



EUROPEAN UTILITY REQUIREMENTS FOR LWR PLANTS

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Press Release

Helsinki, October 22, 2014

THE EUR ORGANISATION FINALISED THE ASSESSMENT OF THE EU-APWR DESIGN OF MITSUBISHI HEAVY INDUSTRIES LTD

On October 22, 2014, the Organisation of the European Utility Requirements (EUR) and Mitsubishi Heavy Industries Ltd (MHI) celebrated the finalisation of the EU-APWR assessment project which involved the EUR utilities and the vendor for 2 years.

During a two-year assessment project, the EU-APWR Standard Design documentation submitted by MHI has been extensively assessed against the EUR Volume 2 – “Generic Nuclear Island requirements Revision D”, issued in October 2012. The assessment covered the 20 chapters of EUR Vol. 2 for a total of over 4000 individual requirements.

The description of the EU-APWR design and the main findings of the assessment work have been included in a dedicated Volume 3 subset which will be published by the end of the year. Volume 3 of the EUR Document is the collection of all the previous design assessments by the EUR Organisation.

The overall results of the assessment process indicated the good compliance of the EU-APWR Standard Design. The requirements which are not in compliance with EUR are less than 2%.

The divergences between the EU-APWR standard design and the EUR concern different areas as for instance, layout, operational capability and performance, outage operations, personal protection and radiation monitoring.

Some of the discrepancies are due to a different approach to the design process or by the difference of the rules and standards in use in Japan and in Europe.

The EU-APWR included further design changes to the US-APWR in order to comply with the European market, including mitigation systems specific to DEC (Design Extension Conditions) requirements such as an extra boration system, diversity of the generators in the AAC (Alternative Alternating Current) power supply system, Alternate Component Cooling Water system and Severe Accident (SA) mitigation systems. The SA mitigation systems include a containment atmosphere cooling loop, devices to reduce hydrogen in the CV (Containment Vessel) atmosphere and an ex-vessel wet-cavity core catcher.

The containment vessel single-wall pre-stressed concrete containment vessel was reinforced to withstand airplane crash requirements. In order to meet requirements on capacity and cross-connections on fluid systems, the SFP (Spent Fuel Pit) has been enlarged, and the SFP cooling systems increased from 2 to 4 trains.

Focus on the EUR Organisation

For more than twenty years now, the EUR Organisation has been actively developing and promoting harmonized technical specifications for the new designs to be proposed by the vendors in Europe. The EUR Document can be used by the utilities (guide for design assessment, technical reference for call for bids) and by the vendors (as a technical guide). The harmonisation and standardisation which is sought after by the EUR aims at delivering the safest and most competitive designs based on common rules shared all over Europe. More than fifteen major nuclear operators across Europe are now members of the Organisation.

For further information : Contact Marianne JANNIN / +33 4 7282 7351
e-mail: marianne.jannin@edf.fr
