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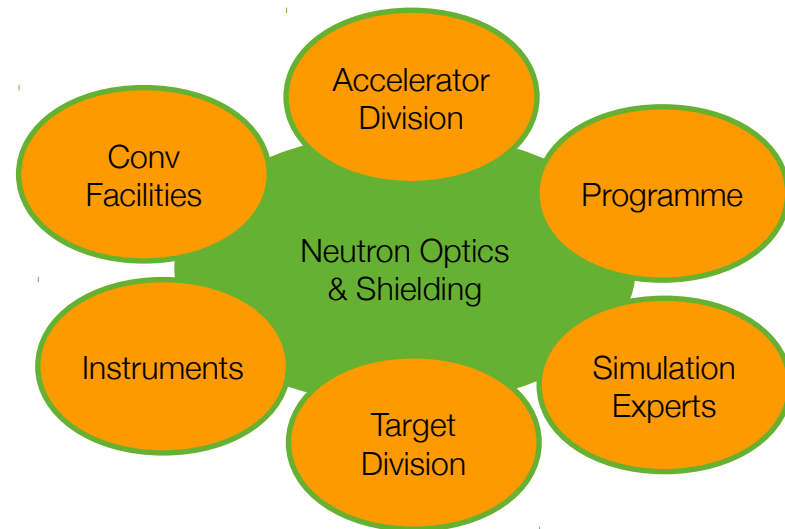
Tracking of August TAP Recommendations

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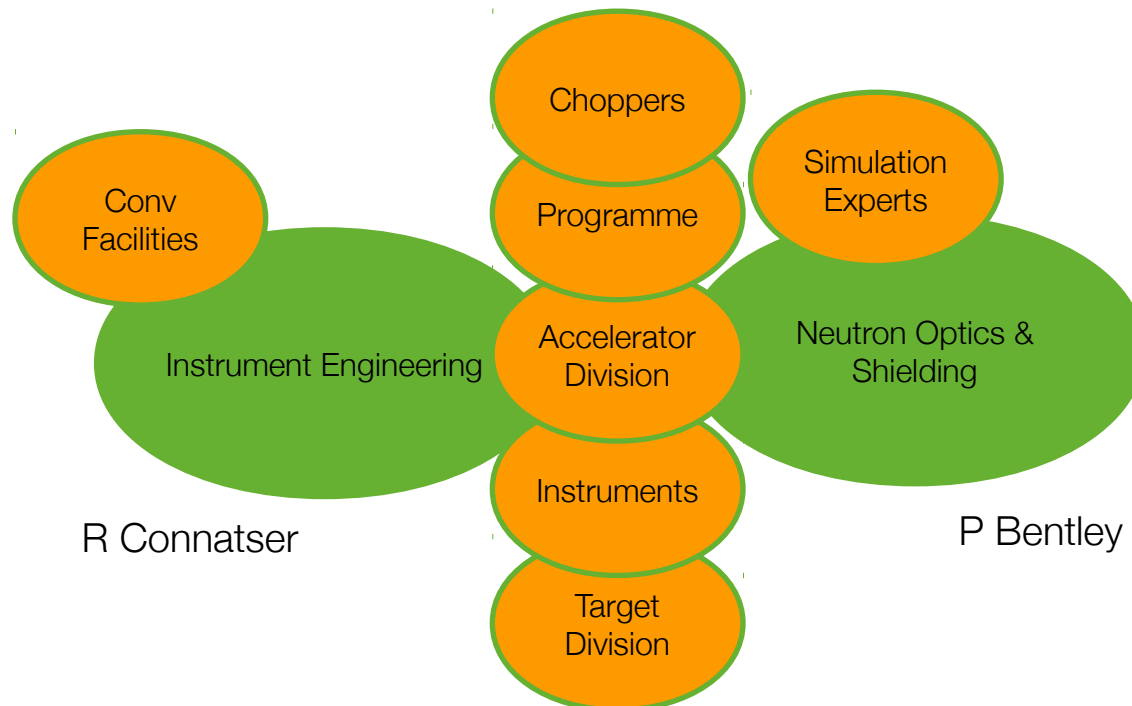
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23rd January, 2014

