



# OLP Stress test project on determination of safety margins

Status report

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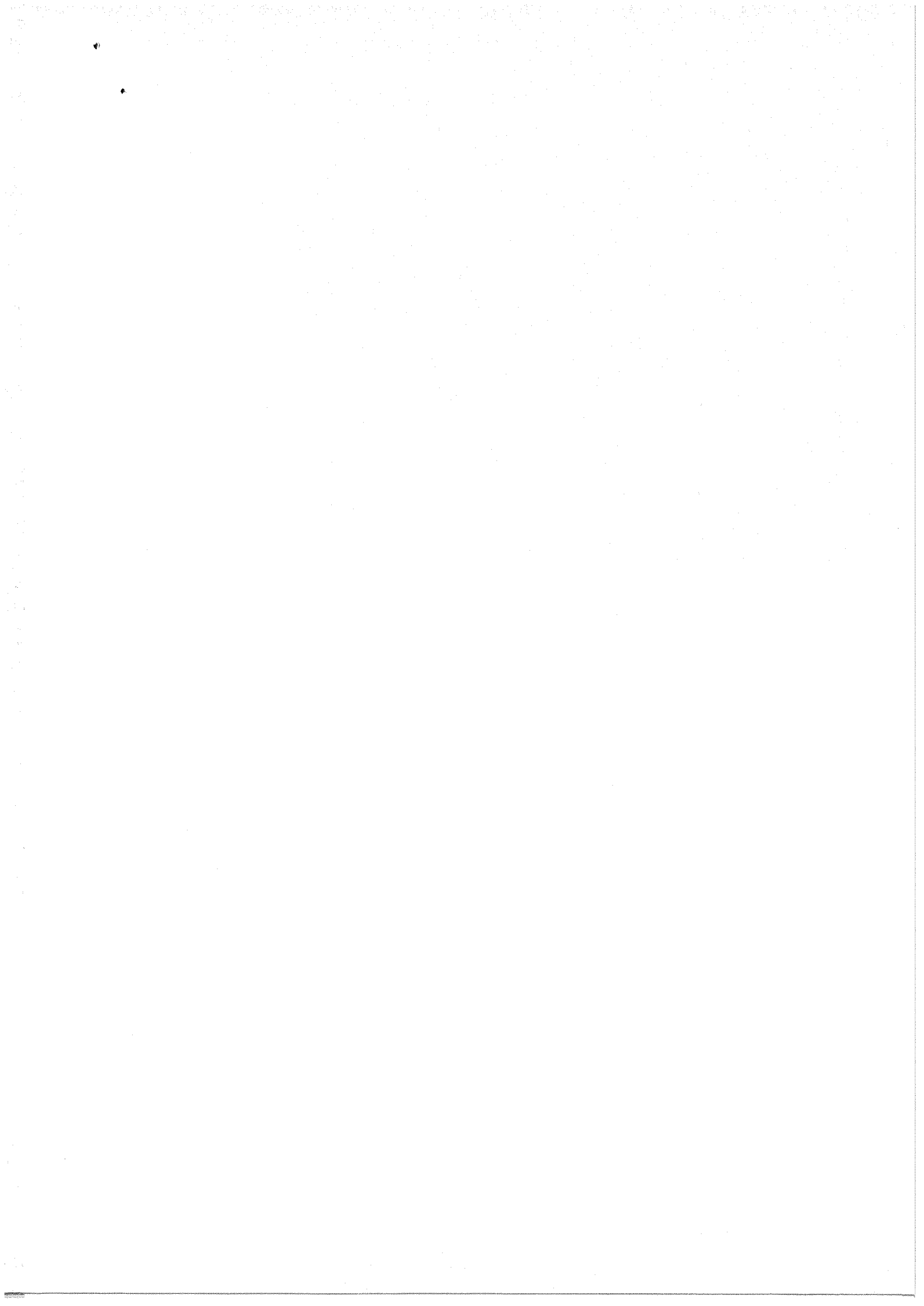
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## Introduction

This document reports on the status of the 'OLP stress test' for the period 1<sup>st</sup> of July to 24<sup>th</sup> of October 2011.

As a consequence of the accident at the Fukushima Dai-ichi Nuclear Power Plant (NPP) in Japan, the European Council of March 24<sup>th</sup> and 25<sup>th</sup> 2011 declared that 'the safety of all EU nuclear plants should be reviewed, on the basis of a comprehensive and transparent risk assessment ("stress tests")'. These EU wide tests will be an addition to the safety standards already in place at national level. The aim of these tests is to assess whether the safety margins used in the licensing of nuclear power plants were sufficient to cover unexpected events.

