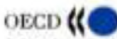


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WGRISK Task 2013-1


Insights provided by Probabilistic Safety Assessment relating to the loss of electrical sources

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Background

- ◆ The **loss of electrical sources** is generally an **important contributor to the risk** related to nuclear plants. In particular the External Hazards initiating events lead generally to a loss of electrical sources. This importance was underscored by the Fukushima accident.
- ◆ A **strength of PSA** is to provide insights not only into the **causes** of the event but also into the **potential consequences for the plant** and the **provisions** aiming to limit these consequences (core damage prevention, large release prevention and mitigation) with the corresponding risk impact. PSA could provide a measure of Defence-in-Depth in case of loss of a safety function.

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General objectives


- ◆ The task intends to illustrate the **PSA capabilities** with outstanding **practical examples**.
- ◆ The task will rely on a survey of **existing PSAs**.
- ◆ It will provide a complementary view for ROBELSYS task.



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Content of the task

- ◆ Survey of **results and insights** relating to LOOP/SBO event in different PSAs:
 - Risk **contributions** (Core Damage Frequency, Large Release Frequency).
 - Dominant **sequences**.
 - **Importance** of components, of common cause failures, of human actions....
 - **Impact of plant modifications** (already implemented or planned, e.g. post-Fukushima).
- ◆ **Expected insights:**
 - For **plant safety**: main issues, interesting examples, good practices....
 - For **PSA**: methodology issues (CCF, recoveries...), data, supporting calculations...

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Status of the task

- ◆ June 2013: CAPS (2013-1) approved by CSNI
- ◆ June-November 2013: Questionnaire prepared by a core group .
 - Canada, Czech Republic, France (IRSN task leader), Germany, Hungary, India, Italy, Mexico, Sweden, Taiwan.
- ◆ December 2013: questionnaire sent to WGRISK members (including 5 examples of answer)
- ◆ *December 2014: draft report*
- ◆ *June 2015: report submitted to PRG and CSNI*
- ◆ *June 2014: responses collected and analysed*

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