- Summary of Last 6 Months
 - Review! "Lehman like". This occupied almost all of our time. Your feedback is essential in light of the review.
 - From Optics and Shielding group's perspective, and similar perspectives in other groups, there has been a significant change in the roles and responsibilities
 - Many action items and risks are now outside the scope of the Optics and Shielding Group
 - Measurements at the SNS and working on backgrounds

Beam Extraction 2012

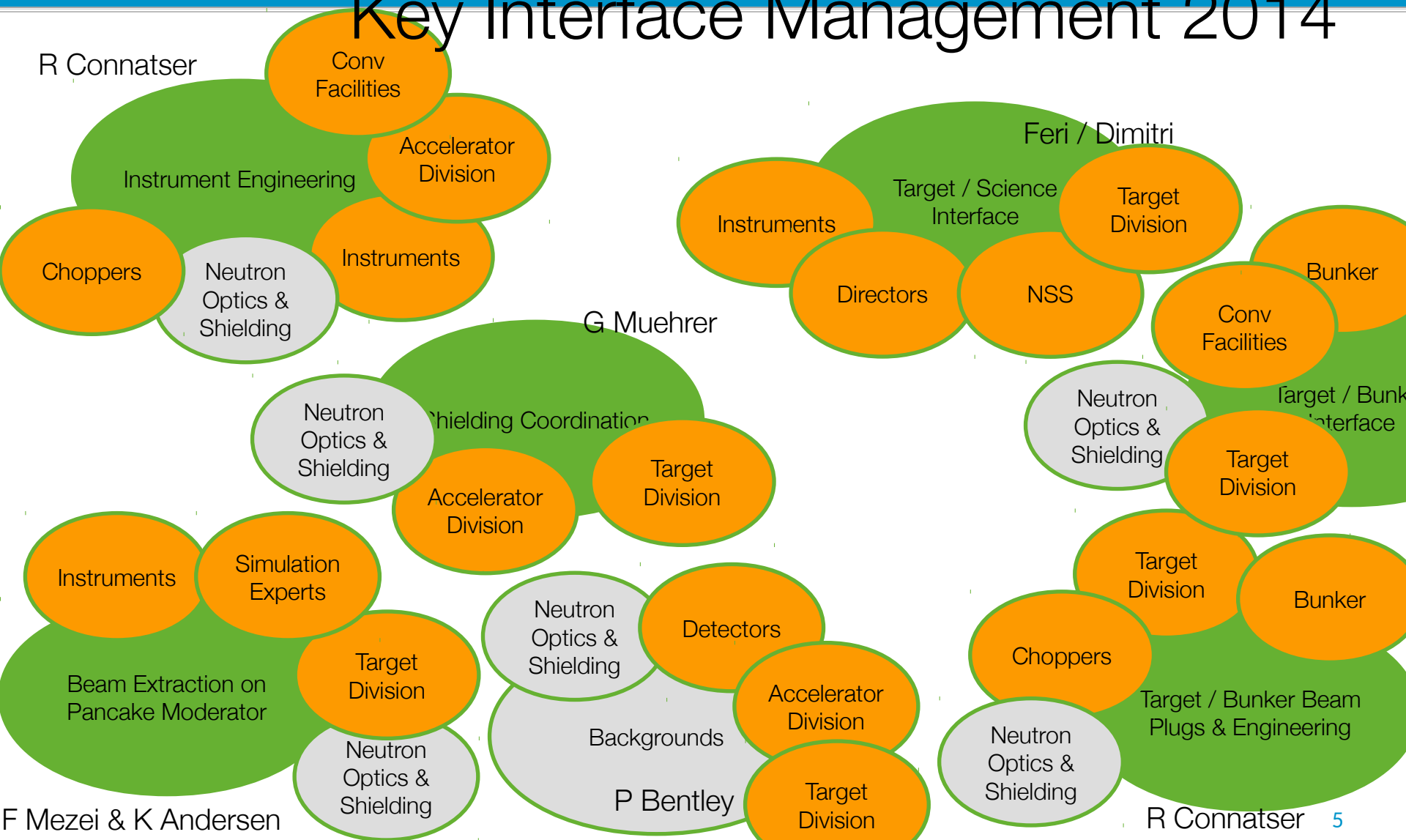


Beam Extraction 2013 Until Heavy Shutter Decision



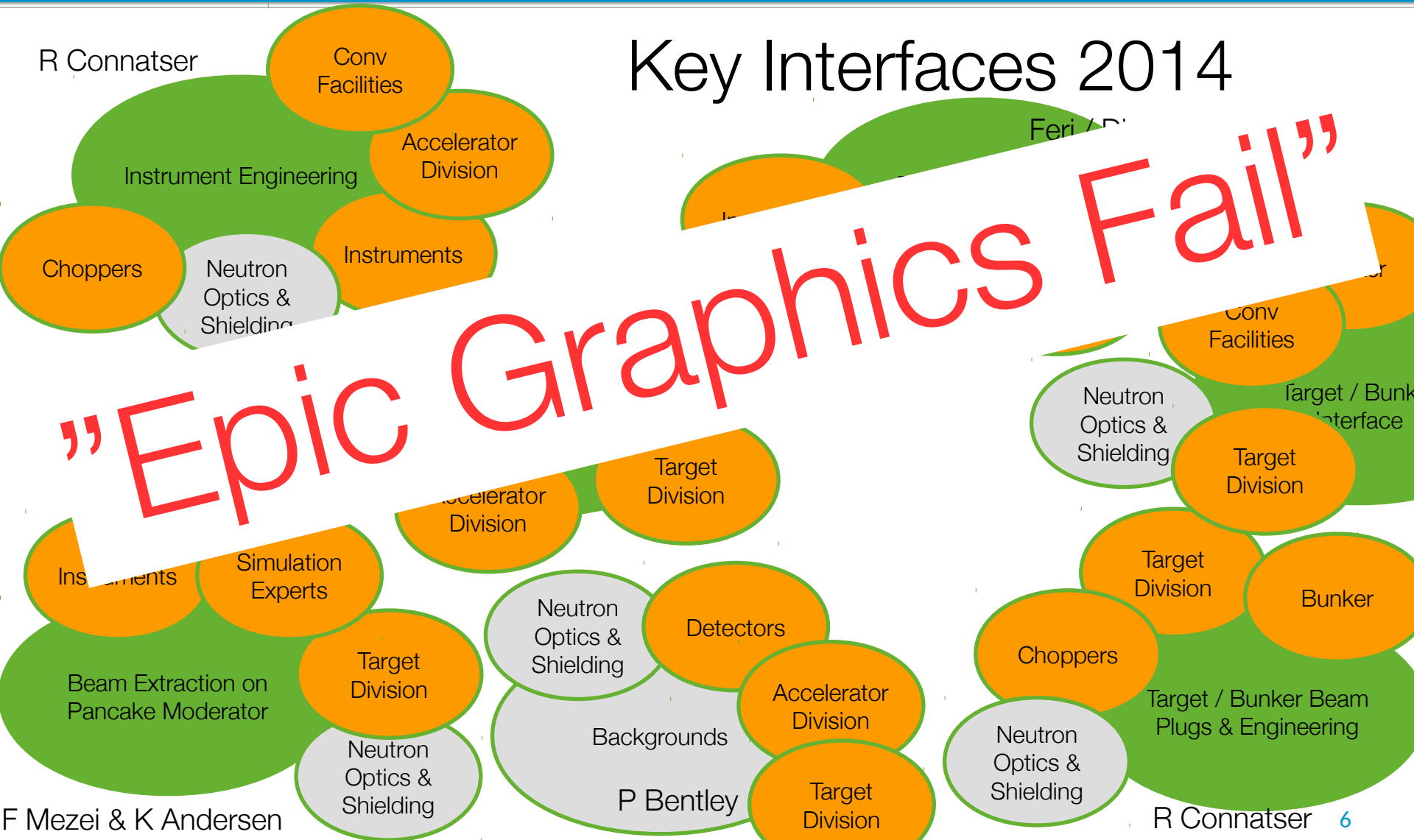
Roles and Responsibilities

Key Interface Management 2014

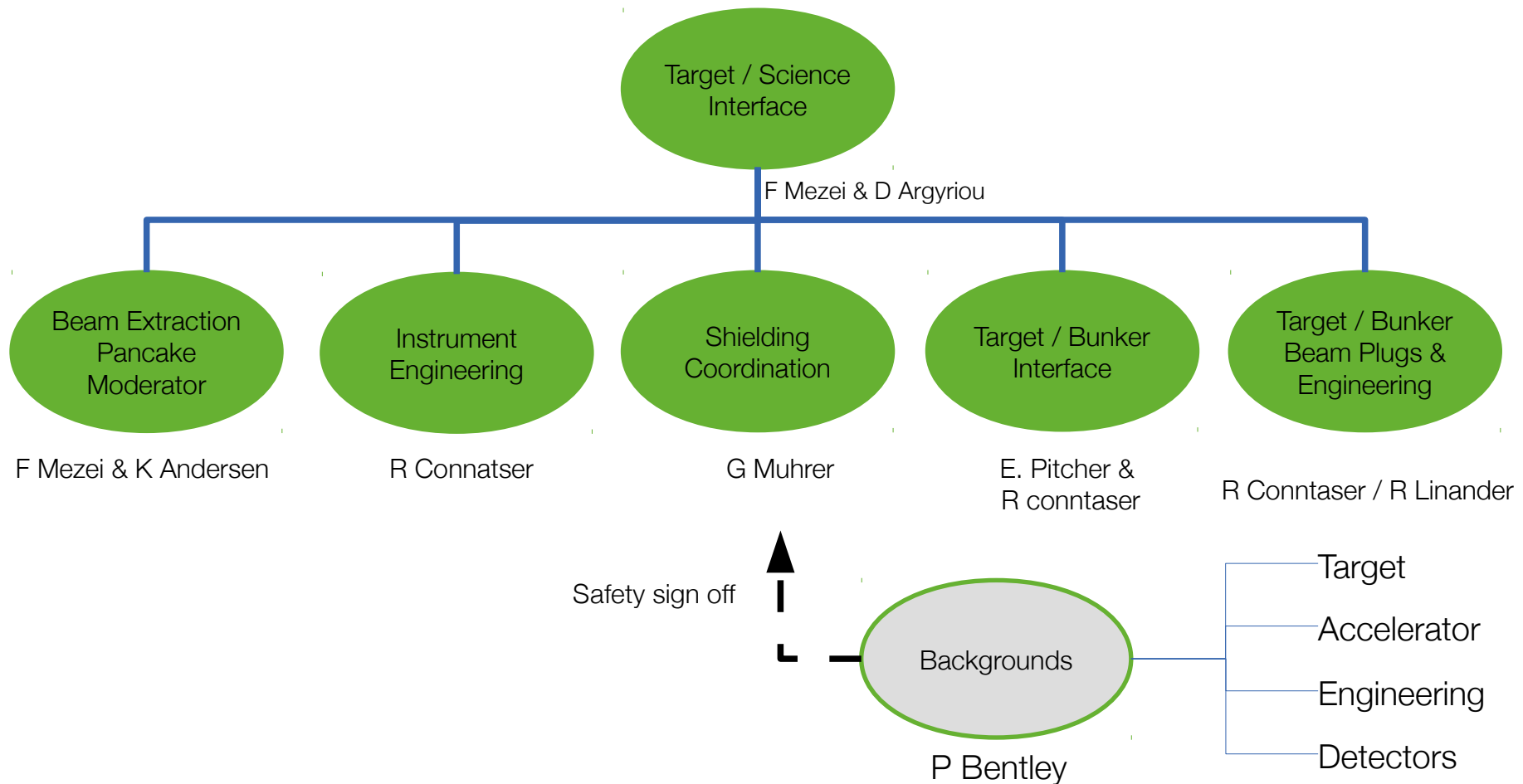


Roles and Responsibilities

Key Interfaces 2014



Key Interface Management 2014



- Did we fail somehow?
 - Programme director directly attributed to us the saving of at least 3 months of schedule on Target / Science interface
 - CCB Chair felt that we had done a very job, and that this was a widely shared opinion

What About Optics and Instruments?!



