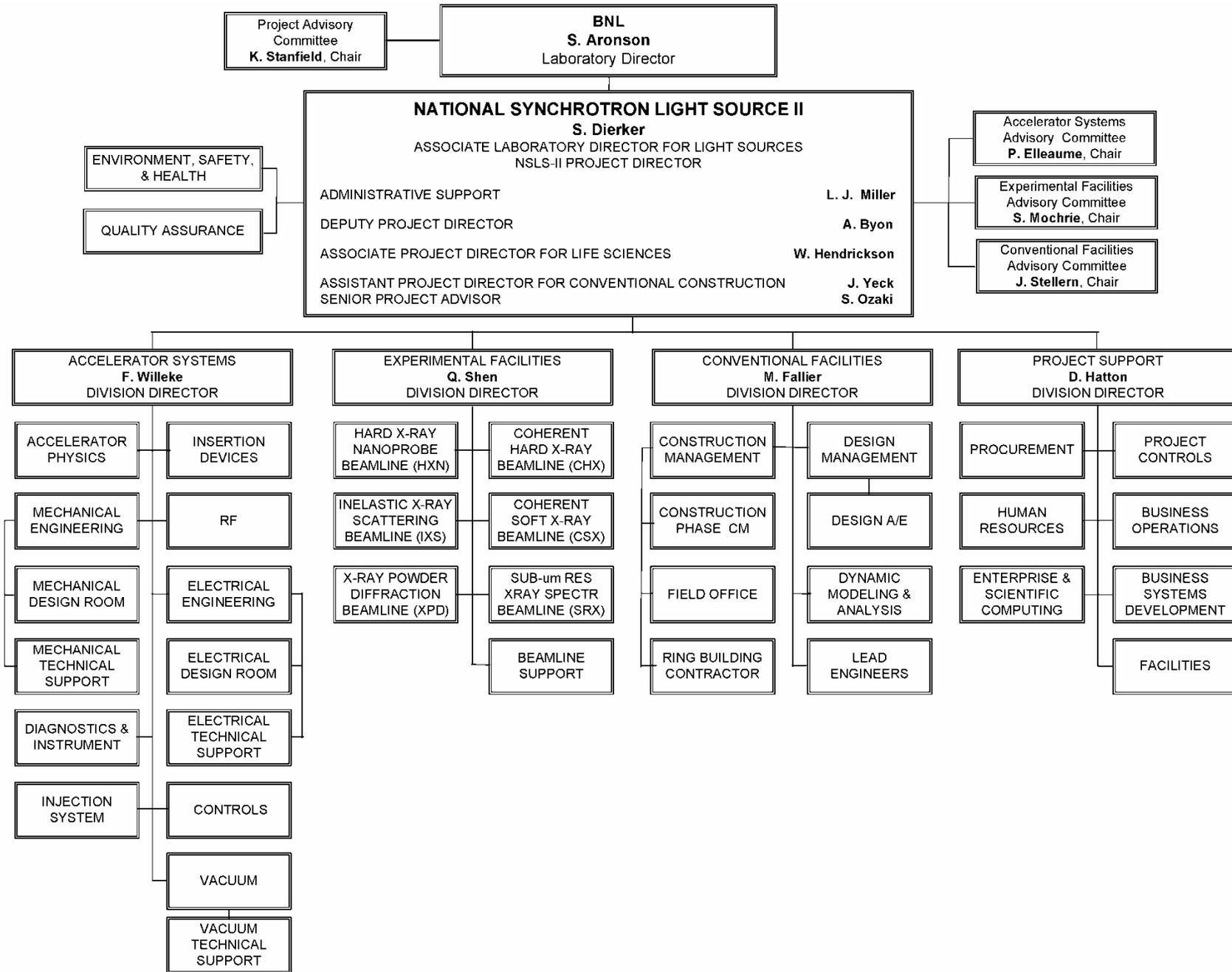
212 NSLS-II Staff



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NSLS-II Project Organization



NSLS-II Management Team



Steven Dierker
Associate Lab Director for Light Sources
Project Director



Aesook Byon
Deputy Project Director



James Yeck
Assistant Project Director for
Conventional Construction



Satoshi Ozaki
Senior Project Advisor



Ferdinand Willeke
Accelerator Division



Qun Shen
Experimental Facilities Division



Martin Fallier
Conventional Facilities Division



Diane Hatton
Project Support Division



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Project Support Division



PROJECT SUPPORT
Diane Hatton, Division Director

Tammy Stein, Administrative Support
 Leisa McGee, Administrative Support
 Carrie Sauter, Administrative Support

COMMUNICATIONS
Kathleen Robinson
 Editor



PROCUREMENT
Anthony Guadagni
 Manager

David Pavaglio
 Deputy Manager

Central Procurement
 Compliance/Policy
 Officer

David Pavaglio
 Contract
 Administrator

Francine Militscher
 Contracts Specialist
 Construction

George Woods
 Sr. Contracts
 Specialist

Roseann Callister
 Sr. Buyer

Frank Nemeth
 Principal Buyer

Michelle Barsalona
 – Orlando
 Staff Specialist
 Contract Administration



**HUMAN
 RESOURCES**
Joanna Hall
 Manager

Peter Esposito
 HR Representative

Deborah Lange
 HR Representative

Terrance Buck
 HR Representative
 Diversity Specialist



**PROJECT
 CONTROLS**
Cathleen Lavelle
 Manager

Jennifer O'Connor
 Project Planning
 Specialist

Anthony Mennona
 Senior Project
 Controls Specialist

Peter Selgrad
 Senior Project
 Controls Specialist

Emmanuel Abela (S)
 Manta Ray
 Consulting

Phil Hollabaugh (S)
 Triad Project
 Management

Elliott Golnar (S)
 Triad Project
 Management



**BUSINESS
 OPERATIONS**
Christine Madonia
 Manager

Claire Retundi
 Sr. Staff Specialist

Heather Turbush
 Staff Specialist

Donna Buckley
 Assistant Staff
 Specialist

Asma Saeed
 Administrative
 Services Assistant



**BUSINESS
 SYSTEMS
 DEVELOPMENT
 (D)**
Brian Bindert
 Manager

Alain Domingo
 Developer

Stephen Giordano
 Web Developer



**ENTERPRISE &
 SCIENTIFIC
 COMPUTING (D)**
Razvan Popescu
 Manager

TBD
 Unix Services
 Specialist

Alan Levine
 Network Manager

George Chanady
 Sr. Technology
 Analyst

Peter Gross
 Sr. Technology
 Analyst

James Smart
 Technology Engineer

John Van Houten
 Summer Student



FACILITIES
**Gerard
 VanDerlaske**
 Manager

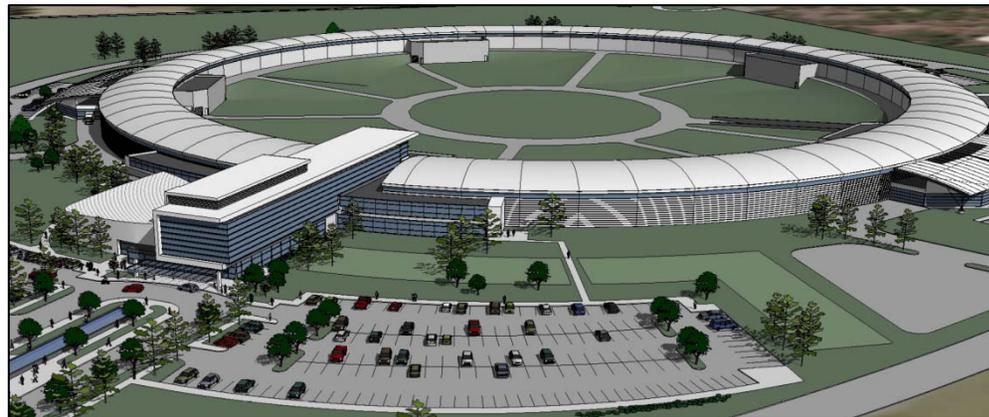
Jose Mendez
 Asst. Bldg. Manager

Joann Giambalvo
 Asst. Bldg. Manager

(M) Memorandum of Understanding
 (S) Subcontracted
 (D) Light Sources Directorate Organization



National Synchrotron Light Source II Early Planning



NSLS-II Early Planning

- Information exchanges
 - APS
 - SNS
- Draft documents
 - PEP
 - Organization Guide
 - Project Controls Manual
 - Risk Management Plan
 - QA Plan
 - Configuration Management Plan



The Deputy Secretary of Energy
Washington, DC 20585

AUG 25 2005

MEMORANDUM FOR RAYMOND L. ORBACH
DIRECTOR, OFFICE OF SCIENCE

FROM: CLAY SELL
DEPUTY SECRETARY

SUBJECT: Approval of the Mission Need (Critical Decision-0) for the
National Synchrotron Light Source II (NSLS II) Project

Based on the recommendation from the Energy Systems Acquisition Advisory Board (ESAAB) during a meeting conducted on August 15, 2005, I approve the Mission Need (Critical Decision-0) for the NSLS II project to enable the study of nanoscale materials.

Total Project Cost Range: \$600M to \$800M
Forecasted Completion: FY2013

As discussed during the ESAAB meeting, as part of the process leading to Critical Decision-1 you are to ensure that a full analysis of alternatives is conducted, including siting options and identification of any impacts to Nanoscale Science Research Centers.



