Beam Loss Monitor Systems Preliminary Design Review
Introduction and Background

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Two Systems Under Review

We have combined reviews for 2 systems:

- Neutron Beam Loss Monitor System
  - "nBLM"
  - In-kind contribution from CEA Saclay
  - Thomas Papaevangelou leads this work unit for CEA
  - Irena Kittelmann is system lead for ESS Lund and provides coordination (Tom Shea interim lead until 1 September)
- Ion Chamber Beam Loss Monitor System
  - "icBLM"
  - In-house project at ESS Lund; detectors produced in collaboration with CERN & IHEP
  - Irena Kittelmann leads this work unit (Tom Shea interim until 1 September)

Scope of the Review

- Reminder: this is **<u>Preliminary</u> Design Review** (we have had a lot of Critical design reviews recently)
  - One liner summarizing the committee charge: Can the current design concept, followed by the proposed detailed design phase, result in a system that meets the requirements?
  - This review authorizes the start of detailed design based upon the presented design concept
  - Critical design reviews will be held in two phases: late in 2017 (to authorize procurement of long lead components) and early in 2018 (to authorize the deployment phase)
- This is the PDR 1.2 for the nBLM
  - PDR 1.1 was held in December 2016 and primarily covered the detector simulations
  - For the Saclay team, this review is a contractual milestone primarily covering electronics
  - Updates from PDR 1.1 and recent work on the nBLM detector will be presented
- This is the PDR for the entire icBLM
  - Because of the very long lead time, ionization chambers have already been procured (and received just last week)
  - This review primarily covers the design concept for the overall system and the electronics
  - Updates from the detector production and testing activities will be presented
- Where appropriate, please identify feedback that applies specifically to the nBLM or to the icBLM.