Safety Analysis of SMR with PAssive Mitigation strategies Severe Accident

PAM-SA.>



Horizon Euratom project



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ABOUT US

SASPAM-SA project proposal has been funded in HORIZON-EURATOM-2021-NRT-01-01, "Safety of operating nuclear power plants and research reactors".

Key Objective

 Investigate the applicability and transfer of the operating large-LWR reactor knowledge and know-how to the nearterm deployment of integral PWR (iPWR), in the view of Severe Accident (SA) and Emergency Planning Zone (EPZ) European licensing analyses needs.

Key Highlights

- The applicability of large-LWR reactor knowledge & know-how to the near-term deployment iPWR, will be assessed and consolidated, in the view of SA and EPZ European analyses needs;
- The research priorities will be identified in terms of methodology, code development and experimental needs;
- The knowledge gained can support Regulators in decision-making as well as Industry and TSOs in assessing the applicability of iPWR safety features.

Key Outcomes

- To be supportive for the iPWR licensing process by bringing up key elements of the safety demonstration needed;
- To speed up the licensing and siting process of iPWRs in Europe.

SASPAM-SA has started on the 1st October 2022 and the planned duration is 48 months. Overall cost is \notin 4 276 038,85 and the EU Contribution is \notin 2 991 694,00.

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To maximize the knowledge transferability and impacts of the project two integral generic design-concepts will be considered characterized by different evolutionary innovations in comparison with larger operating reactor.

The two generic reactor concepts:

- Include the main iPWR design features, considered in the most promising designs ready to go on the European market;
- Allow the assessment, in a wider way, of the code capabilities (SA and CFD) to simulate the phenomena typical of iPWR.

It is not the project's objective to assess the generic reactor designs selected but, based on the project findings, allow a more general statement on the code's applicability to currently favored designs under postulated SA condition.



GENERIC DESIGNS CONSIDERED

iPWR characterized by a submerged containment and electric power of about 60 MWe



iPWR characterized by the use of several passive systems, a dry containment and an electric power of about 300MWe



SASPAM-SA PARTNERS

The project is coordinated by ENEA and twenty-three Organizations from fourteen Countries are involved