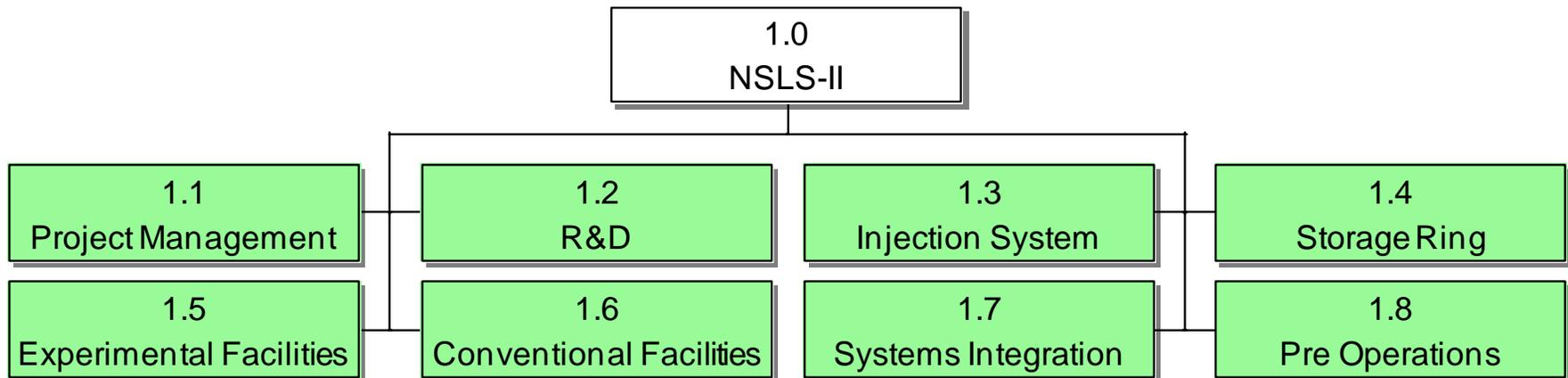
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NSLS-II Early Planning

- Parametric Estimate

WBS	Level								Total 2006 \$	Escalated \$	Base Costing Model (k\$)									
		1	2	3	4	5	6	7			TOTAL	2007	2008	2009	2010	2011	2012	2013		
1.0	NSLS II								634,089	720,639	762,740	33,723	52,394	205,563	208,860	141,338	83,104	37,758		
	FTE Count										743.9	80.3	93.9	107.4	105.9	131.7	130.8	93.8		
1.1	Project Support								64,501	72,273	77,863	14,200	15,144	11,029	9,841	10,156	8,316	9,178		
1.1.1	Project Management								37,366	42,563	47,222	5,960	6,359	6,704	6,918	7,140	7,264	6,876		
1.1.2	Project Engineering								18,180	19,697	20,217	7,048	7,588	992	1,023	1,056	636	1,873		
1.1.3	Construction Management								6,820	7,583	7,646	816	810	2,955	1,508	1,557	0	0		
1.1.4	ES&H Management								2,135	2,431	2,779	375	387	378	390	403	416	429		
1.2	Technical Construction								231,113	265,000	284,413	9,404	21,669	58,825	60,402	71,141	47,562	15,410		
1.2.1	Injection System								13,481	14,829	15,415	123	6,214	5,309	2,004	1,334	234	198		
1.2.2	Storage Ring								123,510	141,444	151,137	4,425	8,643	39,799	28,862	37,698	25,321	6,390		
1.2.4	Applications Instruments								69,956	80,234	86,382	3,686	5,536	12,155	26,422	22,533	12,195	3,855		
1.2.7	Controls								24,165	28,494	31,478	1,170	1,276	1,562	3,114	9,576	9,812	4,968		
1.3	Conventional Construction								153,816	173,436	174,049	0	0	74,847	76,715	18,373	2,582	1,532		
1.3.2	Improvements to Land								4,347	4,934	5,284	0	0	3,592	0	0	1,692	0		
1.3.2	Buildings								99,566	112,377	112,409	0	0	44,979	49,631	17,799	0	0		
1.3.3	Utilities								47,616	53,327	53,359	0	0	26,275	27,083	0	0	0		
1.3.4	Standard Equipment								2,287	2,798	2,997	0	0	0	0	575	890	1,532		
1.4	Safety, Environmental and Health								3,175	3,661	4,162	377	389	597	616	636	721	825		
1.4.1	Health and Safety Project Support								3,175	3,661	4,162	377	389	597	616	636	721	825		
1.4.2	Hazard Analysis								0	0	0	0	0	0	0	0	0	0		
Contingency									181,484	206,268	222,253	9,742	15,191	60,266	61,287	41,032	23,923	10,812		

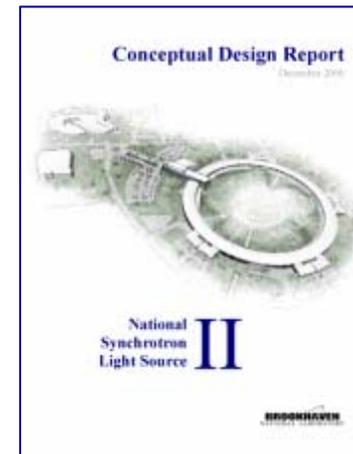
- Proposed WBS



NSLS-II Early Planning

- Cost Estimate Tool
 - Developed In-house
 - Gathered
 - Estimate info
 - Risk info
 - Backup documentation
 - Auto feed to Schedule
- Primavera & Cobra chosen
- Advisory Committees established
- Conceptual Design Report written

WBS Number	Description	Responsible
1	NSLS II	
1.01	Project Support	
1.01.01	Project Management	
1.01.01.01.01	Task Add	22924
1.01.02	ESB	
1.01.03	Quality	
1.01.04	Project Office	
1.01.04.01	Project support management	16370
1.01.04.02	Business systems	19285
1.01.04.03	Project controls systems	16370
1.01.04.04	Office management	
1.01.04.05	Procurement	
1.01.04.06	IT systems	
1.01.04.07	HR	
1.01.04.08	Records management	
1.01.05	Configuration management	
1.02	R&D	
1.02.01	R&D Program Management	
1.02.02	Injection System R&D	
1.02.03	Storage Ring R&D	
1.02.04	IR source R&D	
1.02.05	Experimental Systems R&D	



NSLS-II Early Planning

- Incentive Plan Drafted
 - Service based benefits (transfer of time)
 - Vacation, LOA, severance
 - Variable Pay Options (enhance base salary with tools)
 - Sign-on bonus
 - Performance bonus
 - Additional relocation assistance
- Final approval received in July of 2007

NSLS-II Early Planning

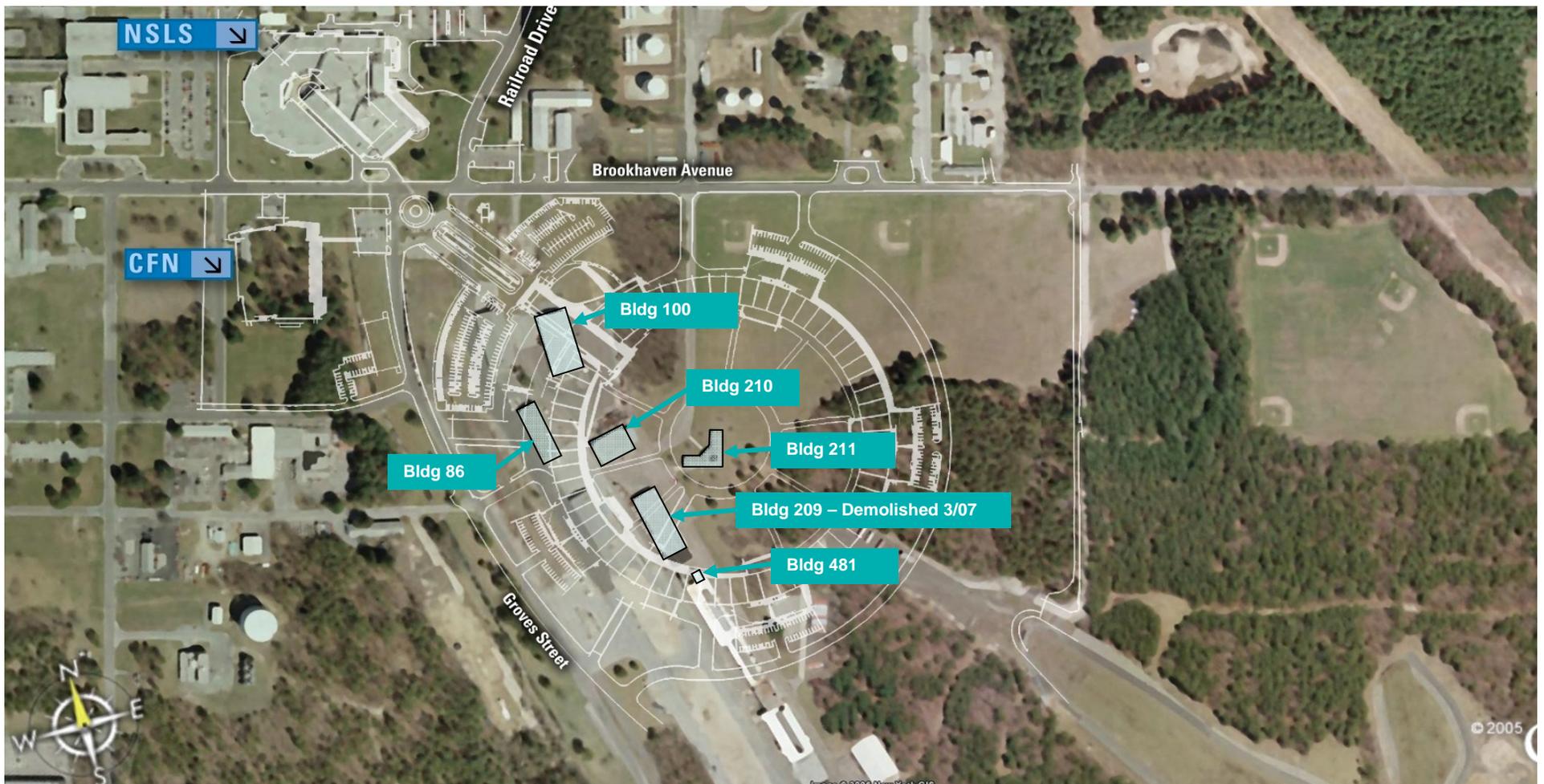
- Negotiations with Brookhaven National Laboratory
 - Support Staff
 - Co-located groups
 - Requested specific staff
 - Overhead Rates
 - Lessons Learned : Assumptions Document
 - Seed Funds
 - Space

NSLS-II Facilities Established With Support From BNL



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Previous NSLS-II Site Usage



- WW-II wooden structures used for warehousing operations were in the footprint of NSLS-II
- On-going GPP and Ops funded projects demolished these and built new structures elsewhere

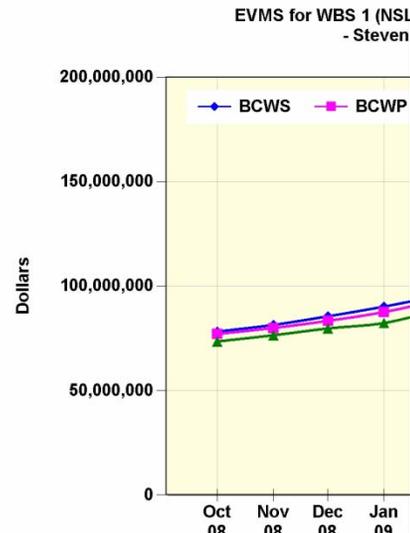
BNL EVMS Certification

- Lab-wide committee formed
- Contract with outside firm to prepare BNL for certification and training
- BNL EVMS System Description completed
- Project EVMS procedures developed
- Readiness Assessment – June 2007
- Full EVMS Review – October 2007
- Re-visit – June 2008
- Certification received June 2008

