



US LHC Accelerator Research Program
bnl - fnal- lbnl - slac

LARP Magnet Program

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LARP Collaboration Meeting

Port Jefferson

April 8, 2005



Magnet Program Priorities

- **Quads** – no short model  no long model
- **Long magnet** – no long model  no LHC upgrade
- **Conductor and Cable support**

Rossi criteria

**4m, 90mm bore
high gradient quad**

Implicit goal:

Demonstrate that Nb_3Sn is a viable technology for accelerator magnets



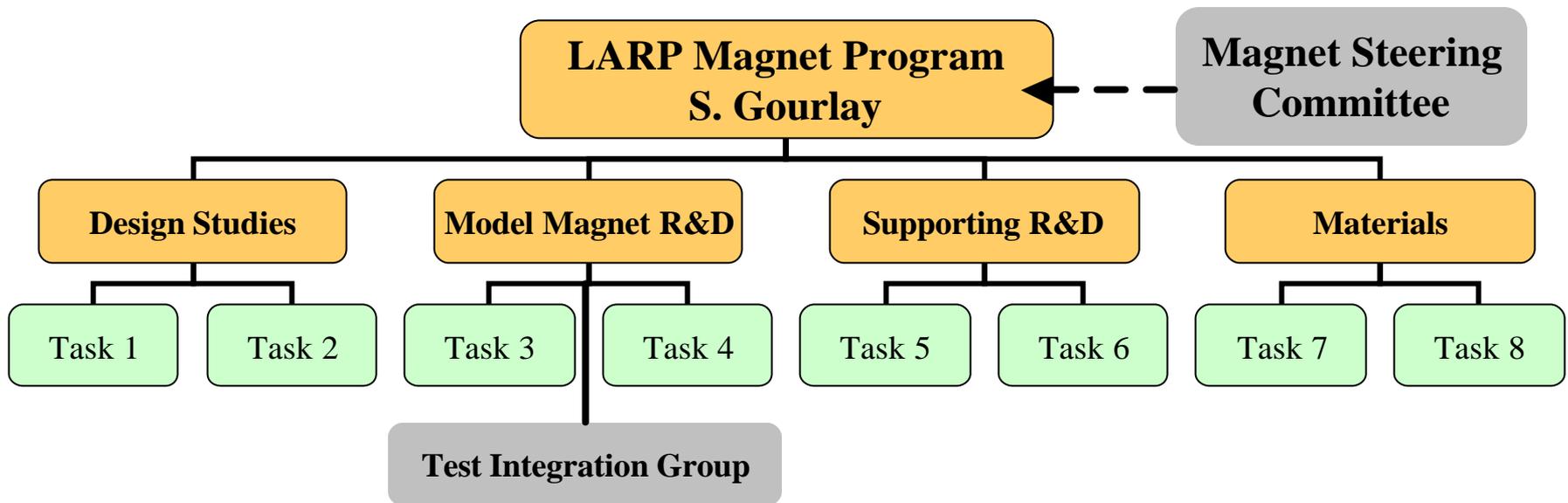
Target Program

Revised 4/8/05

	Gradient	Length	Aperture	FY05	FY06	FY07	FY08	FY09
	[T/m]	[m]	[mm]					
Model Magnets								
High gradient (costheta)	> 200	1	90		X X	X X		
Ultimate gradient	> 250	1	90				X	X
Long length, high gradient	> 200	4	90				X	X
Supporting R&D								
Sub-scale tests		0.3		X X	X X	X X	X X	X
Practice Coil		4			X	X		
Long coil tests		4				X	X	



Management Structure





Some issues for this meeting

Start the process of developing a more aggressive, integrated program

Long magnet scale-up

Quad program flavor and direction

4-layer

3-layer

both?

Bottoms-up cost estimate, realistic scope - defend the budget

Increase frequency of face-to-face meetings



Challenges

Does budget fit the scope?

Detailed, bottoms-up cost and resource loaded schedule

Can we collaborate at the level necessary for success?

Sort out support structure options ASAP

Hit long magnet scale-up hard

Priority & below quad program

Materials characterization and magnet performance

Adequate supply of usable conductor

Various technical challenges

Too numerous to mention