Proposed relation between SARNET network on severe accidents and TWG Gen.II/III

Severe
Accident
Research
NETwork of excellence

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SARNET projects in FP6-FP7

21 countries (Europe plus Switzerland, Canada, USA and Korea) →
likely entry of Indian and Japanese partners in 2011…

42 organizations

- 21 research organizations
- 7 universities
- 7 industry/utilities
- 7 safety authorities or Technical Safety Organisations

- 230 researchers (+ PhD) = work ≈ 40 equivalent full-time persons/year

Importance of SARNET role in future

- First, in a safety perspective, SA management is essential in the context of NPP LTO, particularly for public acceptance.
  - With a large majority of Gen.II NPPs in most countries in the next 40 years, it will be important to make closer their safety level to the new Gen.II NPP one, in particular for SAM.
- The network should play a key role in the future due to:
  - Importance of balance TSO-Industry-R&D for comprehensive views on safety,
  - Importance of collaboration for understanding the key physical phenomena,
  - Importance of capitalization of knowledge (codes, methods, databases),
  - Importance of preservation or renewal of competencies,
  - Importance of dissemination of knowledge (esp. towards emergent nuclear countries).
- Objective of network self-sustainability after 2013:
  - Actions for knowledge capitalization, preservation, dissemination are well identified.
  - The network should endorse the definition of R&D priorities for Gen.II/III SA.
  - Further discussion with end-users must take place within the present TWG.

Evaluation of research priorities (1/2)

- SARNET has fully developed and consolidated the approach for prioritising R&D topics in SA field:
  - Use of PIRT (Phenomena Identification and Ranking Table) by a group of experts, including end-users,
  - Analysis of the physical phenomena under two aspects: relevance for NPP safety, and level of knowledge,
  - PIRT implication: defining R&D needs (objectives, priorities), identifying R&D tasks (experimental programmes, simulation codes), reviewing the facilities and codes to be used.
  - → *Total traceability of the process; dynamic process of iterations and control between the diverse network entities (above group of experts, Management Team, Steering Committee).*
- It led to the 6 SA high-priority issues currently studied in SARNET2 FP7 project.

Evaluation of research priorities (2/2)

- Periodical update of this ranking (under way in SARNET2 FP7), using the results of:
  - SARNET R&D tasks,
  - National PSA2s,
  - ASAMPSA2 FP7 project on PSA2 best-practice guidelines (which assures strong links with the “PSA2 community”, mainly composed of end-users),
  - International programmes (OECD/NEA, ISTP,…).

Proposal on SARNET –TWG relation

- SARNET gathers all SA experts: 1st step towards a sustainable integration of the European SA research capacities.
- **Proposal: SA Research Priorities defined in SARNET network should be the basis for proposing in the future relevant R&D programmes to address them, when needed, and launch projects with the endorsement of TWG.**
- This proposal is being supported by the following organizations:
  - IRSN, GRS, LEI, UJV, BelV, VTT (ETSON/EUROSAFE members),
  - CEA, JSI, KIT, Univ. of Pisa, JSI (SARNET Management Team members),
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