Project Management Systems

- Project controls systems developed, instituted and being successfully used to measure progress
- Primavera used for scheduling; Cobra for cost baseline maintenance; PeopleSoft for actual costs

CONTRACT PERFORMANCE REPORT			
I. CONTRACTOR		II. CONTRACT	
A. NAME Brookhaven Science Associates		A. NAME National	
B. LOCATION (Address and ZIP Code) Brookhaven National Laboratory, Upton, NY		B. NUMBER 1	
C. TYPE		C. TYPE	
III. CONTRACT DATA			
A. QUANTITY	B. NEGOTIATED COST	C. ESTIMATED COST OF UNPERFORMED WORK	D.
1	705,516,172		
IV. PERFORMANCE DATA			
ITEM	CURRENT PERIOD		
	BUDGETED COST	ACTUAL COST	PERFORMED WORK
	WORK SCHEDULED	WORK PERFORMED	WORK PERFORMED
1.01 Project Management			
1.01.01 Project Management			
1.01.01.01 Director	55,541	50,541	221,155
1.01.01.02 Deputy	11,386	11,386	6,155
1.01.01.03 Committees	14,095	14,095	4,359
WBS(1)Totals:	76,022	76,022	231,669
1.02 Environmental, Safety & Health			
1.02.01 ESH Management	47,692	47,692	94,424
1.02.02 Shielding Analysis	13,608	13,608	11,974
WBS(2)Totals:	61,300	61,300	106,398
1.03 Project Support			
1.03.01 Project Support Management	22,511	22,511	19,379
1.03.02 Business Operations	41,150	41,150	34,386
1.03.03 Project Controls	79,110	79,110	37,878
1.03.04 Office Management	17,062	17,062	18,403
1.03.05 Procurement	18,704	18,704	24,899
1.03.05.01 Enterprise IT Services	28,510	28,510	14,697
1.03.05.02 Business Systems Development	20,027	20,027	26,852
1.03.05.03 Human Resources	64,723	64,723	15,020
1.03.05.04 Facility	0	0	0
1.03.05.09 Space and Utilities	38,538	38,538	51,000
WBS(3)Totals:	330,377	330,377	256,554
1.04 Quality Assurance			
1.04.01 QA Management	12,859	12,859	15,459
1.04.02 Quality Engineering	12,860	12,860	9,212
1.04.03 Supplier Quality	3,987	3,987	4,606
WBS(4)Totals:	29,706	29,706	29,277
1.01.05 Configuration Management & Document Control	13,004	13,004	6,374
1.01.05.01 Configuration Management	13,003	13,003	14,118
1.01.05.02 Document and Records Management	26,206	26,206	22,492
WBS(5)Totals:	152,641	152,641	650,390



1 - (G) NSLS-II - Significant Procurements									
WBS	Item	Description	Start Date	End Date	Actual Cost	Budgeted Cost	Status	Notes	Contract No.
WBS 1.02.01	1.02.01.01	Accelerator Systems R&D							
WBS 1.02.01.01	1.02.01.01.01	Magnet Management Lab							
WBS 1.02.01.01.01	1.02.01.01.01.01	Linear Beamline - RFPA Support R&D	10-Jul-08	31-May-09	10,000	10,000	Complete		10-000000
WBS 1.02.01.01.01	1.02.01.01.01.02	Linear Beamline - RFPA Support R&D	10-Jul-08	31-May-09	10,000	10,000	Complete		10-000000
WBS 1.02.01.01.01	1.02.01.01.01.03	Linear Beamline - RFPA Support R&D	10-Jul-08	31-May-09	10,000	10,000	Complete		10-000000
WBS 1.02.01.01.01	1.02.01.01.01.04	Linear Beamline - RFPA Support R&D	10-Jul-08	31-May-09	10,000	10,000	Complete		10-000000
WBS 1.02.01.01.01	1.02.01.01.01.05	Linear Beamline - RFPA Support R&D	10-Jul-08	31-May-09	10,000	10,000	Complete		10-000000
WBS 1.02.01.01.01	1.02.01.01.01.06	Linear Beamline - RFPA Support R&D	10-Jul-08	31-May-09	10,000	10,000	Complete		10-000000
WBS 1.02.01.01.01	1.02.01.01.01.07	Linear Beamline - RFPA Support R&D	10-Jul-08	31-May-09	10,000	10,000	Complete		10-000000
WBS 1.02.01.01.01	1.02.01.01.01.08	Linear Beamline - RFPA Support R&D	10-Jul-08	31-May-09	10,000	10,000	Complete		10-000000
WBS 1.02.01.01.01	1.02.01.01.01.09	Linear Beamline - RFPA Support R&D	10-Jul-08	31-May-09	10,000	10,000	Complete		10-000000
WBS 1.02.01.01.01	1.02.01.01.01.10	Linear Beamline - RFPA Support R&D	10-Jul-08	31-May-09	10,000	10,000	Complete		10-000000
WBS 1.02.01.01.01	1.02.01.01.01.11	Linear Beamline - RFPA Support R&D	10-Jul-08	31-May-09	10,000	10,000	Complete		10-000000
WBS 1.02.01.01.01	1.02.01.01.01.12	Linear Beamline - RFPA Support R&D	10-Jul-08	31-May-09	10,000	10,000	Complete		10-000000
WBS 1.02.01.01.01	1.02.01.01.01.13	Linear Beamline - RFPA Support R&D	10-Jul-08	31-May-09	10,000	10,000	Complete		10-000000
WBS 1.02.01.01.01	1.02.01.01.01.14	Linear Beamline - RFPA Support R&D	10-Jul-08	31-May-09	10,000	10,000	Complete		10-000000
WBS 1.02.01.01.01	1.02.01.01.01.15	Linear Beamline - RFPA Support R&D	10-Jul-08	31-May-09	10,000	10,000	Complete		10-000000
WBS 1.02.01.01.01	1.02.01.01.01.16	Linear Beamline - RFPA Support R&D	10-Jul-08	31-May-09	10,000	10,000	Complete		10-000000
WBS 1.02.01.01.01	1.02.01.01.01.17	Linear Beamline - RFPA Support R&D	10-Jul-08	31-May-09	10,000	10,000	Complete		10-000000
WBS 1.02.01.01.01	1.02.01.01.01.18	Linear Beamline - RFPA Support R&D	10-Jul-08	31-May-09	10,000	10,000	Complete		10-000000
WBS 1.02.01.01.01	1.02.01.01.01.19	Linear Beamline - RFPA Support R&D	10-Jul-08	31-May-09	10,000	10,000	Complete		10-000000
WBS 1.02.01.01.01	1.02.01.01.01.20	Linear Beamline - RFPA Support R&D	10-Jul-08	31-May-09	10,000	10,000	Complete		10-000000
WBS 1.02.01.01.01	1.02.01.01.01.21	Linear Beamline - RFPA Support R&D	10-Jul-08	31-May-09	10,000	10,000	Complete		10-000000
WBS 1.02.01.01.01	1.02.01.01.01.22	Linear Beamline - RFPA Support R&D	10-Jul-08	31-May-09	10,000	10,000	Complete		10-000000
WBS 1.02.01.01.01	1.02.01.01.01.23	Linear Beamline - RFPA Support R&D	10-Jul-08	31-May-09	10,000	10,000	Complete		10-000000
WBS 1.02.01.01.01	1.02.01.01.01.24	Linear Beamline - RFPA Support R&D	10-Jul-08	31-May-09	10,000	10,000	Complete		10-000000
WBS 1.02.01.01.01	1.02.01.01.01.25	Linear Beamline - RFPA Support R&D	10-Jul-08	31-May-09	10,000	10,000	Complete		10-000000
WBS 1.02.01.01.01	1.02.01.01.01.26	Linear Beamline - RFPA Support R&D	10-Jul-08	31-May-09	10,000	10,000	Complete		10-000000
WBS 1.02.01.01.01	1.02.01.01.01.27	Linear Beamline - RFPA Support R&D	10-Jul-08	31-May-09	10,000	10,000	Complete		10-000000
WBS 1.02.01.01.01	1.02.01.01.01.28	Linear Beamline - RFPA Support R&D	10-Jul-08	31-May-09	10,000	10,000	Complete		10-000000
WBS 1.02.01.01.01	1.02.01.01.01.29	Linear Beamline - RFPA Support R&D	10-Jul-08	31-May-09	10,000	10,000	Complete		10-000000
WBS 1.02.01.01.01	1.02.01.01.01.30	Linear Beamline - RFPA Support R&D	10-Jul-08	31-May-09	10,000	10,000	Complete		10-000000
WBS 1.02.01.01.01	1.02.01.01.01.31	Linear Beamline - RFPA Support R&D	10-Jul-08	31-May-09	10,000	10,000	Complete		10-000000
WBS 1.02.01.01.01	1.02.01.01.01.32	Linear Beamline - RFPA Support R&D	10-Jul-08	31-May-09	10,000	10,000	Complete		10-000000
WBS 1.02.01.01.01	1.02.01.01.01.33	Linear Beamline - RFPA Support R&D	10-Jul-08	31-May-09	10,000	10,000	Complete		10-000000
WBS 1.02.01.01.01	1.02.01.01.01.34	Linear Beamline - RFPA Support R&D	10-Jul-08	31-May-09	10,000	10,000	Complete		10-000000
WBS 1.02.01.01.01	1.02.01.01.01.35	Linear Beamline - RFPA Support R&D	10-Jul-08	31-May-09	10,000	10,000	Complete		10-000000
WBS 1.02.01.01.01	1.02.01.01.01.36	Linear Beamline - RFPA Support R&D	10-Jul-08	31-May-09	10,000	10,000	Complete		10-000000
WBS 1.02.01.01.01	1.02.01.01.01.37	Linear Beamline - RFPA Support R&D	10-Jul-08	31-May-09	10,000	10,000	Complete		10-000000
WBS 1.02.01.01.01	1.02.01.01.01.38	Linear Beamline - RFPA Support R&D	10-Jul-08	31-May-09	10,000	10,000	Complete		10-000000
WBS 1.02.01.01.01	1.02.01.01.01.39	Linear Beamline - RFPA Support R&D	10-Jul-08	31-May-09	10,000	10,000	Complete		10-000000
WBS 1.02.01.01.01	1.02.01.01.01.40	Linear Beamline - RFPA Support R&D	10-Jul-08	31-May-09	10,000	10,000	Complete		10-000000
WBS 1.02.01.01.01	1.02.01.01.01.41	Linear Beamline - RFPA Support R&D	10-Jul-08	31-May-09	10,000	10,000	Complete		10-000000
WBS 1.02.01.01.01	1.02.01.01.01.42	Linear Beamline - RFPA Support R&D	10-Jul-08	31-May-09	10,000	10,000	Complete		10-000000
WBS 1.02.01.01.01	1.02.01.01.01.43	Linear Beamline - RFPA Support R&D	10-Jul-08	31-May-09	10,000	10,000	Complete		10-000000
WBS 1.02.01.01.01	1.02.01.01.01.44	Linear Beamline - RFPA Support R&D	10-Jul-08	31-May-09	10,000	10,000	Complete		10-000000
WBS 1.02.01.01.01	1.02.01.01.01.45	Linear Beamline - RFPA Support R&D	10-Jul-08	31-May-09	10,000	10,000	Complete		10-000000
WBS 1.02.01.01.01	1.02.01.01.01.46	Linear Beamline - RFPA Support R&D	10-Jul-08	31-May-09	10,000	10,000	Complete		10-000000
WBS 1.02.01.01.01	1.02.01.01.01.47	Linear Beamline - RFPA Support R&D	10-Jul-08	31-May-09	10,000	10,000	Complete		10-000000
WBS 1.02.01.01.01	1.02.01.01.01.48	Linear Beamline - RFPA Support R&D	10-Jul-08	31-May-09	10,000	10,000	Complete		10-000000
WBS 1.02.01.01.01	1.02.01.01.01.49	Linear Beamline - RFPA Support R&D	10-Jul-08	31-May-09	10,000	10,000	Complete		10-000000
WBS 1.02.01.01.01	1.02.01.01.01.50	Linear Beamline - RFPA Support R&D	10-Jul-08	31-May-09	10,000	10,000	Complete		10-000000
WBS 1.02.01.01.01	1.02.01.01.01.51	Linear Beamline - RFPA Support R&D	10-Jul-08	31-May-09	10,000	10,000	Complete		10-000000
WBS 1.02.01.01.01	1.02.01.01.01.52	Linear Beamline - RFPA Support R&D	10-Jul-08	31-May-09	10,000	10,000	Complete		10-000000
WBS 1.02.01.01.01	1.02.01.01.01.53	Linear Beamline - RFPA Support R&D	10-Jul-08	31-May-09	10,000	10,000	Complete		10-000000
WBS 1.02.01.01.01	1.02.01.01.01.54	Linear Beamline - RFPA Support R&D	10-Jul-08	31-May-09	10,000	10,000	Complete		10-000000
WBS 1.02.01.01.01	1.02.01.01.01.55	Linear Beamline - RFPA Support R&D	10-Jul-08	31-May-09	10,000	10,000	Complete		10-000000
WBS 1.02.01.01.01	1.02.01.01.01.56	Linear Beamline - RFPA Support R&D	10-Jul-08	31-May-09	10,000	10,000	Complete		10-000000
WBS 1.02.01.01.01	1.02.01.01.01.57	Linear Beamline - RFPA Support R&D	10-Jul-08	31-May-09	10,000	10,000	Complete		10-000000
WBS 1.02.01.01.01	1.02.01.01.01.58	Linear Beamline - RFPA Support R&D	10-Jul-08	31-May-09	10,000	10,000	Complete		10-000000
WBS 1.02.01.01.01	1.02.01.01.01.59	Linear Beamline - RFPA Support R&D	10-Jul-08	31-May-09	10,000	10,000	Complete		10-000000
WBS 1.02.01.01.01	1.02.01.01.01.60	Linear Beamline - RFPA Support R&D	10-Jul-08	31-May-09	10,000	10,000	Complete		10-000000
WBS 1.02.01.01.01	1.02.01.01.01.61	Linear Beamline - RFPA Support R&D	10-Jul-08	31-May-09	10,000	10,000	Complete		10-000000
WBS 1.02.01.01.01	1.02.01.01.01.62	Linear Beamline - RFPA Support R&D	10-Jul-08	31-May-09	10,000	10,000	Complete		10-000000
WBS 1.02.01.01.01	1.02.01.01.01.63	Linear Beamline - RFPA Support R&D	10-Jul-08	31-May-09	10,000	10,000	Complete		10-000000
WBS 1.02.01.01.01	1.02.01.01.01.64	Linear Beamline - RFPA Support R&D	10-Jul-08	31-May-09	10,000	10,000	Complete		10-000000
WBS 1.02.01.01.01	1.02.01.01.01.65	Linear Beamline - RFPA Support R&D	10-Jul-08	31-May-09	10,000	10,000	Complete		10-000000
WBS 1.02.01									

