Elaine McCluskey

From: Elaine McCluskey [mccluskey@fnal.gov]

Sent: Friday, September 03, 2004 8:29 AM

To: Bill Foster; Chuck Federowicz; 'Dave Neuffer'; David Finley; Dixon Bogert; Duane Plant; Ed Crumpley; fgarcia@fnal.gov; Rich Stanek; Shekar Mishra; 'Steve Geer'; Tom Lackowski; Vic Kuchler; Weiren Chou

Subject: Notes from 9/1/04 Proton Driver Meeting

Attendees: Bill Foster, Duane Plant, Shekar Mishra, Tom Lackowski, Chuck Federowicz, Vic Kuchler, Elaine McCluskey, Dave Finley, Weiren Chou, Rich Stanek

Items discussed:

1. Beam Dump cost estimates: Bill and Dave had requested from Elaine and Tom after the 8/25 meeting information about the cost of the MI beam abort. After reviewing how that facility was procured and built, it was determined that this cost can't be extracted from larger civil construction costs. It was concluded that the cost estimate will be done from scratch, with quantities estimated, and the MI as a model.

2. Elaine & Tom presented the Proton Driver Initial Criteria, Sept 1, 2004. The purpose of this is to get concurrence on what the drawings and cost estimate due on 11/1/04 will encompass. It was compared to the criteria listed in the J. Sims contribution to the Proton Driver Part II Study. A copy of the new criteria as amended after the 9/1 meeting is attached. Discussion of the items listed included:

    1. Roads: who needs access? Short-term: fire department, construction, installation; Long-term: maintenance & operations. Not expected to have high occupancy. Existing crossings may not be well-situated. Crossing the berm around A0 was seen as desirable. Also desirable is having two berm crossings, for emergency or shut-down access.
    2. Access requirements along the linac: is one location for material handling and installation acceptable – should this be at the front end? Thought might be to make this at the middle of the linac. Also, what is the cost differential between a ramp for driving in materials and a hatch, both from an initial cost perspective and operational considerations?
    3. Basis of size for cryo facility in criteria was similar facility previously sized by Jay Theilacker for CKM. Bill said SNS cryo building should be sanity check on this.
    4. Stair access along linac: criteria proposes 3 along linac. Bill said should also check SNS criteria. Vic and Tom explained about life safety code requirements. Facility is classified in a special class, and an equivalency obtained. DOE then approves the classification. New International Building Code requirements may give more flexibility than older previously used codes for this process. Bill said to use the MI criteria as a model, then think about exceptions.
    5. Planning for future upgrades: Bill said cost estimate should be structured for a 0.5MW (4MW heat load/electrical power) initial machine, with expansion possibilities to 2.0 MW (12MW heat load/electrical power). All facilities should be sized for future equipment for the expansion, and assumptions made about building additions or economies by construction up front.
    6. Humidity levels in gallery: equipment in the past has required lower humidity levels than the 50% indicated in the criteria. After much discussion, conclusion was to have engineers design new equipment to tolerate the 50% humidity rather than spend $$ to reduce humidity in the facility.
    7. Other utilities needed in tunnel: Duane asked whether compressed air (yes) and nitrogen (not sure) are needed.
    8. Airflows in the tunnel: Shekar was concerned about connection to MI and how air will flow due to ODH concerns. This may require some kind of barrier to contain or direct air flows. Further study required.
    9. Size of Transfer Line service buildings: Dave thought this would only contain controls, no power supplies. Size of switchyard SB's should be used as a model. Discussion of taking over or sharing space in existing buildings in this area was discussed as an economical solution. Bill will explore this further.
    10. Abort: some discussion occurred as to proper name for this facility: dump, abort, absorber. Leave as abort for now. Dave Pushka may be working on LCW and RAW cooling systems. For now – assume will be like MI abort.

2. For documentation purposes, Bill determined after the meeting this version of the Proton Driver will be called the “Linac Proton Driver”.

ITEMS FOR NEXT WEEK:
MI upgrades required (another beam abort, RF); Chuck/Dave new layouts inside the ring

NEXT MEETING TO BE 9/8/04 AT 9:30 A.M. IN SMALL DINING ROOM.
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Elaine McCluskey
Fermi National Accelerator Laboratory
FESS Engineering
(630) 840-2193
mccluskey@fnal.gov