

SNuMI



# SNuMI's Preliminary Review Preparation

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- **General Progress and Status**
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    - « **Resource Loaded Schedule & Costs**
    - « **Presentations**
    - « **SNuMI's Review Web Page**



## General Progress and Status

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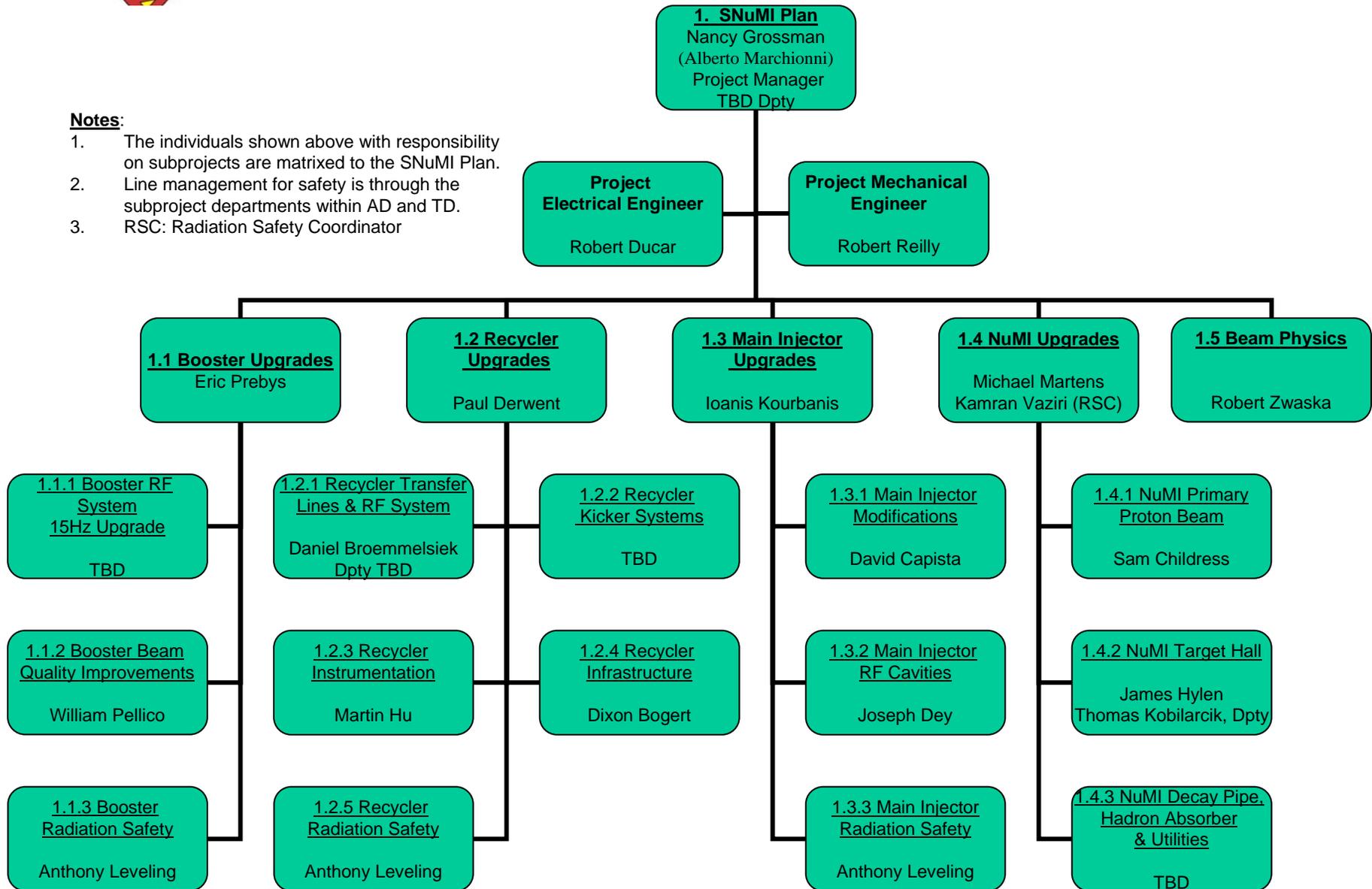
- Goals:
  - « Tasks in by Sept. 29 – 95% of tasks are in & the majority have costs
  - « Costs and resources in by Oct. 13 – probably doable
  - « Remainder of Oct, top down review, add milestones, contingency, phys.
    - \* This will suffer the most as we need to be preparing talks etc. during this time period also
    - \* Trying to address as much of this as we can by Oct. 13.
- Phase I CDR (only small section has been submitted so far...)
  - « 1st draft by Sept. 29 – 50% complete
  - « 2nd draft by Oct 13 – of the 50%, probably 25% is good enough as is.
  - « Remainder of Oct – review/edit –
    - \* Will not be very polished and will have greatly varying levels of detail depending on the section.