Lessons Learned - Project Management Systems

- Software development carried out in-house to support reporting efforts

The screenshots illustrate the IPD web application interface, which is used for project management and reporting. The interface includes a navigation menu, a user profile section, and various project data views.

Project Overview Calendar (2009):

Title	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Monthly Status Report												
Cost Performance Report												
EVMS Project Level Status												
EVMS 1.1 Status - Project Management												
EVMS 1.2 Status - R&D												
EVMS 1.3 Status - Accelerator												
EVMS 1.4 Status - Experimental												
EVMS 1.5 Status - Conventional												
EVMS 1.6 Status - PreOp												
Summary Schedule												

Variance Report Details:

Project: WBS 1.01.03.07
Human Resources (Joanna Hall [23471])
Reporting Period: 2/28/2009 - 3/31/2009

	BCWS	BCWP	ACWP	SV in \$	SV in %	CV in \$	CV in %	SPI	CPI
Current:	122,199	122,199	81,406	0	0%	40,792	33%	1.00	1.50
Cumulative:	1,511,905	1,511,905	1,277,644	0	0%	234,260	15%	1.00	1.18

At Complete: 2,725,748

Threshold(s) Exceeded: Cumulative Cost

Explanation of Variance/Description of Problem:
This account is under-running because too many relocation expenses were placed on the R&D account instead of this one. Costs that I thought would have been charged in FY09 were charged at the end of FY08 and so are remaining on the R&D account.

Impact:
1.01.03.07 is currently under-running; however when you combine this HR account with the HR R&D account (without regard to color of money), HR total is currently very close to budget (~1% variance). HR 1.01.03.07 underruns are currently helping to cut cumulative overrun on overall Project Support.

Corrective Action:
Continue to monitor HR R&D account for any relocation or other costs that show up from FY09 which should be moved over to the 1.01.03.07 account. Currently researching a relocation charge of \$13K on R&D account this month that I believe was erroneously charged to that account and should be charged to this one. Otherwise, do not make any other adjustments since HR account is currently having a positive impact on overall Project Support account. GEM Fellowship salaries will be charged to this account this summer and HR effort is likely to continue past FY09, so change request will need to be submitted later in the year to adjust to these developments.

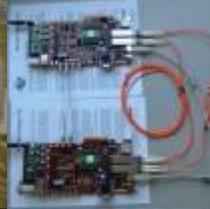
Project Management Systems

- Configuration Management / Change Control
 - 60 changes approved to date
 - 30 in FY08, 30 so far in FY09

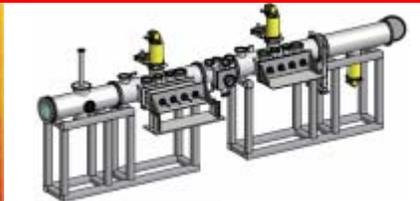
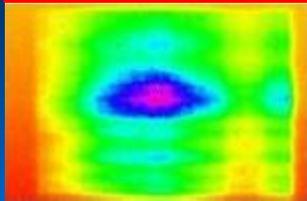
PCR #	Origination Date	Description	Requested By	Status	Disposition Date	Contingency/ MR Usage	Level
PCR_09_054	2/18/09	Revision of Quadrupole Power Supply Stability	Ferdinand Witke	APPROVED	3/25/09		4
PCR_09_055	3/3/09	Change Variance Analysis Thresholds	Cathy Lavelle	APPROVED	4/3/09		3
PCR_09_056	3/2/09	Level 4 Milestones	Cathy Lavelle	APPROVED	4/3/09		3
PCR_09_057	3/19/09	Request for \$10M Management Reserve	Aronok Byon	APPROVED	4/16/09	\$10.0M	2
PCR_09_058	3/25/09	Consolidation of Control Accounts in ASD Controls	Tony Menonna	APPROVED	3/31/09		4
PCR_09_059	3/25/09	ASD Controls Labor Budget Change	Tony Menonna	APPROVED	3/31/09		4
PCR_09_060	4/6/09	Site Prep Added Scope	Marty Fallier	APPROVED	4/9/09		4
PCR_09_061	4/14/09	Chilled Water Plant Expansion FY09 Work Plan Changes	Marty Fallier	APPROVED	4/22/09		4
PCR_09_062	4/10/09	DCCT and FCM Cost Corrections	Om Singh	APPROVED	4/29/09	\$0.08M	3
PCR_09_063	4/10/09	Revision of RF BPMs for Storage Ring	Om Singh	APPROVED	4/29/09	\$0.18M	3
PCR_09_064	4/10/09	RF BPM Electronics Cost Corrections	Om Singh	APPROVED	4/29/09	\$0.69M	3
PCR_09_065	4/10/09	Booster RF Cavity Procurement	Jim Rose	APPROVED	4/29/09	\$0.48M	3
PCR_09_066	5/20/09	Transfer of Undulator Scope & Budget From SBX BE to ASD	Andy Broadbent	APPROVED	5/28/09		3
PCR_09_067	4/16/09	Change of Sextupole Powering Around Damping Wigglers	Erik Johnson	APPROVED	4/29/09	\$0.21M	3
PCR_09_069	4/16/09	Compressed Gas System Configuration Change	Erik Johnson	APPROVED	5/13/09		3
PCR_09_070	5/27/09	Advance LOB Design Construction Schedule due to ARRA	Marty Fallier	APPROVED	5/28/09		4
PCR_09_072	5/20/09	Advance Ring Building Schedule due to ARRA	Marty Fallier	APPROVED	5/28/09		2
PCR_09_074	6/8/09	Accelerator schedule Revisions	Cathy Lavelle	APPROVED	6/19/09		3

			M\$
WBS	Title	CD-2 Baseline	Current Baseline
1.1	Project Management	52.5	54.3
1.3	Accelerator Systems	242.2	249.9
1.4	Experimental Facilities	72.8	72.5
1.5	Conventional Facilities	240.8	254.4
	TEC Contingency	183.0	150.5
	Management Reserve		9.6
	TEC Total	791.2	791.2
1.2	R&D and Conceptual Design	60.6	60.6
1.6	Pre-Operations	50.2	50.2
	OPC Contingency	10.0	10.0
	OPC Total	120.8	120.8
	Total Project Cost NSLS-II	912.0	912.0

