

Outstanding Issues on Infrastructure and Development

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Radon Mitigation

- Radon Free Air or Covergas?
- Radon Free Air
 - Pipe from surface? Filter? Aged bottled air?
- Purity vs Quantity
- Wall coverings - Radon suppression
- **Assuming Rn Free Air is available**
 - Users need to minimize the volumes that use it.
 - If it is communal resource then it will likely be carefully rationed.
- **What about needs on surface?**

Radon Mitigation

- SNOLAB has just acquired an Rn monitor and will start tracking Rn levels in the existing facility.
 - Goal will be to identify/confirm the major sources of Rn.
- SNOLAB intends to reactivate some past studies of surface coatings for Rn barriers.

Liquid Nitrogen

- What is it's purpose?
 - Coolant? Cover gas?
- How much required?
- Presently it is shipped from surface in 230 liter transport dewars
 - 1500 liters/week
- Future options
 - Continue shipping from surface
 - Underground Liquifier?



Probably can't ship more than 5000l/week.

May need to construct special transport dewars.

What quantity and what level of purity required?

Large Volume Cryogenics

- What is a "Large Volume?"
 - So far it is relatively easy to have 1000 litre dewars.
- Safe Containment
 - Design to fail safe.
- Liquify UG or transport from surface?
 - Power, cooling, maintenance
- Gas storage tanks?
 - If gas expensive or too difficult to transport.

Low Background Counting

- Throughput?
- Sensitivity Level?
- Are there needs that must be done "In Situ" (i.e. at SNOLAB)?
- **Breakout Session:**
 - Not obvious that large scale counting needs to be done at SNOLAB.
 - Surface counting (i.e. Radon daughters) expected to be a big issue.

Layout and Infrastructure Issues

- Low BG location?
 - How much communal support is reasonable?
- Clean Machine Shop
 - communal or expt specific?
- Meeting rooms
- Renovating the South Drift and existing SNO Carwash area.

Laboratory Layout: Experiments

- Detector/Assembly/Control, Office/Storage
- Overhead space
 - Several experiments (CDMS, CLEAN, Majorana, ?) have expressed concern about the overhead space in the ladder labs.
- Specific hazard abatement
 - Electroforming chemicals
 - Liquid scintillators
 - Large volumes of plastic
 - ...

Homework for Experiments

- Nominate experiment layouts.
 - Detailed estimates of the experimental layouts including assembly areas, counting rooms, storage. Clearances, lifting devices, ...
- Detailed estimates of consumables
 - Power, Cooling, Cryogenes, Water, ...
- Emergency power, emergency cooling, ...
- Identification of hazards
- Access and man power requirements
- Time line
- ...

Homework for SNOLAB

- Publish Layout information for SNOLAB
 - “Quick” description of experimental spaces
 - “User’s Handbook” (Description of the lab infrastructure)
- Lab Procedures
 - Standard operating procedures
 - Rules for hazardous materials
- Optimize space allocation to the experiments.
 - This will require some discussion...

Summary of Infrastructure Issues

- Need to resolve various small infrastructure issues.
- SNOLAB needs to get specifications of the lab and its infrastructure to the users.
- SNOLAB needs to continue (or in some cases start) the dialogue with Experiments on layout and infrastructure.
- Possibly some height issues that need addressing soon.
- Can SNOLAB provide early access?

End