# SNuMI Organization

**Notes:**

1. The individuals shown above with responsibility on subprojects are matrixed to the SNuMI Plan.
2. Line management for safety is through the subproject departments within AD and TD.
3. RSC: Radiation Safety Coordinator





# Resource Loaded Schedule

WBS	Task	# of Tasks	% Tasks Entered	Of Tasks Entered, % with NO Resources	Total Cost	SWF Hours	Labor Cost	M&S Cost
<b>1</b>	<b>SNUMI</b>				<b>\$26,048,695</b>	<b>145,698.37h</b>	<b>\$4,316,185</b>	<b>\$21,671,260</b>
<b>1.1</b>	<b>Booster Upgrades</b>	<b>18</b>	<b>95%</b>	<b>33%</b>	<b>\$2,307,685</b>	<b>4,384h</b>	<b>\$107,685</b>	<b>\$2,200,000</b>
1.1.1	Booster RF System 15 Hz Upgrade	16		25%	\$2,300,650	4,144h	\$100,650	\$2,200,000
1.1.2	Booster Beam Quality Improvements	1		100%	\$0	0h	\$0	\$0
1.1.3	Radiation Safety	1		100%	\$0	0h	\$0	\$0
<b>1.2</b>	<b>Recycler Upgrades</b>	<b>180</b>	<b>90%</b>	<b>12%</b>	<b>\$14,478,669</b>	<b>76,909.88h</b>	<b>\$2,245,439</b>	<b>\$12,171,980</b>
1.2.1	Recycler Ring Modifications	71		14%	\$5,139,954	44,272.28h	\$1,180,894	\$3,959,060
1.2.2	Recycler Kicker Systems	82		1%	\$5,377,254	31,936h	\$1,035,004	\$4,281,000
1.2.3	Recycler Instrumentation	17		29%	\$641,462	701.6h	\$29,542	\$611,920
1.2.4	Recycler Infrastructure	7		29%	\$3,320,000	0h	\$0	\$3,320,000
1.2.5	Recycler Radiation Safety	3		100%	\$0	0h	\$0	\$0
<b>1.3</b>	<b>Main Injector Upgrades</b>	<b>20</b>	<b>80%</b>	<b>25%</b>	<b>\$1,141,220</b>	<b>2,512h</b>	<b>\$59,340</b>	<b>\$1,081,880</b>
1.3.1	MI Modifications	3		33%	\$144,718	600h	\$15,718	\$129,000
1.3.2	MI RF Cavities	16		19%	\$996,502	1,912h	\$43,622	\$952,880
1.3.3	MI Radiation Safety	1		100%	\$0	0h	\$0	\$0
<b>1.4</b>	<b>NuMI Upgrades</b>	<b>179</b>	<b>90%</b>	<b>4%</b>	<b>\$8,121,121</b>	<b>61,892.48h</b>	<b>\$1,903,721</b>	<b>\$6,217,400</b>
1.4.1	NuMI Primary Proton Beam	19		11%	\$980,133	3,964h	\$118,733	\$861,400
1.4.2	NuMI Target Hall	125		3%	\$6,747,104	52,910.08h	\$1,627,104	\$5,120,000
1.4.3	NuMI Decay Pipe/Hadron Absorber/Utilities	35		3%	\$393,884	5,018.4h	\$157,884	\$236,000
<b>1.5</b>	<b>Beam Physics</b>	<b>1</b>	<b>0%</b>	<b>100%</b>	<b>\$0</b>	<b>0h</b>	<b>\$0</b>	<b>\$0</b>