Great Progress So Far



Light Sources Directorate Picnic



Chemical and Energy Sciences



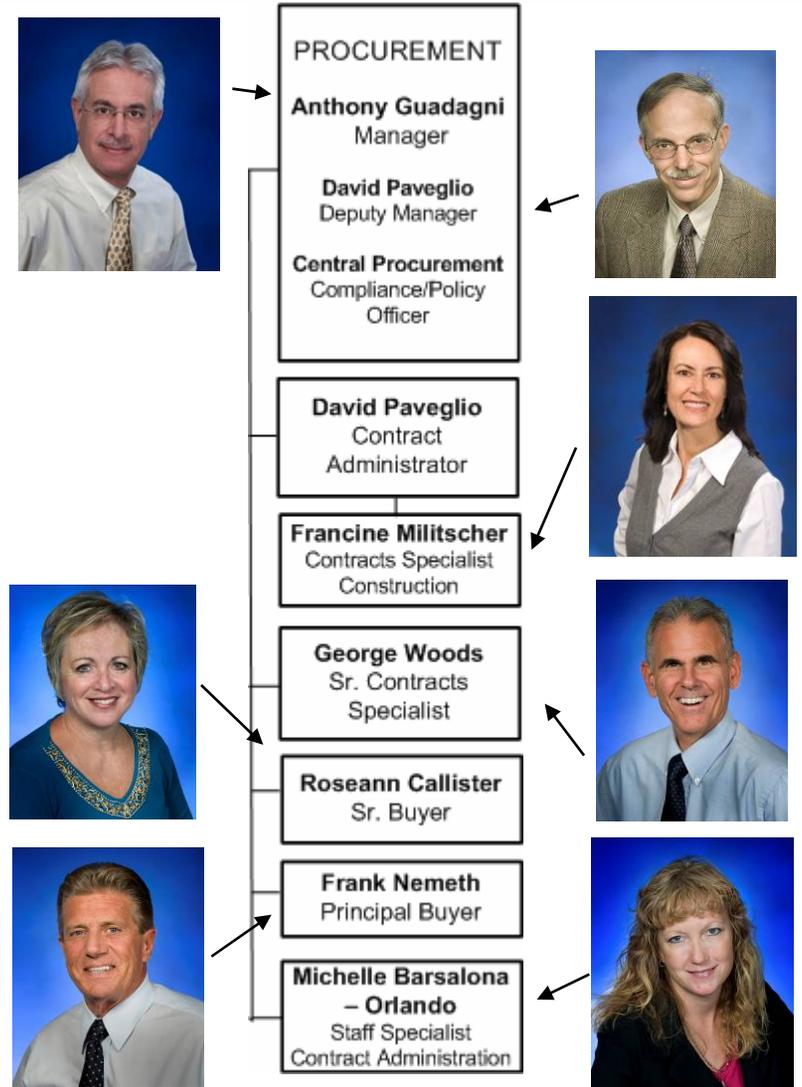
DOE Review of NSLS-II Project
June 17-18, 2008



NSLS-II Construction Readiness Design Review
September 1-2, 2008

Procurement – Lessons Learned

- Anthony Guadagni, NSLS-II Procurement Manager
- David Paveglio, Deputy Manager and NSLS-II Construction Lead
 - Extensive contractor outreach for ring building procurement
 - Five “best value” offerors submitted bids
 - Highest technical score was also lowest price
 - Contract awarded to Torcon, Inc. on February 18, 2009



Construction Progress



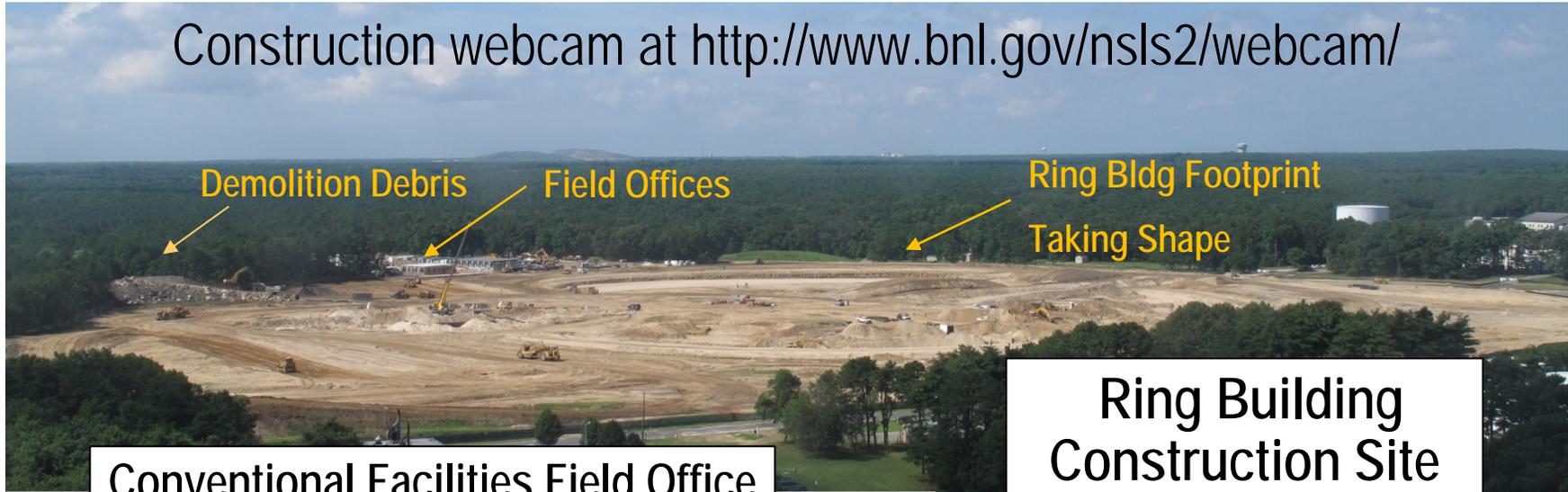
- Ring Building construction contract awarded to Torcon, Inc
 - Price consistent with baseline - enables retirement of significant risk



Contract Signing – February 18, 2009

Construction Progress

Construction webcam at <http://www.bnl.gov/nsls2/webcam/>



Concrete Work Progressing



Construction Progress



Storm Drain Installation



Survey Monument Pour



Utility Tunnel
Concrete 1st Pour



Water Main
Installation

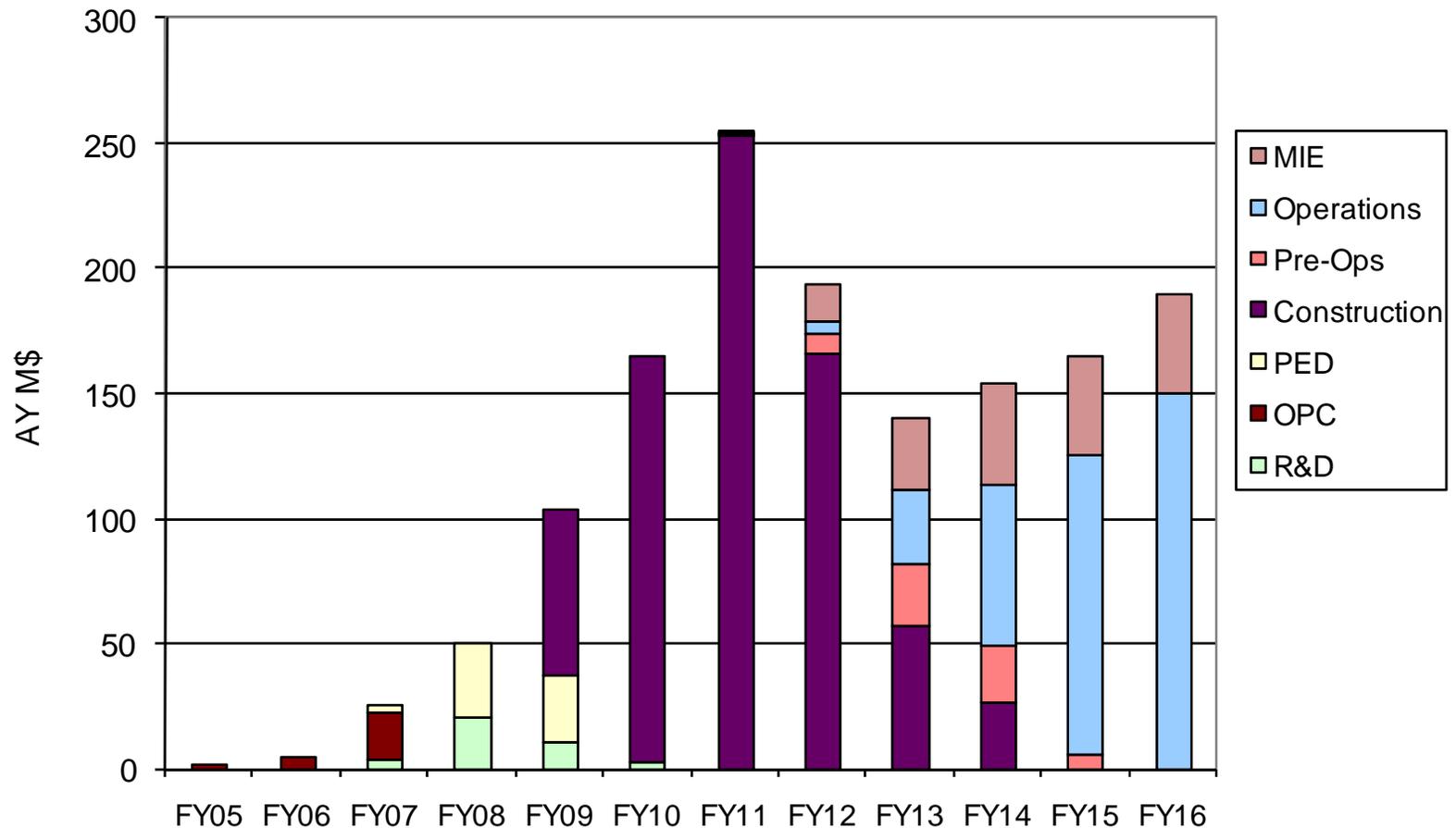


Tracking Construction

- Web Camera
 - <http://nsls2camera.ls.bnl.gov/>

The screenshot displays the NSLS-II Construction Webcams website. On the left, there is a calendar for June 2009 with the 1st highlighted. Below the calendar, it shows the 'Current Image' as of JUN 01, 2009 11:15:00. The main area features a large aerial view of a construction site with a timestamp of JUN 01, 2009 11:15:00. A control panel on the left includes a zoom slider set to 93%, navigation buttons, and a 'High Res' option. On the right, a smaller window titled 'NSLS-II Construction Webcams' shows a map with camera locations marked and a list of camera views. Below the main site view, there is a smaller inset image of a water tower.

