



Sitting Safety Aspects of Second Romanian NPP

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The first Romanian NPP CANDU 6 type reactor gone to erection in 1980 on Cernavoda site planned to have 5 units like the Wolsong applied design project for nuclear island. For the BOP parts the ASALDO-GE project was applied with the careful about the interface connection NSP requirements. The new NPP sitting studies began from 1982 in a serious manner as first part on Nuclear Power Plant Romanian Program adopted by political and governmental authorities at the time. For develop the all package of the studies in concordance with the first IAEA Safety Standards recom-

mendations. Till the 1982 the first mission of design and research multi-branch of specialists team was to adapt the NPP Cernavoda project having a open water cooling circuit to the new parameters of close water cooling circuit. But the team was looking at the other type of NPP for sitting. Also in the same time was studied the possibility of NSP foundation on hard less or soft soil foundation strata in connection with safety aspects. The close circuit of cooling water means others parameters of systems and need very large cooling towers. Also must be reconsidering the safety systems design and performance as new solution.

In the south of Transylvania historical region in Romania the Olt River run from west to east having medium multiannual flow around 70 m³/s. The Olt River has a chain of small hydropower in operation and other planned. From geological and geophysical points of view two main faults, along the Olt river valley, one of this having seismically small activities was detected. Site region geotechnical studies show small quantity underground natural gas, salt and peat. The initial nuclear program has imposed 4 NPP units site near Olt River. Taking into account the orogenesis, water cooling needs and other local feature can't be built more than two NPP units on a site. This paper tries to reconsider the old analysis from the last IAEA Safety Standards point of view taking into account the new NPP generation, focusing on geological, geotechnical and geophysical feature having some references to other safety requirements in order to assure the 10⁻⁶ risk events. Also the national electrical network impact will tough.

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