## Resource Loaded Schedule

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### Tasks missing

1. Refurbishing of Booster Anode supplies, what we have now is purchasing of new supplies
2. Fabrication of magnets for the transfer lines (Switcher magnet, ...)
3. Fabrication/purchase of DCCT for Recycler
4. Installation of cables for the Recycler BPMs and other instrumentation
5. Little physicist labor costed yet
5. Many other tasks – mostly small, with no costs that need them.



## Resource Loaded Schedule

Total M&S cost of the project. It is so distributed (comparing to previous estimate of last spring):

	<b>New estimate</b>	<b>Old estimate</b>
<b>Booster</b>	<b>\$2.2M</b>	<b>\$0.5M</b>
<b>Recycler</b>	<b>\$10.6M</b>	<b>\$5.8M</b>
<b>Main Injector</b>	<b>\$1.1M</b>	<b>none</b>
<b>NuMI</b>	<b>\$6.3M</b>	<b>\$2.9M</b>
<b>Shielding</b>	<b>none</b>	<b>\$0.7M</b>
<b>Contract Labor</b>	<b>\$1.7M</b>	<b>small</b>
<b>Total</b>	<b>\$21.7M</b>	<b>\$9.9M</b>

Where is the difference coming from?



## Resource Loaded Schedule

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### Where is the difference coming from?

- Booster has \$2.0M for the purchase of new anode supplies, most likely the old estimate of \$0.5M is more realistic (we are visiting this tomorrow)
- Recycler: the kicker system is ~ \$3M more expensive and civil construction has increased by ~\$2.5M – we are checking these costs
- Main Injector: we now have a real estimate for the installation of the 2 additional cavities
- NuMI. I can identify the following items, which explain almost all of the cost increase (for a total of + \$3.2M)
  - « Spares for \$1.4M (we need to break these out, or make a different cost code)
  - « Moving horn 2 to the medium energy position using the dummy module costs \$0.6M
  - « Raw system upgrades + new hadron monitor (not there previously) is \$0.2M
  - « Work cell upgrade + radioactive waste disposal is \$1.0M, which was previously moved to phase II



## CDR & PMP Status Details

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### Outline of the SNUMI CDR & First Draft Status of % complete

- **Executive Summary (Nancy/Alberto) – 0%**
- **Introduction**
  - « *Present operating conditions (A. Marchionni) – 80%*
  - « *Planned Proton Plan upgrades (E. Prebys) – 90%*
  - « *SNUMI upgrade plan (A. Marchionni) – 90%*
  - « *Beam Physics (R. Zwaska) – 20%*
- **Elements of the Plan**
  - « *Booster upgrades (WBS 1.1, E. Prebys) – 80%*
  - « *Recycler upgrades (WBS 1.2, P. Derwent) – 40%*
  - « *Main Injector upgrades (WBS 1.3, I. Kourbanis) – 100%*
  - « *Radiation Safety for Booster and Main Injector tunnel (T. Leveling) – 75%*
  - « *NuMI upgrades (WBS 1.4, M. Martens) – 50%*
- **Cost and schedule (N. Grossman) – 0%**
- **Proton Projections (R. Zwaska) – 0%**

SNUMI Project Management Plan – **Draft V0 written – very rough**



## Presentations & Website

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- Presentations:
  - « Will use a talk template similar to MINERvA for L2 talks
    - \* L2's will focus on design work/issues
    - \* L2's will present brief schedule and cost summaries
      - Deciding if we will present base costs in FY06\$ - no overheads or
      - Fully burdened costs (if easy to get from MSP), no contingency
      - L2's comment on contingency or just in summary cost talk?
  - « Last two weeks of Oct, write talks, put together cost/schedule info.
  - « Dry run talks the week of Oct. 30
  - « Post talks by Nov. 7
- Website:
  - « Will set up similar to the MINERvA Director's Review Websites
  - « Have asked Alan Wehmann to start this