Proposed Funding Profile for NSLS-II Facility



Strong Federal, State, and DOE Support



Senator Schumer & Representative Bishop visited NSLS on Feb 17, 2009 & announced that final FY09 Appropriation will have full funding of \$103.3M for NSLS-II

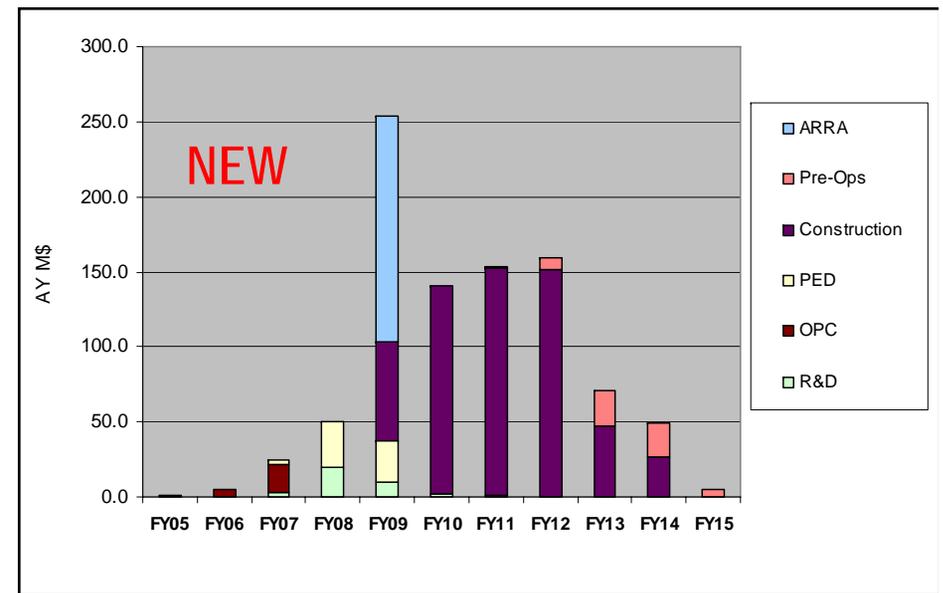
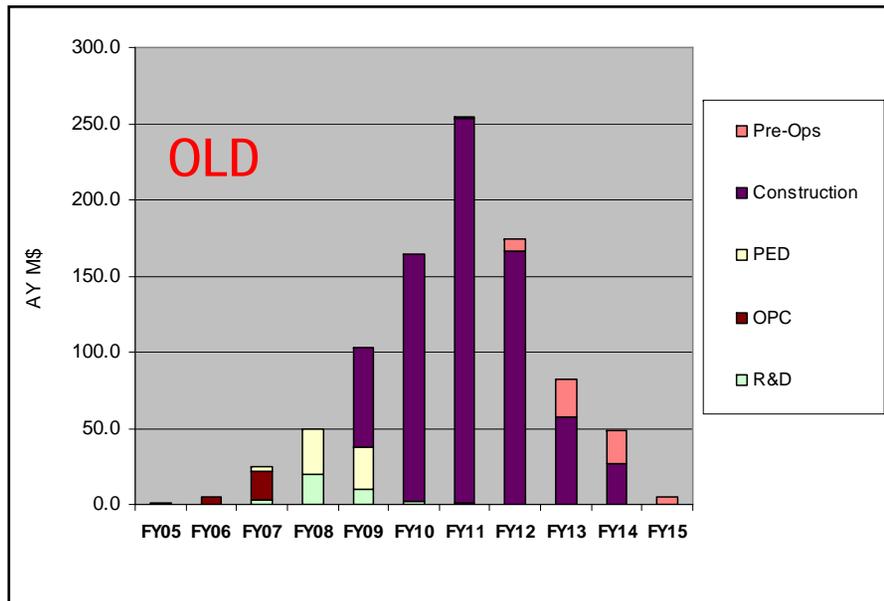


Governor Paterson visited BNL on Feb 27, 2009 & announced an agreement to allocate low-cost electricity for BNL to support the construction of NSLS-II



DOE Secretary Chu visited BNL on Mar 23, 2009 & announced \$184.3M in American Recovery & Reinvestment Act (ARRA) funding for BNL, including \$150M for NSLS-II

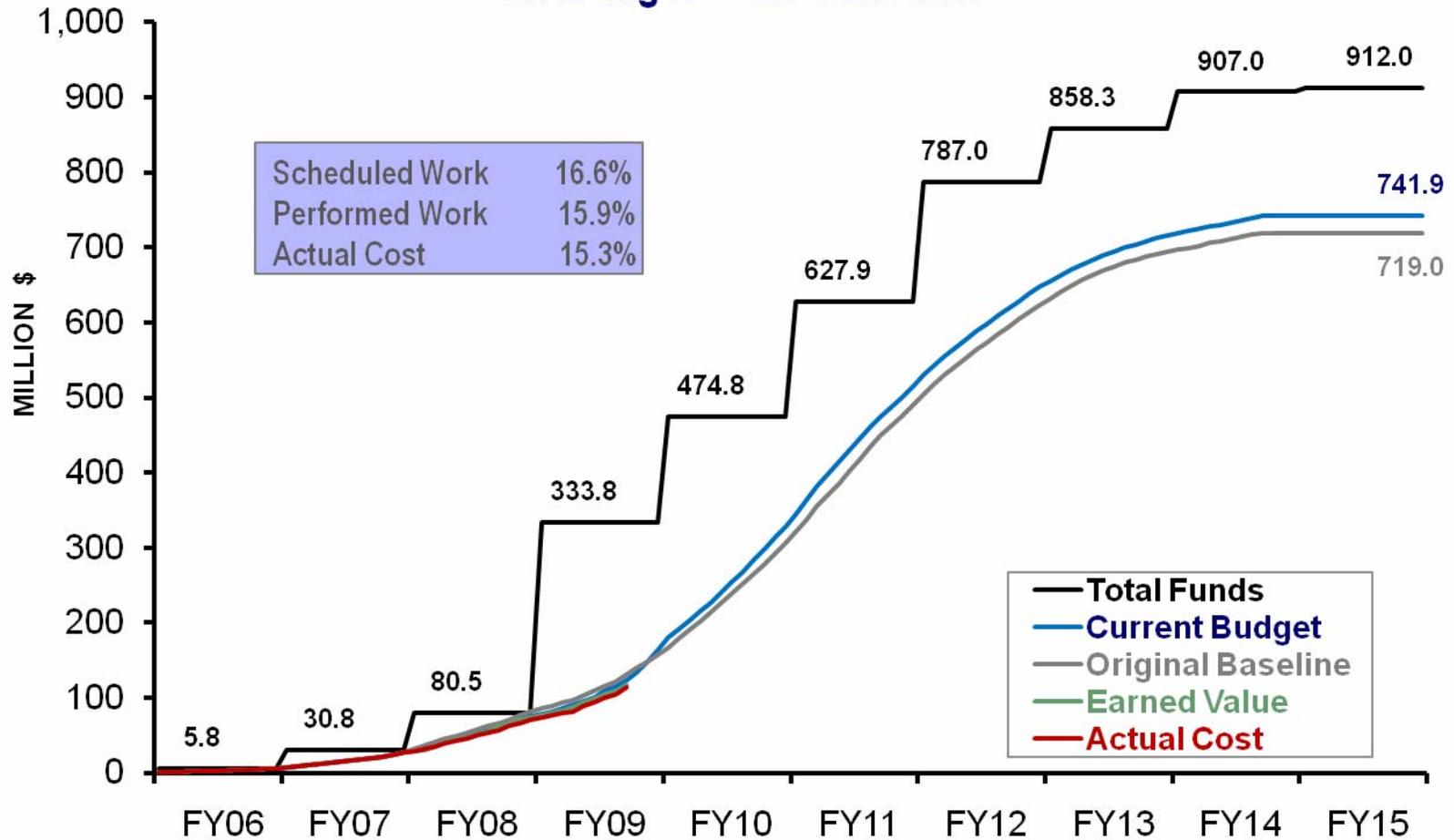
American Recovery and Reinvestment Act Before and After



- Final ARRA activities being coded in the schedule
 - 4000 Torcon activities in schedule; 2500 activities coded ARRA
- Torcon will provide monthly invoices that separate ARRA and non-ARRA Activities
- Weekly ARRA Reporting is ongoing
- Other ARRA reports provided as required

Earned Value Management

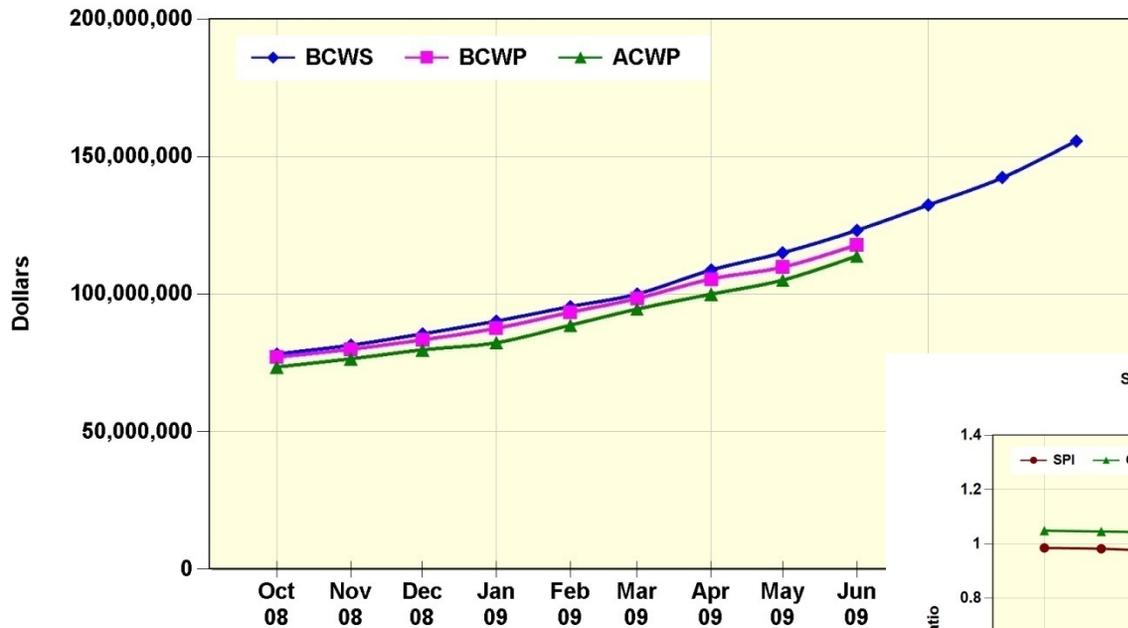
NSLS-II Performance through June 2009
On Budget -- On Schedule



