

## **Enclosure 2**

**MFN 15-049**

**GEH Response to Item #13**

**ABWR DCD DRAFT Revision 6 Markups**

### **IMPORTANT NOTICE REGARDING CONTENTS OF THIS DOCUMENT Please Read Carefully**

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**Table 1.8-19 Standard Review Plans and Branch Technical Positions  
Applicable to ABWR (Continued)**

SRP No.	SRP Title	Appl. Rev.	Issued Date	ABWR Appli- cable?	Comments
	BTP ICSB 8 (PSB)	2	7/81	Yes	
	BTP ICSB 11 (PSB)	2	7/81	Yes	
	BTP ICSB 15 (PSB) (Deleted)				
	BTP ICSB 17 (PSB) (Superseded by Reg. Guide 1.9)				
	BTP ICSB 18 (PSB)	2	7/81	Yes	
	BTP ICSB 21 (PSB)	2	7/81	Yes	
	BTP PSB 1	0	7/81	Yes	
	BTP PSB 2	0	7/81	Yes	
	Appendix 8 — B General Agenda, Station Site Visits	0	7/81	Yes	
<b>Chapter 9 Auxiliary Systems</b>					
9.1.1	New Fuel Storage	2	7/81	Yes	
9.1.2	Spent Fuel Storage	3	7/81	Yes	
9.1.3	Spent Fuel Pool Cooling and Cleanup System	1	7/81	Yes	
9.1.4	Light Load Handling System (Related to Refueling)	2	7/81	Yes	
	BTP ASB 9-1 (Superseded by NUREG-0554)				
9.1.5	Overhead Heavy Load Handling Systems	0	7/81	Yes	
9.2.1	Station Service Water System	4	6/85	Yes	ABWR and COL Applicant
9.2.2	Reactor Auxiliary Cooling Water Systems	3	6/86	Yes	ABWR and COL Applicant
9.2.3	Demineralized Water Makeup System	2	7/81	Yes	ABWR and COL Applicant
9.2.4	Potable and Sanitary Water Systems	2	7/81	Yes	ABWR and COL Applicant
9.2.5	Ultimate Heat Sink	2	7/81	—	COL Applicant
	BTP ASB 9-2	2	7/81	Yes	
9.2.6	Condensate Storage Facilities	2	7/81	Yes	

Replace with  
"1"

Add "ABWR and  
COL Applicant"

Replace with "3/07"

**Table 1.8-21 Industrial Codes and Standards\* Applicable to ABWR (Continued)**

<b>Code or Standard Number</b>	<b>Year</b>	<b>Title</b>
OM7	1986	Requirements for Thermal Expansion Testing of Nuclear Plant Piping Systems [September 1986 (Draft-Revision 7)]
[X3.139	1987	<i>Fiber Distributed Data Interface (FDDI) - Token Ring Media Access Control (MAC)]<sup>(3)(4)</sup></i>
[X3.148	1988	<i>Fiber Distributed Data Interface (FDDI) - Token Ring Physical Layer Protocol (PHY)]<sup>(3)(4)</sup></i>
[X3.166	1990	<i>Fiber Distributed Data Interface (FDDI) - Physical Layer Medium Dependent (PMD)]<sup>(3)(4)</sup></i>
[X3T9.5/84-49	Rev. 7.1 May 7, 1992	<i>FDDI Station Mangement (SMT), Preliminary Draft]<sup>(3)(4)</sup></i>
<b>American Petroleum Institute (API)</b>		
620 <sup>†</sup>	1986	Rules for Design and Construction of Large, Welded, Low-Pressure Storage Tanks
650 <sup>†</sup>	1980	Welded Steel Tanks for Oil Storage
<b>American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc. (ASHRAE)</b>		
30	1978	Methods of Testing Liquid Chilling Packages
33	1978	Methods of Testing Forced Circulation Air Cooling and Air Heating Coils
<b>American Society of Mechanical Engineers (ASME)</b>		
AG-1 <sup>†</sup>	1991	Code on Nuclear Air and Gas Treatment
B30.2 <sup>†</sup>	1983	Overhead and Gantry Cranes (Top Running Bridge, Single or Multiple Grider, Top Running Trolley Hoist)
B30.9 <sup>†</sup>	1984	Slings
B30.10 <sup>†</sup>	1982	Hooks
B30.11 <sup>†</sup>	1980	Monorails and Underhung Cranes
B30.16 <sup>†</sup>	1981	Overhead Hoists
B31.1 <sup>†</sup>	1986	Power Piping
B96.1 <sup>†</sup>	1986	Specification for Welded Aluminum-Alloy Storage Tanks
N45.4	Add "NOQ-1 2004	Rules for Construction of Overhead and Gantry Cranes" Reactors
N509 <sup>†</sup>	1989	Nuclear Power Plant Air-Cleaning Units and Components
N510 <sup>†</sup>	1989	Testing of Nuclear Air-Cleaning Systems
NQA-1 <sup>†</sup>	1983	Quality Assurance Program Requirements for Nuclear Facilities
NQA-1a <sup>†</sup>	1983	Addenda to ANSI/ASME NQA-1-1983

