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Abstract Title

Status of the TA2/SARNET R&D activities

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Technical Sessions*		
TS1: Safety Assessment and Severe Accidents <input checked="" type="checkbox"/>	TS2: Reactor performance & System Reliability <input type="checkbox"/>	TS3: Advanced fission reactor – Design / Safety / R&D / Licensing <input type="checkbox"/>
TS 4: Fuel Innovation, decommissioning and SMRs <input type="checkbox"/>	TS 5 : Digitalisation modelling and simulation <input type="checkbox"/>	TS 6 : New ideas in nuclear fission technology <input type="checkbox"/>

Short Description (max ½ page)
<p>The NUGENIA Technical Area N°2 “Severe accidents / SARNET” continues to be very active since severe accidents in Gen.II-III-III+ nuclear power plants are still a major world-wide R&D subject in a post-Fukushima accidents context. Six technical general issues are addressed: in-vessel corium/debris coolability, ex-vessel corium interactions and coolability, containment behaviour including hydrogen risk, source term to the environment, impact of severe accidents on the environment and emergency management, and severe accident scenarios.</p> <p>The presentation will summarize the current activities of diverse types:</p> <ul style="list-style-type: none">- Periodic technical workshops: the next annual workshop on corium behaviour will take place mid-April 2018 during 1 week,- ERMSAR international conferences every 2 years: the last one in April 2017, hosted by NCBJ in Warsaw (Poland) was a big success and the next one in March 2019 will be hosted by UJV in Prague (Czech Republic),- Education and training courses on SA phenomenology and management: the last one, hosted by JSI in Ljubljana (Slovenia), was a success with 60 participants, and a course is under preparation in China in collaboration with Chinese organizations. The location and time period (probably in 2019) of the next course in France has to be confirmed. A new course on training for use of the ASTEC code will be organized by IRSN in Aix-en-Provence from 11 to 15 June 2018 (see www.enstti.eu),- Periodic ranking of R&D priorities by the SARP group composed of experts from 16 organizations, the last exercise at end of 2017 being used as basis for the current update of the NUGENIA roadmap. <p>In addition several R&D “in-kind” projects were launched without external funding, thus based on</p>

partners' own resources and competencies. They will be shortly described: CORE-SOAR on the update of the state-of-the art on core degradation, QUESA on code interpretation of air ingress experiments from SAFEST FP7 project, IPRESCA on pool scrubbing process of retention of fission products, and recently ASCOM on mutualisation of R&D on the ASTEC IRSN integral code.

Maintaining all these activities at this minimum level in the future is crucial for European Severe accident R&D for sharing the knowledge, maintaining the competencies, training newcomers in the domain, and improving the severe accident management guidelines. But additional funding, for instance from Euratom projects, will be necessary to launch more ambitious projects, involving in particular new experiments.