



Proton Plan 2 Issues

PROTON PLAN 2
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- Getting to \$40M (fully burdened with contingency) – how flexible is this?
 - « Physicists at 0 cost
 - « R&D: design work
 - « GPP: Civil
 - * How can this be separate?
 - * If it is part of the project, does it then mean we are a line item?
 - « Operating: anything that isn't construction/installation or R&D; includes:
 - * Alignment (zero cost for a project, thus make part of MIE?)
 - * Magnet removal costs
 - * Workcell upgrades/radioactive component storage
 - * Booster 15Hz (remove completely or make operating?)
 - « MIE: procurement/construction/installation; includes:
 - * Testing
 - * Magnets that get refurbished, then reinstalled
 - * Procurement: includes labor to do the procurement & cost of the item
 - Pull out the people time as operating labor instead (small)?



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- Getting to \$40M (fully burdened with contingency)
 - « How things look with the assumptions from the previous page
 - « Also includes removing the costs for a scheduler & budget person as these are assumed to be covered in the NOvA PM costs
 - « Presently:
 - * MIE: \$43.3M (43% contingency)
 - * R&D: \$11.5M (40% contingency)
 - * OP: \$9.0M (51% contingency)
 - * GPP: \$3.3M (29% contingency)
 - * Total: \$67.1M (42% contingency)



FY07 Budget – what do we do?

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- FY07 Budget from Bruce: \$1.2M (M&S only)

WBS	Name	Items	FY07\$
1.2	Recycler Upgrades	Permanent Magnet Work (\$15K) & Kickers ((\$303K)	\$432,083
1.3	Main Injector Upgrades	RR low level RF work	\$57,868
1.4	NuMI Upgrades	ME target, cooling R&D, remote work development	\$64,577
1.5	Beam Physics	Electron cloud measurements in MI & RR	\$36,101
1.6	Civil Construction	Work for penetrations in FY07.	\$714,425
		Total (this is work in progress)	\$1,305,054

- Continue with Kicker prototyping work within AD structure
- Civil on hold for now – what do we do?
 - « If we wish to do civil penetrations in FY07 shutdown, need to decide by 1/16



Other immediate issues

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- 2009 shutdown drives the FY2007 penetration installation and kicker work
 - « Does PP2 need to be ready to install all accelerator upgrades 10/09 even if NOvA is delayed a year?
 - « Is a long shutdown later possible? Or perhaps a shorter one in which we put in the kickers?
 - « This would clearly delay commissioning for 700kW
- Is CD-4 ready to commission or commissioning? We will want to commission most likely before NOvA is ready to commission, so a bit messy....
- CDR for CD-1 – when does this need to be done by?:
 - Suggest appending to NOvA's CDR with the only changes being:
 - « Remove references to SNuMI except where applicable (mostly done)
 - « For consistency with what was presented at the DR, I think we should not make any other changes as things are a moving target now & I don't know how one can make cost tables/profiles or anything of any use in the near term
 - « Costs in CDR have two sets of tables, one with all overheads and one without
 - * Should we keep both or not?



Other immediate issues

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- NuMI Upgrades are at the conceptual stage and there is no sign of ME labor to get much beyond this before March.
 - « If this is foreseen as a problem for baselining, we need to get a large amount of Kris Anderson's time in the next few months
 - « If view as an upgrade to a complete design, then the whole design is very far along even though the upgrade portion is not...is that OK?
 - « If nothing else, we need Kris' time to do BOEs and contingency (several days?)
- We have stopped the process of resource leveling for now (M&S)
 - « This is where we were before Christmas, based on unburdened numbers

	FY07	FY08	FY09	FY10	FY11	Total
M&S Obligations	1.3	9.3	6.8	2.3	0.2	20.0