From NEMEA/CIELO Summary Talk by Chadwick

http://www.oecd-nea.org/science/wpec/nemea7/presentations.html

Some Overall Objectives: For Consistent Philosophies

- **Use new/recent accurate measurements for key data and theory advances**
  - resonances
  - prompt fission neutron and gamma-ray spectra
  - etc.
- **Maintain the good integral performance**
  - integral criticality and reaction rates
  - builds upon the large experience and effort devoted in the last two decades to ensuring excellent performance
- **Add to this good integral performance**
  - better model
    - new RPI semi-integral scattering data
    - Pu thermal (SG34)
    - U235 capture sensitivities
- **Evaluations for CIELO**
  - represent our best knowledge (exp. th.)
  - IAEA standards, IRDFF
  - excitation functions evaluated largely from experiment if well-determined by exp.

General Next Steps: Goals for Completion by May 2014

- **Integral testing leads & CIELO isotope leads**
  - identify key experiments and validation objectives
- **Explore new some high-impact options**
  - to identify if they are feasible,
  - or if they should be ruled out for CIELO-1.0
    - e.g. some PFNS models
- **Create starter-fies (probably in this order)**
  - H-1, ENDF/B-VII.1 unchanged to start
  - U-238, take IAEA file (future resonances to be added)
  - U-235, Leal's prelim. RR and Romain's team
  - Pu-239, SG34 and Kawano's team
  - O-16, Plompen and Kunieda team
  - Fe-56, Leal's prelim. RR and Herman's team

Some Specific Challenges

- U-238
  - rather good shape
  - given we think the IRMM resonance updates will be similar to current U-238 resonances
    - REFIT new analysis included when available
  - incorporate conclusions from PFNS team
- U-235
  - evaluated capture in resonance region and 2.25 - 20 keV
  - collaborate with fast actinide team on new inelastic scattering
  - incorporate conclusions from PFNS team
- Pu-239
  - use SG34 resonance parameters
  - collaborate with fast actinide team on new inelastic scattering
  - incorporate conclusions from PFNS team

Some Specific Challenges, cont'd

- H-1
  - await standards
- O-16
  - evaluate (n,alpha) based on experiment
  - R-matrix theorists study extent to which theory can understand this change
  - build files that uses the new low-energy total
  - elastic scattering: focused team of R-matrix + integral
- Fe-56
  - figure how to make a starting file, like JEFF, including fluctuation
  - include new Leal's resonance parameter