

Parallel sessions on key issues and the final outcome of NF-Pro

L. Johnson
RTDC 5



Objectives of parallel sessions

- Allow Components 1 to 4 to review scientific progress in NF-Pro in a framework that permits focus on synthesis
 - What has been accomplished scientifically in different areas?
 - How will this be structured in a final synthesis report?

Parallel sessions

- Each Component has a specific session structure
- RTDC Component 5 will split up into the sessions 1 to 4 to get an overview of the work and see how it will contribute to the C 5 report

Requirements for a synthesis

- Describe the process fundamentals and, specifically, what has been learned about them during NF-Pro
- Ensure that the processes are discussed in the context of the repository conditions
- Characterise the uncertainties (conceptual, model, data) – are there alternative interpretations?
- Note that C1 to C4 studies provide basis for
 - the model approaches in PA (but abstraction needed → PA)
 - data and data uncertainties (but lack of data and understanding → PA).

Scope and approach of C5 synthesis report

- The C 5 synthesis report will build on synthesis reports in C 1 to 4:
 - Provide a perspective that relates work performed to safety functions of the reference systems
 - Address the main points:
 - Treatment of issues/processes in PA prior to NF-PRO
 - Developments in scientific and system understanding during the NF-PRO project
 - Are there major new developments (new findings with significant improvements, new models, improved process models)?
 - Have conceptual model/data uncertainty been reduced?
 - Have new issues/processes been raised? If so, how should they be resolved?
 - Future perspectives on treatment of the process(es) in safety assessment
 - How might processes be treated now in assessment given the progress during NF-PRO?
 - Give recommendations for R&D from a PA perspective

Some challenges

- Variety of EBS/host rock systems
 - Need for identifying relevance/applicability of work for various systems
- Coverage of processes and issues varies greatly across C1 to 5
 - e.g. no EDZ work in crystalline rock; very limited canister corrosion-related work; limited studies of the cementitious near field concept at the process level.....
 - how do we manage this uneven coverage in synthesis?
- Absence of fully integrated PA in NF-Pro
 - i.e. NF calculations have been done in C5 for heat and mass transfer and RN transport, but from an insight point of view (not all systems, not all issues: thus not complete).