

# Plans for Sample Management

**K. W. HERWIG**

*Instrument Scientist*

*Group Leader for SNS Experimental Facilities Division  
Neutron Scattering Science*

**October 12, 2005**

- SNS will have 11 instruments in the neutron scattering user program
- Projected average daily number of unique samples is 94
  - driven mostly by SANS and POWGEN3 (75)
- Number of samples in storage waiting for decay/release is ~3000
- Desire to track all activated samples uniquely through the process of release or shipment

# Sample Management

---



- Samples will be checked into a central tracking system
  - assigned bar code (may be on a container rather than sample) used to access the sample database – owner, proposal ID, current location at SNS
  - associated chemical hazards/other hazards – link to MSDS
  - history of exposure to neutron flux while at SNS
  - dose history – record measurements
- Samples/sample materials that are shipped to SNS will be received at a central location
  - notification of instrument team/local contact on shipping and receipt
- Once a sample is on site/prepared/made
  - instrument team member arranges for proper storage
  - instrument team member arranges for relocation to instrument/preparation area at time of the experiment
- Plans for sample disposition (disposal, return to user, limited storage) will be part of the proposal submission.

# Sample Changes at the Scattering Instruments

---



- Expected sample activation will be calculated prior to placing the sample into the neutron beam. This will determine who will be able to handle the sample upon its removal from the instrument.
- The instrument team and users will have appropriate levels of training allowing handling of radioactive samples within defined limits. For the majority of the measurements, users should be able to change samples on the instruments.
- Storage at the instrument location will be limited to samples currently being measured and calibration standards.
- Central storage/check-out location in the Target Building.
  - Staff will transport samples from the instrument location to this area.
  - Plan for sample decay time with goal to return samples to users in a timely manner.

# SUMMARY

---



- Several of the SNS instruments have the capability for rapid measurements.
- SNS will develop a centralized tracking system to monitor the location and status of samples that enter the facility.
- As part of the experiment planning process, the expected activation of a sample will be determined.
- With standard training, users will be able to carry out the majority of the sample changes at the instruments.
- There will be a centralized area in the Target Building for post-measurement storage of samples.
- There will be 24/7 support in the Target Building – (1) floor coordinator and (1) RCT for off-shift periods.