- The Optics and Shielding group line manages resources that will be used on the instrument projects
- The Optics and Shielding group defines and evolves standards with our partners
- The technical work is delegated back to the technical groups to propose solutions to the instrument project leaders
- This takes place on an instrument-by-instrument basis

Action Items from August 2013

- 1) Define expectations and a process to coordinate/foster collaboration between proposal teams (especially those external to the ESS) with ESS technical staff. [Out of scope -> Oliver & Ken]
- 2) Establish mechanism for collaboration to ensure integrated design on radiation protection and shielding with John Haynes & Eric Pitcher. [Out of scope -> 4 committees: John Haines, Eric Pitcher, Rob Connatser, Gunther Muehrer]
- 3) Develop a process to mandate Instrument Scientists to consult closely with Neutron Technologies division staff [Out of scope -> Ken Andersen and Rob Connatser].
- 4) Clarify the roles, responsibilities and accountability of participants in the instrument proposal review process (specifically co-ordination of STAP and internal technical review), and implement an organizational process for Ken and Oliver's response to those reviews. [Out of scope -> Ken Andersen]
- 5) Clarify role and responsibility of ESS Finance support section in NSS procurements. [Out of scope -> 2 committees exist]
- 6) Recommend close co-ordination of stage gating for project management, neutron technologies and scientific advisories (STAP and SAC). [Out of scope -> Ken Andersen / Oliver Kirstein]
- 7) Clarify Neutron Optics TAP's role in overall co-ordination of NSS portfolio. [next slides]
- 8) Clarify the origin of the discrepancy between the performance estimates of the pancake moderator design, and develop guidance on the cost-to-benefit in trading brightness for flux for moderators varying in height between 1.4 cm and 12 cm. [Out of scope -> Feri and Ken]
- 9) Provide guidance on background/performance/cost trade-offs for optic components and moderators (e.g., ones with Be filters on the emission face) designed to provide short wavelength neutrons versus a minimum of $\lambda = 4 \text{ \AA}$. [Out of scope: Feri and Ken, partially solved]
- 10) Consider initiating collaboration with LANSCE and/or JPARC on radiation shielding studies. [LANSCE]

Outstanding Action Items < Aug 2013



- 1) R1 from Tap #3: To strengthen the working relationship between Neutron Technologies Division and Target & Moderators Division to ensure effective integration on beams, shielding and operational devices. [Done, and also now out of scope: taken into 5 committees]
- 2) R2 from TAP #3: That the ESS management team conducts an information-based review of the baseline configuration for delivery of neutron beams to the facility at the earliest opportunity. Scope of the review should include; angular separation of beams, possible role of primary shutters and t0 choppers, consideration of background radiation due to high energy cascade showers, and balance of short, medium and long terms benefits of the various options. [Out of scope except the evaluation of backgrounds, owners now K. Andersen, R. Connatser]
- 3) R4 from TAP #3: That the Target and Moderators Division provide the Neutron Optics Group with detailed calculation of radiation doses, including details of spectral and spatial distributions outside the monolith, both during operation and under shutdown conditions.
- 4) R6 from TAP #3: Careful modelling of efficacy of curved guides and t0 choppers in the removal of the prompt pulse from the neutrons detected in the various spectrometers. [t0 project started, choice of suppression on case-by-case basis]
- 5) R7 from TAP #3: Prepare a comprehensive options report for review of beam delivery system by ESS management [out of scope, owners now K. Andersen, R. Connatser]
- 6) R10 from TAP #3: To hear from the instrument scientists again, after project approval, regarding simulations to produce key measurable performance parameters [such as intensity, resolution (spatial, angular and/or energy), total and dynamic Q range, energy range] for each design concept, along with performance ratings against the highest performing existing instruments at other facilities.

Activities for this TAP

- January 2014:
 - **Comments on scope, budget, risks and schedule for the generic activities in light of the recent review**
 - Any other advice is of course extremely welcome
- Beyond January 2014
 - Continuous peer review of standards on Optics and Shielding
 - Review of specific optics and shielding solutions chosen for instruments
- The advice from the TAP feeds into the annual "Lehman-like" Review and this is likely to continue into the future