

STATUS OF THE SIP DESIGNS AND THEIR TECHNICAL EVALUATION

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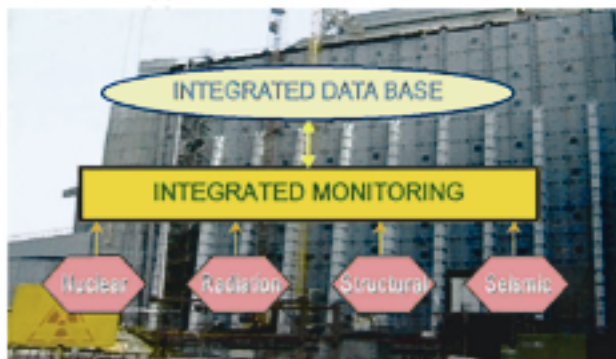
Support of the State Nuclear Regulatory Committee of Ukraine¹ in SIP licensing is provided by the State Scientific and Technical Center (SSTC)² and the Licensing Consultant (LC - RISKAUDIT/SCIENTECH)³. Their primary function is to provide Technical Evaluation (TE) of SIP Designs:

- joint review by SSTC and LC;
- coordination of other regulatory agency (RA) reviews (construction, health, ecology, fire, other);
- interaction with Chornobyl NPP to solve open safety issues.



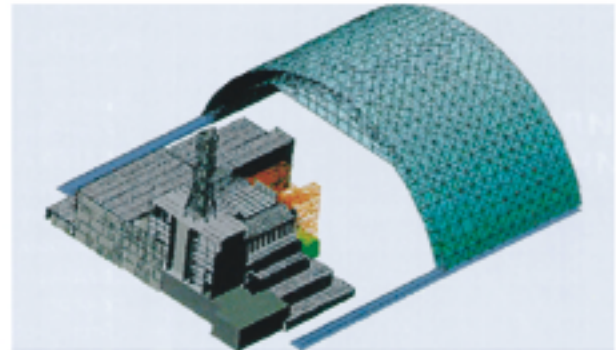
> Stabilization and Shielding

- stabilize the most hazardous structures;
 - ensure radiation protection at work places.
- Status - detailed design (DD)
 - advisory support has been provided from SSTC, LC and Technical Support Organizations (TSO) of other RA;
 - comprehensive review is underway.
 - TE results
 - probability of collapse (earthquake, extreme wind, etc) ~10⁻¹/y reduces to ~10⁻³/y;
 - measures for construction personnel safety are generally sufficient.
 - Safety issues of special interest
 - use of non-standard supporting structure;
 - incorporation of tornado loads;
 - ALARA application.



> Integrated Monitoring System (IAMS)

- conduct monitoring of hazard sources;
 - improve emergency response.
- Status - conceptual design (CD)
 - CD has been approved by RA.
 - TE results
 - IAMS-CD provides hazards monitoring: nuclear, radiation, structural, seismic;
 - installation personnel safety can be ensured.
 - Safety issues of special interest
 - the scope of monitoring points;
 - reliability analysis.



> New Safe Confinement (NSC)

- ensure isolation of fuel containing materials and radioactive waste (FCM/RW);
 - allow dismantlement of unstable structures;
 - provide for removal of FCM/RW (in future);
 - ensure safety of NSC operating personnel.
- Status - conceptual design (CD)
 - CD-NSC is to be submitted for RA review in near future;
 - design criteria (DC) have been approved by RA;
 - LC interfaced with NSC CD team.
 - TE results
 - NSC-DC meets safety principles;
 - NSC-DC, in general, sufficiently covers Ukrainian safety requirements.
 - Safety issues of special interest
 - geotechnical surveys are insufficient;
 - classification of NSC components;
 - structural analysis;
 - internal systems (especially, ventilation - scope, filters, reliability);
 - RW under soil - removal or isolation;
 - future FCM/RW removal.

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