Cost & Schedule Performance

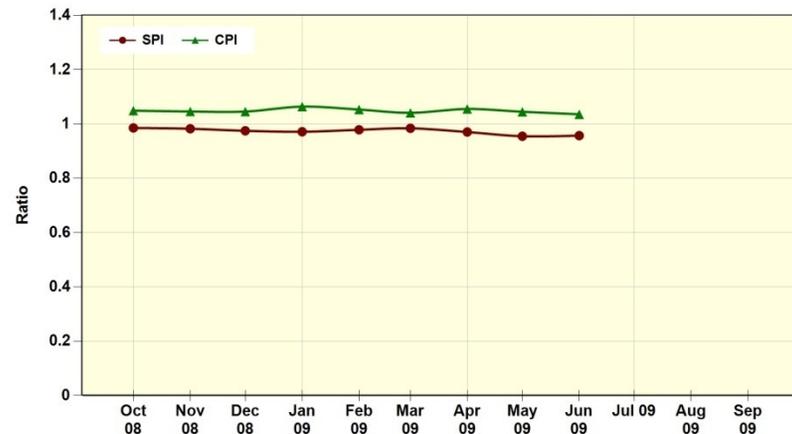
- **Cost:** Project Management is on Budget – CPI = 1.04
- **Schedule:** Level of Effort – SPI = 0.96

EVMS for WBS 1 (NSLS-II Project) as of June 2009
- Steven Dierker [22609]



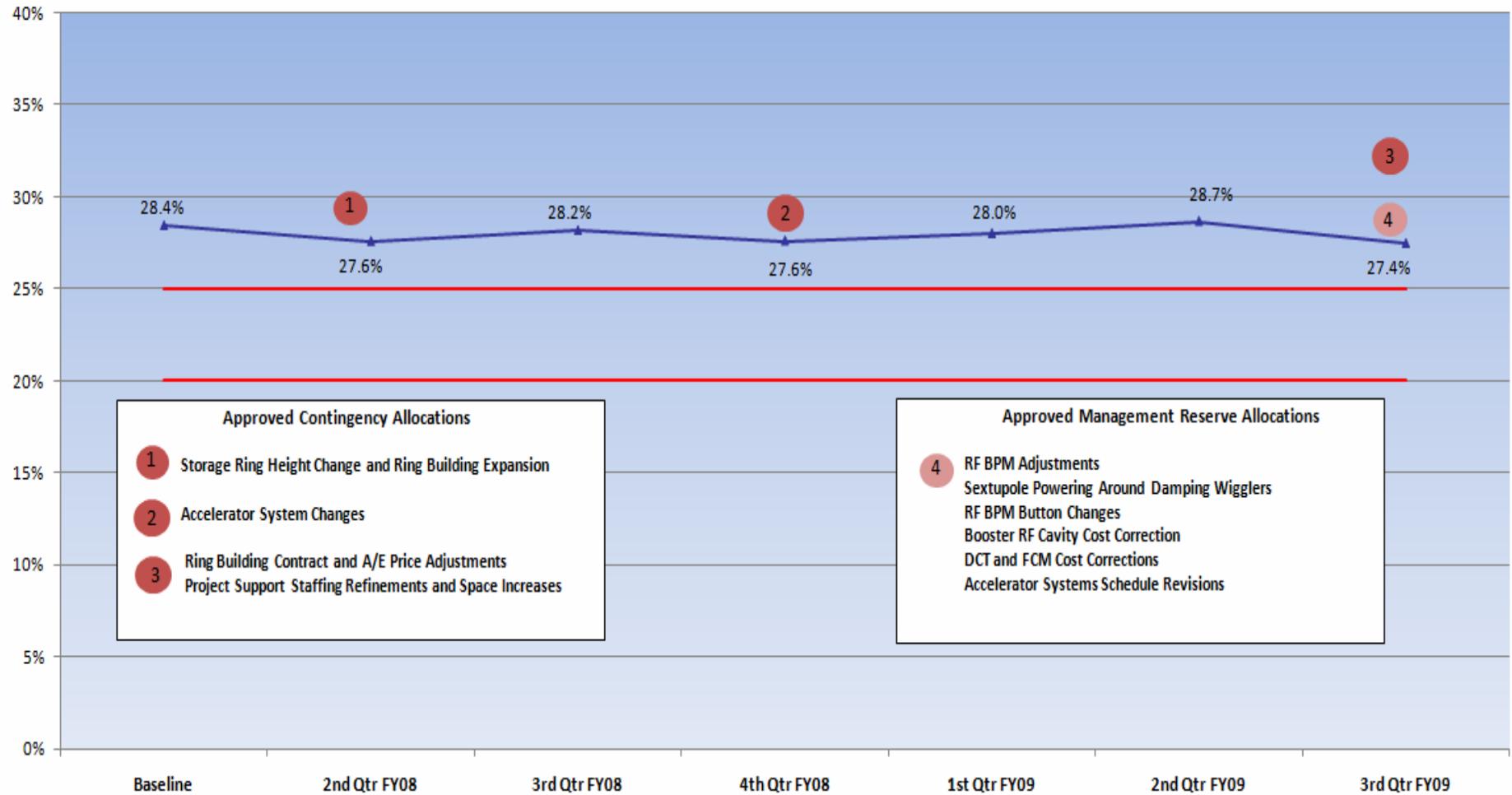
CPI = Earned Value / Actual Cost
SPI = Earned Value / Planned Value

SPI/CPI for WBS 1 (NSLS-II Project) as of June 2009
- Steven Dierker [22609]

