

EDF AND AREVA UK EPR GENERIC DESIGN ASSESSMENT

GDA ISSUE

SUBSTANTIATION AND ANALYSIS OF THE CONSEQUENCES OF DROPPED LOADS AND IMPACT FROM LIFTING EQUIPMENT INCLUDED WITHIN THE EPR DESIGN

GI-UKEPR-IH-01 REVISION 2

Technical Area		INTERNAL HAZARDS	
Related Technical Areas		Mechanical Engineering Civil Engineering	
GDA Issue Reference	GI-UKEPR-IH-01	GDA Issue Action Reference	GI-UKEPR-IH-01.A1
GDA Issue	Substantiation and analysis of the consequences of dropped loads and impact from lifting equipment included within the EPR design.		
GDA Issue Action	<p>Provide substantiation of the nuclear safety significant structures, systems and components vulnerable to dropped load and impact from RS1 and RS2 lifting equipment. It is the expectation of ONR that dropped loads be considered for lifts that may result in nuclear significant consequences. The response should include detailed assessment of potential loads that could be dropped under such conditions and demonstrate that the provisions in place to ensure that the risk to nuclear safety of a load drop or impact is ALARP. Such assessment may include multi-legged arguments which consider the following:</p> <ul style="list-style-type: none"> • Claims on civil structures. • Additional physical protection. • Limits and conditions on the use of the RS1 and RS2 lifting equipment. • Provision of detailed load path routes avoiding areas of highest nuclear significance. • Measures (both system based and administratively controlled) in place to ensure the potential for impact of the load is minimised. • Any further defence in depth and ALARP measures that could be implemented into the design. • The impact of the changes made to the PCSR relating to the outcome of this substantiation on other safety case submissions submissions. <p>The list above should not be considered to be exhaustive and the items detailed above are provided as a means to inform EDF and AREVA of my expectations. With agreement from the Regulator this action may be completed by alternative means.</p>		

Office for Nuclear Regulation

An agency of HSE

Redgrave Court Merton Road Bootle Merseyside L20 7HS

Tel: 0151 951 4000 www.hse.gov.uk/nuclear

EDF AND AREVA UK EPR GENERIC DESIGN ASSESSMENT

GDA ISSUE

SUBSTANTIATION AND ANALYSIS OF THE CONSEQUENCES OF DROPPED LOADS AND IMPACT FROM LIFTING EQUIPMENT INCLUDED WITHIN THE EPR DESIGN

GI-UKEPR-IH-01 REVISION 2

Technical Area		INTERNAL HAZARDS	
Related Technical Areas		Mechanical Engineering Civil Engineering	
GDA Issue Reference	GI-UKEPR-IH-01	GDA Issue Action Reference	GI-UKEPR-IH-01.A2
GDA Issue Action	Provide a description of the approach taken to treat dropped loads on civil structures, including consideration of the following: <ul style="list-style-type: none">• Derivation of design loads.• Analysis methods.• Design rules.• Reliability expectations.• Consistency between ECEIG070272 REV A1 "EPR- Load Drops - Methodology for risk analysis in civil engineering and building installations - Design review preparation conditions" and ETC-C in relation to consideration of Global stability. The list above should not be considered to be exhaustive and the items detailed above are provided as a means to inform EDF and AREVA of my expectations. With agreement from the Regulator this action may be completed by alternative means.		