

NSF - PHY News

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**HEPAP
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FY2012 R&RA Budget Request

R&RA Funding (Dollars in Millions)

	FY 2010 Omnibus Actual	FY 2010 ARRA Actual	FY 2010 Enacted/ Annualized 2011 CR ¹	FY 2012 Request	Change over FY 2010 Enacted	
					Amount	Percent
Biological Sciences	\$714.77	\$0.35	\$714.54	\$794.49	\$79.95	11.2%
Computer & Information Science & Engineering	618.71	-	618.83	728.42	109.59	17.7%
Engineering	775.92	-	743.93	908.30	164.37	22.1%
Geosciences	891.87	0.40	889.64	979.16	89.52	10.1%
Mathematical & Physical Sciences	1,367.95	15.70	1,351.84	1,432.73	80.89	6.0%
Social, Behavioral & Economic Sciences	255.31	0.25	255.25	301.13	45.88	18.0%
Office of Cyberinfrastructure	214.72	-	214.28	236.02	21.74	10.1%
Office of International Science & Engineering	47.84	0.10	47.83	58.03	10.20	21.3%
Office of Polar Programs²	451.77	2.23	451.16	477.41	26.25	5.8%
Integrative Activities	274.89	420.15	275.04	336.25	61.21	22.3%
U.S. Arctic Research Commission	1.58	-	1.58	1.60	0.02	1.3%
Total, R&RA	\$5,615.33	\$439.17	\$5,563.92	\$6,253.54	\$689.62	12.4%

Totals may not add due to rounding.

FY2012 MPS Budget Request

(Dollars in Millions)

	FY 2010 Omnibus Actual	FY 2010 ARRA Actual	FY 2010 Enacted/ Annualized FY 2011 CR	FY 2012 Request	Change Over FY 2010 Enacted	
					Amount	Percent
Division of Astronomical Sciences (AST)	\$246.53	-	\$245.69	\$249.12	\$3.43	1.4%
Division of Chemistry (CHE)	233.68	15.70	233.73	258.07	24.34	10.4%
Division of Materials Research (DMR)	302.57	-	302.67	320.79	18.12	6.0%
Division of Mathematical Sciences (DMS)	244.92	-	241.38	260.43	19.05	7.9%
Division of Physics (PHY)	301.66	-	290.04	300.91	10.87	3.7%
Office of Multidisciplinary Activities (OMA)	38.58	-	38.33	43.41	5.08	13.3%
Total, MPS	\$1,367.95	\$15.70	\$1,351.84	\$1,432.73	\$80.89	6.0%

Totals may not add due to rounding.

FY2012 Physics Division Budget Request

PHY Funding (Dollars in Millions)

	FY 2010 Enacted/ FY 2010 Omnibus Actual	FY 2010 Annualize d FY 2011 CR	FY 2012 Request	Change Over FY 2010 Enacted Amount	Percent
PHY	\$301.66	\$290.04	\$300.91	\$10.87	3.7%
Research	178.72	177.97	214.12	36.15	20.3%
<i>CAREER</i>	8.76	5.60	7.43	1.83	32.7%
<i>Centers Funding (total)</i>	5.68	5.68	1.14	-4.54	-79.9%
<i>STC 2002: Cntr. For Bio. Sci.&Tech.</i>	3.28	3.28	-	-3.28	-100.0%
<i>Nanoscale Sci. and Eng. Ctrs.</i>	2.40	2.40	1.14	-1.26	-52.5%
Education	8.14	9.42	8.44	-0.98	-10.4%
Infrastructure	114.80	102.65	78.35	-24.30	-23.7%
<i>Large Hadron Collider (LHC)</i>	18.00	18.00	18.00	-	-
<i>Laser Inteferomter Grav. Wave Obs. (LIGO)</i>	28.50	28.50	30.40	1.90	6.7%
<i>Nat'l Superconducting Cyclotron Lab (NSCL)</i>	21.00	21.00	21.50	0.50	2.4%
<i>IceCube</i>	2.15	2.15	3.45	1.30	60.5%
<i>Pre-Construction Planning (total)</i>	40.69	29.00	-	-29.00	-100.0%
<i>Deep Underground Sci. & Engr. Lab (DUSEL)¹</i>	40.69	29.00	-	-29.00	-100.0%
<i>Research Resources</i>	4.47	5.00	5.00	-	-

¹ DUSEL FY 2010 Actual includes \$11.74 million in carryover funding from FY 2009.