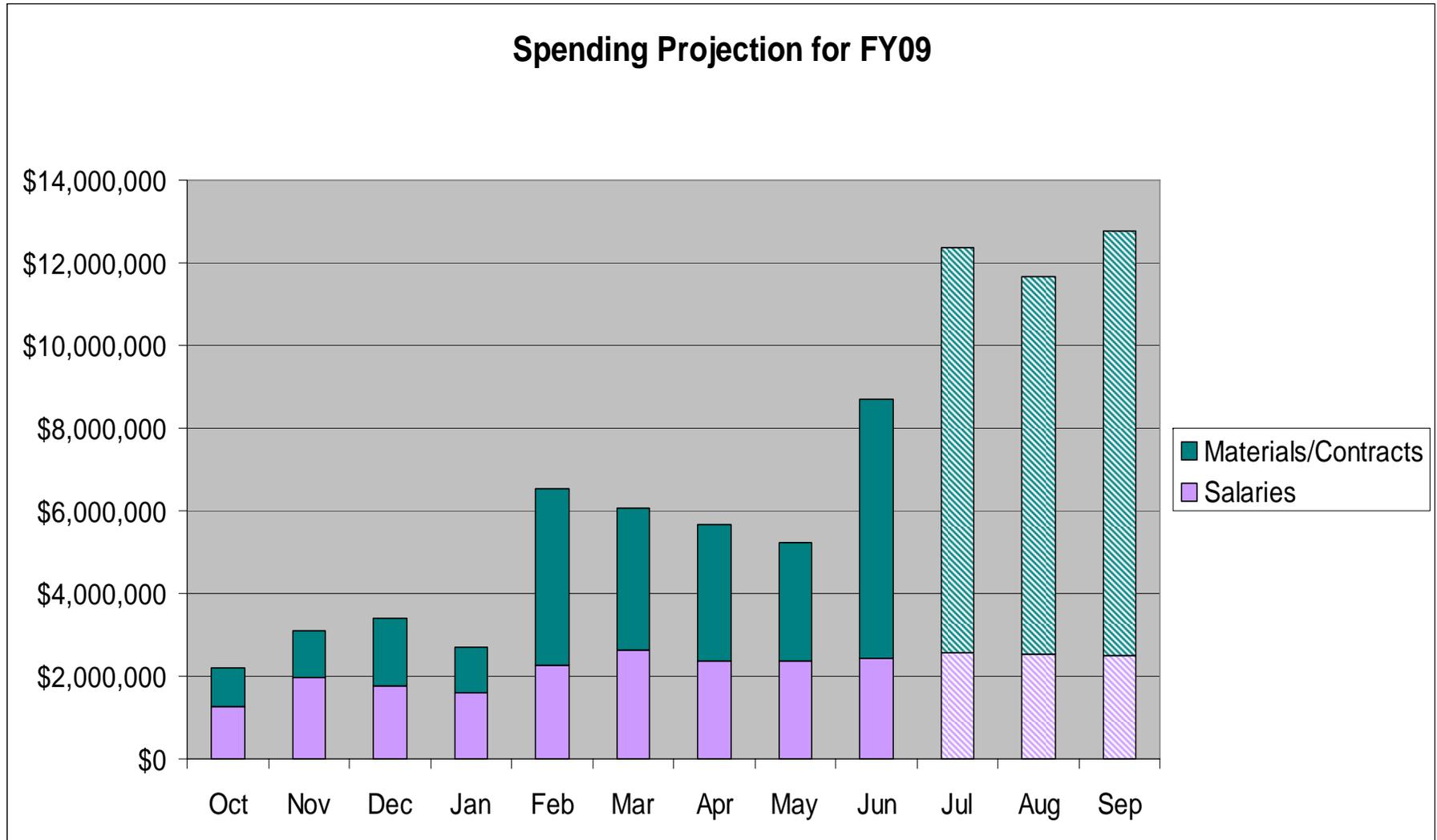


Contingency Tracking

NSLS-II Contingency; % of Remaining Work

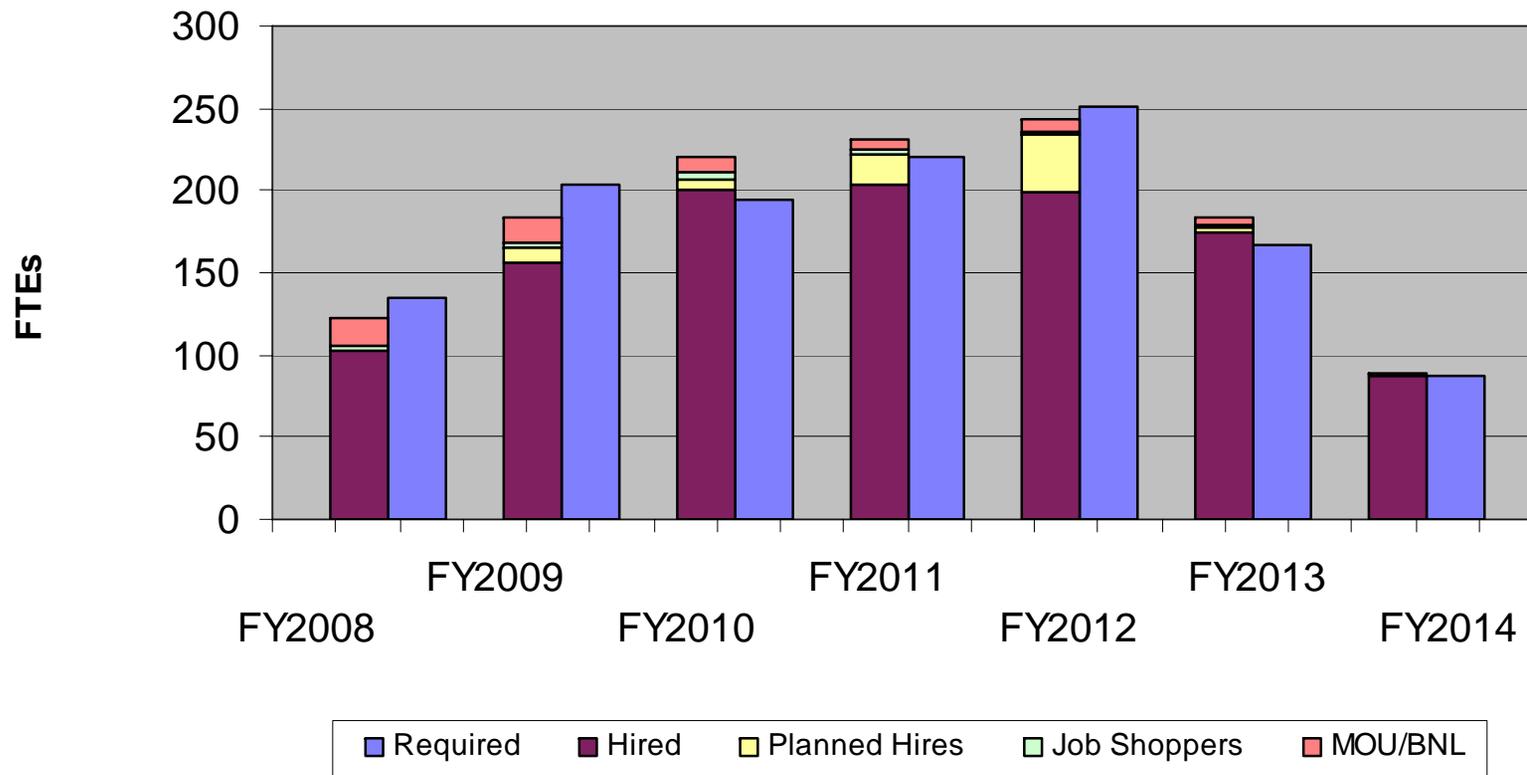


Overall Monthly Spending



NSLS-II Current Staffing Status

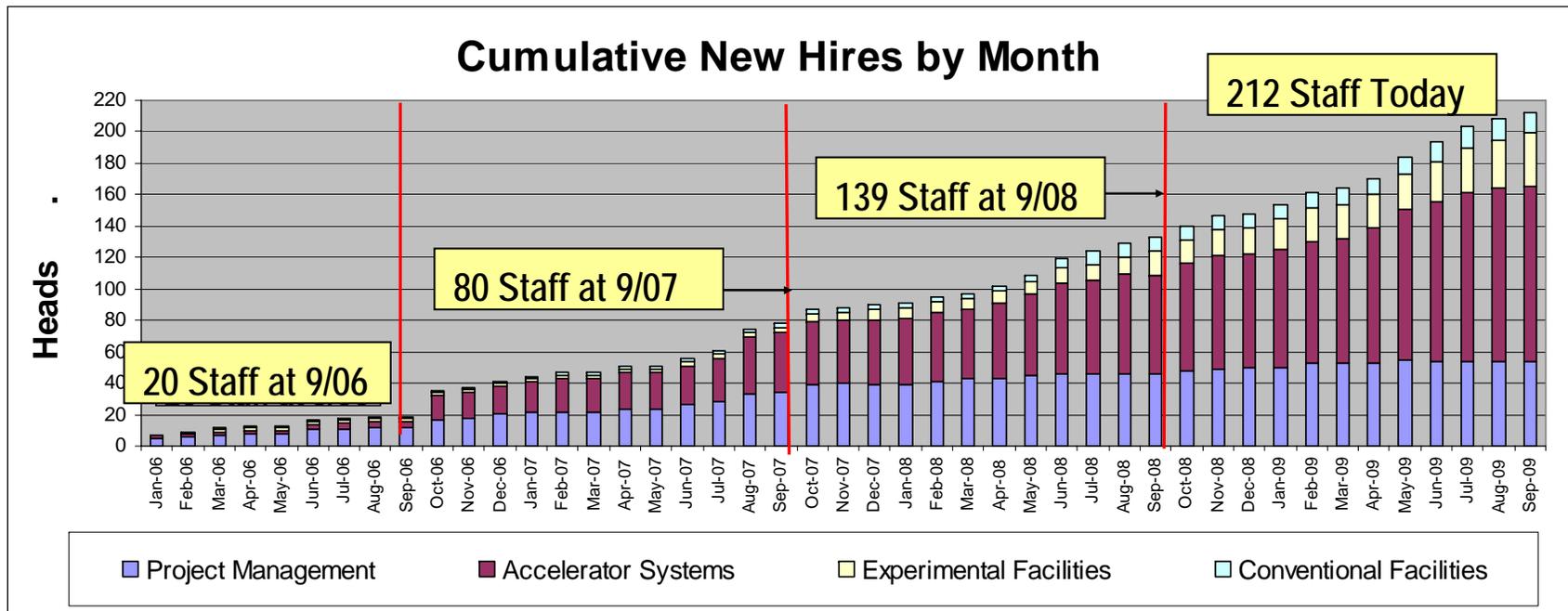
NSLS-II Staffing Plan vs. Project Requirements (FTEs)



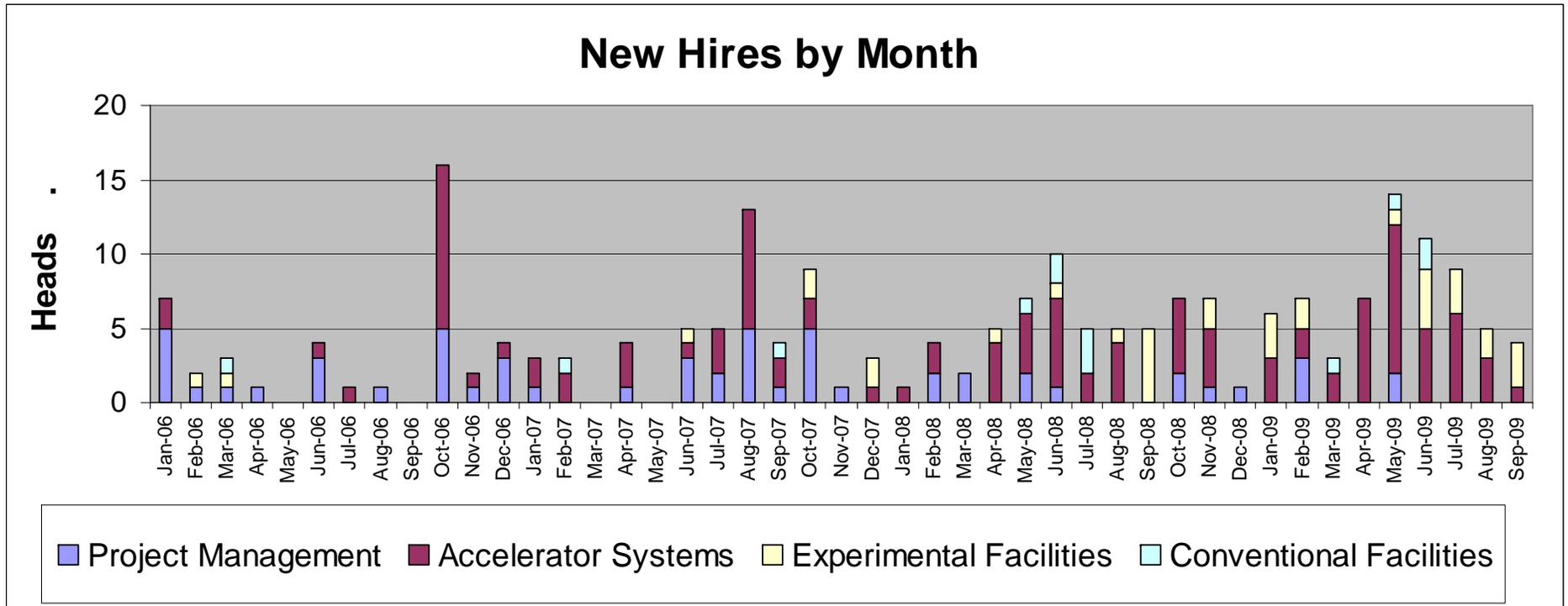
Staffing Progress

- Human Resources

- 18 Open Requisitions with 1 offer in process
- Total hires now at 212
- 58 Offers accepted so far this fiscal year plus 9 students for summer '09



Staffing Progress



Staffing – Lessons Learned

- Career Open House – March 29, 2008
 - 500 attendees
 - 400 NSLS-II candidates interviewed by Recruiters
 - 150 NSLS-II candidates interviewed by Technical Managers
 - 40 candidates invited back for second interviews
 - 6 offered positions

Open House Hires

- Civil/Architectural Inspector
- Construction Project Engineer
- Lead Mechanical Engineer for Conventional Facilities
- Mechanical Engineer for Beamline Diagnostics
- Electronic Technical Specialist



U.S. DEPARTMENT OF
ENERGY

Summary

- NSLS-II early planning key to initial successes
- Strong laboratory, federal, state support critical
- NSLS-II project support being used as a model at BNL
- www.bnl.gov/nsls2

