

**EDF AND AREVA UK EPR GENERIC DESIGN ASSESSMENT**  
**GDA ISSUE**  
**USE OF ETC-C FOR THE DESIGN AND CONSTRUCTION OF THE UKEPR**  
**GI-UKEPR-CE-02 REVISION 1**

<b>Technical Area</b>		<b>CIVIL ENGINEERING</b>	
<b>Related Technical Areas</b>		None	
<b>GDA Issue Reference</b>	<b>GI-UKEPR-CE-02</b>	<b>GDA Issue Action Reference</b>	<b>GI-UKEPR-CE-02.A1</b>
<b>GDA Issue</b>	There is not yet sufficient justification of the ETC-C AFCEN 2010 version and UK Companion Document to confirm these can be used for the design, construction and testing of the UK EPR civil works structures.		
<b>GDA Issue Action</b>	<p>Support assessment within the following areas by providing adequate responses to any questions arising from assessment by ONR of documents submitted during GDA Step 4 but not reviewed in detail at that time:</p> <ul style="list-style-type: none"> <li>• <math>a_{cc}</math> Coefficient</li> <li>• Load Combination Factors</li> <li>• Biaxial Stress Limits</li> <li>• Shear</li> <li>• Fastenings</li> <li>• Pre-stressing Participation</li> <li>• Shrinkage</li> <li>• Crack Width Control</li> <li>• Pre-stressing Partial Factor</li> </ul> <p>Provide additional supporting documents on the following areas</p> <ul style="list-style-type: none"> <li>• Detailing provisions</li> <li>• Pool Liner Design</li> <li>• Drop Load Analysis</li> </ul> <p>With agreement from the Regulator this action may be completed by alternative means.</p>		

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### GI-UKEPR-CE-02 REVISION 1

<b>Technical Area</b>	<b>CIVIL ENGINEERING</b>		
<b>Related Technical Areas</b>	None		
<b>GDA Issue Reference</b>	<b>GI-UKEPR-CE-02</b>	<b>GDA Issue Action Reference</b>	<b>GI-UKEPR-CE-02.A2</b>
<b>GDA Issue Action</b>	<p>Provide a revision of the UK companion document which addresses the observations raised on ETC-C AFCEN Part 0 as a result of our assessment, the key points being:</p> <ul style="list-style-type: none"><li>• Lack of independent review of the code.</li><li>• References to French standards, with translations not provided</li><li>• Loose references to “equivalent standards”</li><li>• There are no references to national annexes to some standards such as EN13670</li></ul> <p>In addition, please provide a mapping document (i.e. updated ETC-C assessment file) which identifies how these points have been dealt with.</p> <p>With agreement from the Regulator this action may be completed by alternative means.</p>		

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<b>Related Technical Areas</b>		None	
<b>GDA Issue Reference</b>	<b>GI-UKEPR-CE-02</b>	<b>GDA Issue Action Reference</b>	<b>GI-UKEPR-CE-02.A3</b>
<b>GDA Issue Action</b>	<p>Provide a revision of the UK companion document which addresses the observations raised on ETC-C AFCEN Part 1 as a result of our assessment, the key points being:</p> <ul style="list-style-type: none"> <li>• Errors in Formulas</li> <li>• Lack of Clarity/ ambiguity in text</li> <li>• Inconsistency with other sections of the code</li> <li>• Inconsistency with UK National annexe</li> <li>• Lack of guidance to designers on seismic design</li> <li>• Revisions of supporting documents unclear</li> <li>• Lack of guidance on choice of Eurocode value when no recommended value is available</li> <li>• Justification lacking for some revised liner stress limits</li> </ul> <p>In addition, please provide a mapping document (i.e. updated ETC-C assessment file) which identifies how these points have been dealt with.</p> <p>With agreement from the Regulator this action may be completed by alternative means.</p>		

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<b>Technical Area</b>		<b>CIVIL ENGINEERING</b>	
<b>Related Technical Areas</b>		None	
<b>GDA Issue Reference</b>	<b>GI-UKEPR-CE-02</b>	<b>GDA Issue Action Reference</b>	<b>GI-UKEPR-CE-02.A4</b>
<b>GDA Issue Action</b>	<p>Provide a revision of the UK companion document which addresses the observations raised ETC-C AFCEN Part 2 as a result of our assessment, the key points being:</p> <ul style="list-style-type: none"> <li>• Insufficient information to be the basis of a clear construction specification</li> <li>• Links to French ministerial standards are of no relevance to the UK</li> <li>• Clarification of the intention to demonstrate the equivalence of French standards to other national standards</li> <li>• Provide clarity over the approval of modifications or adaptations to the specification</li> <li>• Provide clarity over how demonstration of equivalence would be achieved</li> </ul> <p>In addition, please provide a mapping document (i.e. updated ETC-C assessment file) which identifies how these points have been dealt with.</p> <p>With agreement from the Regulator this action may be completed by alternative means.</p>		