The goal of the project is to perform a reassessment of the design basis, the safety margins and cliff edge effects of the nuclear installations on the OLP. The reassessment will be based on the guidance provided by ENSREG regarding the so-called 'stress-test'. It will consist of:

- an evaluation of the response of the research reactor, the HFR, and associated nuclear facilities to a set of extreme Initiating Events (i.e. earthquake, flooding);
- an assessment of man-made and of other extreme natural events:
  - For extreme natural events (i.e. extreme weather conditions) and man-made events without an intentional character, this assessment will initially consist of determining the relevancy of such events in comparison with the two initiating events (earthquake and flooding). Relevant aspects of these other natural and man-made events are evaluated in more detail.
  - For man-made events which have an intentional character (terrorism) discussions are ongoing on the approach to be taken since there is a relation with security. These events have not been included in the underlying document.
- a verification of the preventive and mitigating measures identified following a defence-in-depth logic: initiating events, consequential loss of safety functions, severe accident management;
- logistic problems caused by local, regional and possible national chaos.

# 1 Activities past period

The following activities were undertaken and completed within the reporting period ( 1<sup>st</sup> of July to 24<sup>th</sup> of October).

- The project board was installed and the initial scope of the project was determined by means of the project brief (NRG-25076/11.108673).
- The technical approach was detailed (with respect to ENSREG) in the description of the scenarios and their assessment (NRG-25092/11.109622). This document, which was submitted separately of the underlying status report, provides a technical definition of the assessment as well as the first (preliminary) scenario's for the HFR and the other facilities with respect to the consequences of specific initiating events on the installations. These scenarios will be assessed in detail and serve as starting point for severe accident management activities.
- Both the project brief and the scenario and assessment description were discussed with the relevant stakeholders.
- As-is information, the state of the facilities per 31<sup>st</sup> of August, was generated by the several installation experts.
- Project information exchange was arranged by a dedicated secured sharepoint website.
- Resource assignments were prepared with the RE and S&P resources managers and resulted in internal quotations (NRG-2.5192/11.110646 and NRG- K5091/11.110593).
- Lessons learned from a.o. activities deployed for the Borselle stress test project were included in the project.
- Weekly project management meetings are organised and reported on. Initial project board meeting frequency was reduced from weekly to twice monthly.
- Project organisation, control and planning were detailed in the project plan (NRG-25092/11.109751).
- Project and subproject kick-off meetings were organised.

By the completion of these activities, the first project milestone and hold point were completed (see also section 3).

## 2 Activities coming period

The following activities are planned to be undertaken and completed in the period from 24<sup>th</sup> of October to 31<sup>st</sup> December 2011. It is noted that the activities carried out in this period are the essential part of the project and will largely determine the final conclusions.

- As part of the facilities work package any information with respect to the facility will be provided, most notably the “as-is”.
- As part of the analysis work package an assessment will be performed of the initiating events with respect to the design basis and safety margins and cliff-edge effects will be determined.
- The severe accident management work package will outline and review accident management procedures and provisions including mitigation of consequences of a severe accident, and will assess in the availability of resources and efficiency of provisions.
- The above described activities will result in concept deliverables that will form the backbone of the final report and serve as the starting point for the review and wrap-up stage that is projected to start on 15<sup>th</sup> of December 2011.
- Information exchange with other parties that perform or have performed similar stress test projects will continue and lessons-learned will be included in the underlying project as much as is possible.

Progress on the above activities including the first technical results based on the concept reports will be reported in a status report due on 15<sup>th</sup> of January 2012.

### 3 Planning

The project milestones are listed below. The first milestone, 15<sup>th</sup> October: formal start of activities, was completed on 21<sup>st</sup> of October.

#### **Milestones**

The following major milestones form the projects timeline:

15 October 2011	Project teams formally start work;
15 December 2011	Concept reports on analysis and severe accident management work packages are available;
15 February 2012	Final reports on analysis and severe accident management work packages are available for review by HSC and RSC;
22 February 2012	Comments by HSC and RSC received;
29 February 2012	Final report updated with comments by HSC and RSC included, submitted to Dutch Competent Authorities;
6 April 2012	Comments by Dutch Competent Authorities received.

The project hold points are listed below. The first hold point, 15<sup>th</sup> October: stage transition to assessment stage, was completed on 24<sup>th</sup> of October.

#### **Hold points**

15 October 2011	Stage transition from the preparation stage to the assessment stage. This transition concerns the approval of the projects organization and resource allocation.
15 December 2012	Stage transition from the assessment stage to the evaluation stage. This transition concerns the availability of the results of the assessment phase. Note that the quality of the work is only assessed as part of the evaluation stage.

# Distribution

This document will be distributed electronically.

## Project board

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## Project Team

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## Project management

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