The lifting capacity of each crane or hoist is designed to at least the maximum actual or anticipated weight of equipment and handling devices in a given area serviced. The hoists, cranes, or other lifting devices shall comply with the requirements of ANSI N14.6, ANSI B30.9, ANSI B30.10 and NUREG-0612, Subsection 5.1.1(4) or 5.1.1(5). Cranes and hoists are also designed to criteria and guidelines of NUREG-0612, Subsection 5.1.1(7), ANSI B30.2 and CMAA-70 specifications for electrical overhead traveling cranes, including ANSI B30.11, ANSI B30.16, and NUREG-0554 as applicable.

### 9.1.5.2 System Description

#### 9.1.5.2.1 Reactor Building Crane

The Reactor Building (R/B) is a reinforced concrete structure which contains the concrete containment vessel, the refueling floor, new-fuel storage vault, spent-fuel and the dryer and separator and other equipment. The R/B crane has a lifting capability for the refueling floor. The main hook 1.471 MN lifts concrete shield blocks, drywell head, reactor pressure vessel (RPV) head, dryer, separator strongback, RPV head strongback carousel, new-fuel shipping cask, spent-fuel shipping cask. The orderly placement and movement paths of these components by the R/B crane precludes transport of these heavy loads over the spent fuel storage pool or over the new-fuel storage vault.

Add "For design of Type 1 cranes, ASME NOG-1 is an acceptable approach to meeting NUREG-0554 criteria."

The R/B crane will be used during refueling/servicing as well as when the plant is online. During refueling/servicing, the crane handles the shield plugs, drywell and reactor vessel heads, steam dryer and separators, etc. (Table 9.1-7). Minimum crane coverage includes R/B refueling floor laydown areas, and R/B equipment storage pit. During normal plant operation, the crane will be used to handle new-fuel shipping containers and the spent-fuel shipping casks. Minimum crane coverage must include the new-fuel vault, the R/B equipment hatches, and the spent-fuel cask loading and washdown pits. A description of the refueling procedure can be found in Section 9.1.4.

The R/B crane will be interlocked to prevent movement of heavy loads over the spent-fuel storage portion of the spent-fuel storage pool. Since the crane is used for handling large heavy objects over the open reactor, the crane is of Type I design. The R/B crane shall be designed to meet the single-failure-proof requirements of NUREG-0554.

Add "For design of Type 1 cranes, ASME NOG-1 is an acceptable approach to meeting NUREG-0554 criteria."


#### 9.1.5.2.2 Other Overhead Load Handling System

##### 9.1.5.2.2.1 Upper Drywell Servicing Equipment

The upper drywell arrangement provides servicing access for the main steam isolation valves (MSIVs), feedwater isolation valves, safety/relief valves (SRVs), emergency core cooling systems (ECCS) isolation valves, and drywell cooling coils, fans and other equipment. Access to the upper drywell space is via the R/B through either the upper drywell personnel lock or equipment hatch. All equipment is removed through the upper drywell equipment hatch. Platforms are provided for

**Table 9.1-6 Reference Codes and Standards**

Number	Title
ANS-N14.6	Standard for Special Lifting Devices for Shipping Containers Weighing (5 ton) or More for Nuclear Materials
ANSI B30.9	"Slings"
ANSI B30.10	"Hooks"
ANSI B30.2	Performance Standards for Overhead Electric Wire Rope Hoists
ANSI B30.16	Performance Standards for Air Wire Rope Hoists
ANSI B30.11	Overhead and Gantry Crane
CMAA70	Specifications for Electric Overhead Travelling Cranes
NUREG-0554	Single-Failure-Proof Cranes for Nuclear Power Plants
NUREG-0612	Control of Heavy Loads at Nuclear Power Plants



Add "ASME NOG-1" and  
"Rules for Construction of  
Overhead and Gantry  
Cranes (Top Running  
Bridges, Multiple Girder)"