

# Office for Nuclear Regulation

An agency of HSE

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## WESTINGHOUSE AP1000® GENERIC DESIGN ASSESSMENT

### GDA ISSUE

### METRICATION OF MECHANICAL EQUIPMENT AND CIVIL STRUCTURAL STEELWORK CONNECTIONS

#### GI-AP1000-ME-02 REVISION 1

<b>Technical Area</b>		<b>MECHANICAL ENGINEERING AND CIVIL ENGINEERING</b>	
<b>Related Technical Areas</b>		Cross Cutting	
<b>GDA Issue Reference</b>	<b>GI-AP1000-ME-02</b>	<b>GDA Issue Action Reference</b>	<b>GI-AP1000-ME-02.A1</b>
<b>GDA Issue</b>	The Guidance to Requesting Parties requires that documents submitted for GDA use SI units. As a corollary it is the expectation that the design submitted by the Requesting Party is essentially metric, using metric Structures, Systems and Components. ONR has provided advice to clarify the detail of its expectations, and to allow variation from this expectation for a limited, controlled, and justified sub-set of equipment. ONR does not consider that Westinghouse has satisfactorily met this expectation for mechanical equipment and associated systems. This issue also affects civil structural steelwork.		
<b>GDA Issue Action</b>	Provide an updated response to document titled 'AP1000 Standard Plant Metrication, APP-GW-G1-011', to reflect the guidance provided by ONR. Westinghouse should commit to re-designing equipment in line with the guidance, or provide a more rigorous justification (which aligns with the guidance provided) as to why they consider equipment should be an exception to metrication. With agreement from the Regulator this action may be completed by alternative means.		

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<b>GDA Issue Reference</b>	<b>GI-AP1000-ME-02</b>	<b>GDA Issue Action Reference</b>	<b>GI-AP1000-ME-02.A2</b>
<b>GDA Issue Action</b>	<p>Provide an updated response to document titled 'AP1000 Standard Plant Metrication, APP-GW-G1-011 Rev 3' to explicitly list the exclusions from metrication for Civil Steelwork SSCs. This should include Westinghouse's intention for all the component parts of structural steelwork connections. It is accepted that the generic design for permanent civil steel structures is based on imperial sections (and materials). However, the exceptions listed in Table A-1 of APP-GW-G1-011 Rev 3 do not clearly define what approach will be used for the design of the detailed connections which will be carried out by local suppliers.</p> <p>The widescale used of imperial bolting / fastenings is not acceptable. Although strict quality control during construction can be adopted, there is an increased risk of last minute substitutions with locally supplied, metric bolts. APP-GW-G1-011 Rev 3 does not confirm whether the supplier's design will be quasi metric and or in imperial. The update of this document should clarify Westinghouse's intentions on this, and discuss the effects if the other approach is used.</p> <p>With agreement from the Regulator this action may be completed by alternative means.</p>		