

# Reviewing the Interim Safety Analysis Report of Belene NPP

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## Two Tasks

### TASK 1 – “Review of the ISAR.

The work to be carried out by a team of experts from GRS and IRSN organized by RISKAUDIT in the review and assessment of the ISAR for compliance with the applicable requirements consisted of two phases:

1. The review of the Belene ISAR for comprehensiveness and completeness against the Safety Standards of the IAEA, additional specific safety requirements defined by BNRA and best safety assessment practices. This review was based on IAEA DS348 “Safety Assessment for Facilities and Activities”.
2. The review of the Belene ISAR for compliance with the Safety Standards of the International Atomic Energy Agency (IAEA), additional specific safety requirements defined by BNRA and best safety assessment practices. This review was based on IAEA NS-R-1 “Safety of nuclear power plants: design”

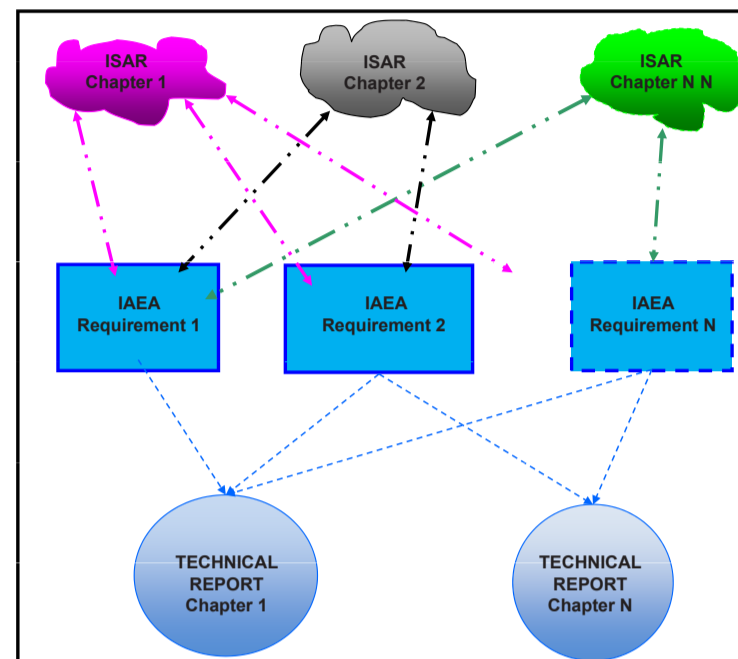
### TASK 2 – In-depth analyses

The objective of task 2 is to perform in depth-studies of selected safety issues in support to assessment of the safety demonstration. These analyses are carried out with the IRSN’s and GRS’s tools.

#### Task 1: Organization, Sharing and Performing

- The safety design regulations for generation III reactors have been documented in the Technical Guidelines, issued as a common work by IRSN and GRS.
- This document, as well as the relevant-to-safety design features of the Olkiluoto EPR have been adopted as reference for the best international practice in the framework of the current project of the BELENE safety assessment.
- Work was performed by more than 40 experts from GRS and IRSN who shared 50-50 the review of more than 8000 pages of the ISAR,
- Two TPLs (Technical Project Leaders), one from GRS and one for IRSN, have:
  - distributed the activity among individual contributors,
  - coordinated and conducted the work relying on a few-member group of wide-spectrum safety experts acting both as advisers and first-rank contributors.
- The work has been organized in a matrix-structured way
  - Each chapter has been analyzed in crossed referenced to Requirements and specific sheet provided to BNRA under the form of Working Material,

The matrix-structured work organization:



- The reviewers have provided BNRA with recommendations (more than 250), classified in class 1 “must do”, class 2 “should do” and class 3 “nice to have”, and specific technical questions to be submitted to the Vendor.
- This material has been systematically arranged and summarized in technical reports and Working Material per Chapters, providing recommendations and their justification.
- These reports have been delivered to BNRA by a web-based information exchange site.
- The Kick-off meeting of the Contract was held in Sofia, November 24th 2008. Some other meetings were organized when milestones of the Contract have been matched.
- Two specialists meeting have provided the opportunity for wide and open technical exchanges among BNRA’s, RISKAUDIT’s and Vendor’s specialists. They have originated a contributed list of questions and preliminary answers collected in the Minutes.

In complement of task 1, GRS and IRSN experts are performing in-depth analysis of safety issues of the Belene NPP in the frame of TASK 2. The analysis focuses on accidents scenarios connected with SBLOCA, LBLOCA, containment strength, hydrogen concentrations and core catcher system.

## Conclusions

In task 1 of the Contract the reviewers have provided several reports with classified recommendations and questions assisting the Bulgarian Regulatory Authority BNRA in the decision-making process, which is now underway.

In task 2 the reviewers will provide in-depth analysis for justification of BNRA decisions. Seven technical reports are planned, which will be delivered by the end of November 2009.

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