The NSF MREFC Program

*Perspectives on DUSEL as a proposed
MREFC project*



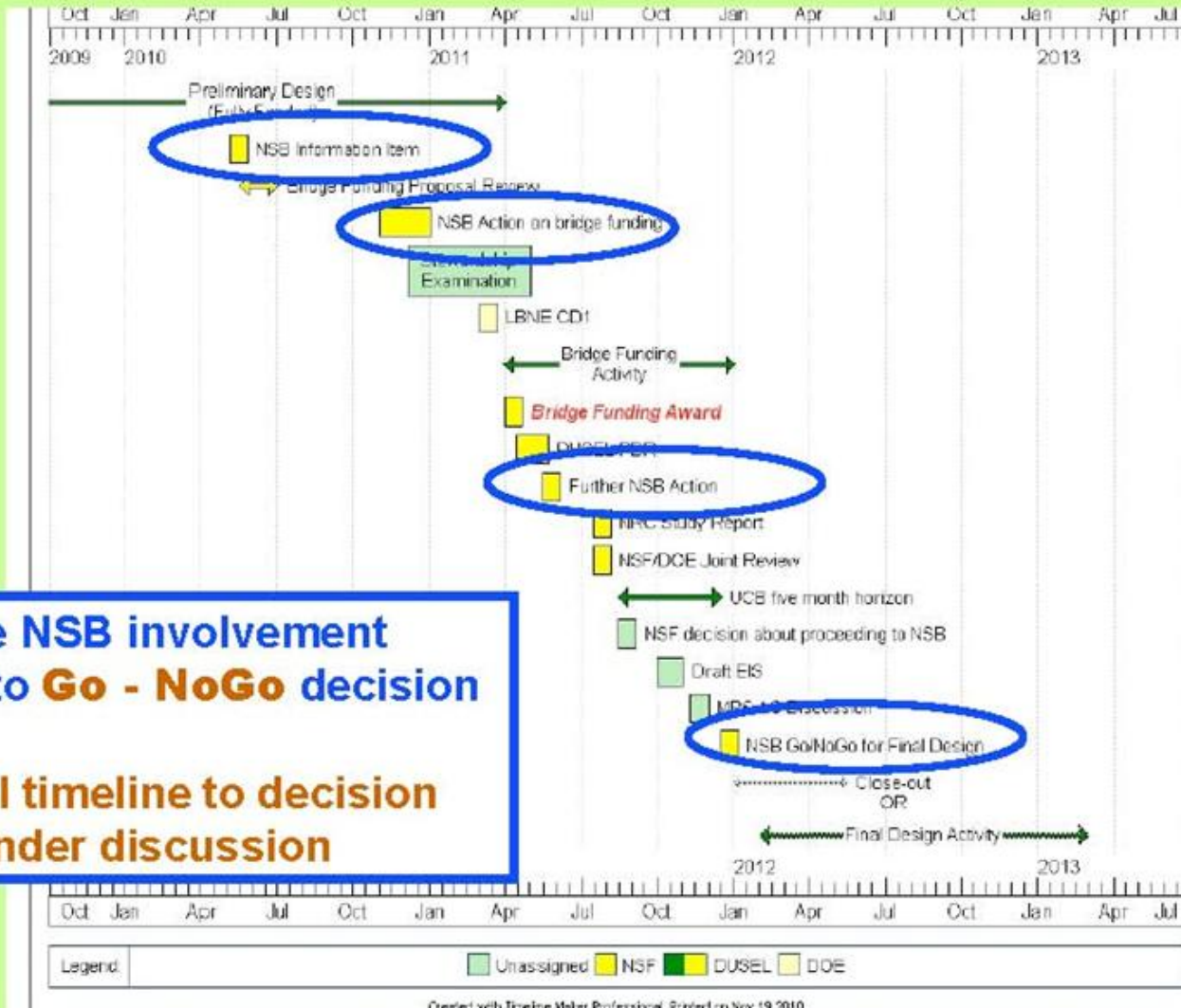
Barry C. Barish
NSB Consultant (former member)
15 Dec 10

DUSEL

NSB Perspective

- DUSEL has been presented to the NSB as an information item several times
- NSB Action items: only funding proposals for planning and design toward preliminary design have been considered (*e.g. > 13.6M\$ award*)
- Several critical issues have been raised:
 - » Assessment of science opportunities?(NRC STUDY)
 - » NSF / DoE partnership and stewardship (The NSB feels the current stewardship model is unacceptable)
 - » Reliable Costing: Both for NSF MREFC construction and for long-term operations?
 - » What will be needed, in order for NSB to make an informed GO - NOGO decision?

Proposed DUSEL Decision Timeline



Active NSB involvement prior to **Go - NoGo** decision

Actual timeline to decision still under discussion

NRC Statement of Task

**The committee will undertake an assessment of
The proposed DUSEL program, including:**

- **An assessment of the major physics questions that could be addressed with the proposed DUSEL and associated physics experiments,**
- **An assessment of the impact of the DUSEL infrastructure on research in fields other than physics,**
- **An assessment of the impact of the proposed program on the stewardship of the research communities involved,**
- **An assessment of the need to develop such a program in the U.S., in the context of similar science programs in other regions of the world,**
- **An assessment of broader impacts of such an activity, including but not limited to education and outreach to the public.**

Conclusions

- The NSF MREFC program expands the scope of the NSF research program to include large facilities.
 - » AdLIGO, South Pole Station, Ocean Observatory, NEON, ATST, etc
- A procedure, including MREFC annual Portfolio Reviews, CDR, PDR, FDR etc, has been put into place. BUT, one size doesn't fit all!
- The perspective for future MREFCs include:
 - » Much competition; uncertain budgets; rising operating costs
 - » First criteria: SCIENCE OPPORTUNITIES
- DUSEL
 - » Need an understanding of the realistic science opportunities, especially relative to the worldwide program (NRC panel)
 - » DoE/NSF partnership; design; construction costs; operating costs; safety; risks, etc must be determined for PDR
- NSF / NSB key decision will be after PDR, whether to proceed to FDR?

Summary

- NSB decision
- Science highly valued
- Partnership plan unacceptable
- PDR
- NRC
- FY11
- FY12
- PHY present posture
- EPP important
- Advise on what the field of particle physics needs to be viable
- After NRC and DOE reports, discussions at higher level