

THE INTERNATIONAL NUCLEAR EVENT SCALE (INES)

EVENT RATING FORM (ERF)

TO BE SENT TO THE IAEA INES CO-ORDINATOR BY

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EVENT TITLE	UNEXPECTED DETERIORATION OF REACTOR VESSEL HEAD MATERIAL IN VICINITY OF PENETRATION										EVENT DATE			
											08.03.02			
RATING PROVISIONAL <input checked="" type="checkbox"/> FINAL <input type="checkbox"/>	RATING DATE	OUT OF SCALE	BELOW SCALE	ON SCALE							SAFETY ATTRIBUTE	DEGR. DEFENCE IN- DEPTH	<input checked="" type="checkbox"/>	
				0	1	2	3	4	5	6		7	ON-SITE IMPACT	
	29.03.02							<input checked="" type="checkbox"/>						OFF-SITE IMPACT
COUNTRY	USA	FACILITY NAME		DAVIS-BESSE NUCLEAR POWER STATION							FACILITY TYPE	PWR		
ASPECTS OF SIGNIFICANCE TO THE PUBLIC:													YES	NO
ACCIDENT <input type="checkbox"/> INCIDENT <input checked="" type="checkbox"/> DEVIATION <input type="checkbox"/>														
- RADIOACTIVE RELEASES OFF-SITE													<input type="checkbox"/>	<input checked="" type="checkbox"/>
- RADIOACTIVE RELEASES ON-SITE													<input type="checkbox"/>	<input checked="" type="checkbox"/>
- WORKERS INJURED BY RADIATION													<input type="checkbox"/>	<input checked="" type="checkbox"/>
- WORKERS INJURED PHYSICALLY													<input type="checkbox"/>	<input checked="" type="checkbox"/>
- PLANT SAFETY IS UNDER CONTROL													<input checked="" type="checkbox"/>	<input type="checkbox"/>
- THE EVENT REPORTED IS A DISCOVERY OF A DEFICIENCY BY ROUTINE SURVEILLANCE													<input type="checkbox"/>	<input checked="" type="checkbox"/>
- A PRESS RELEASE WAS MADE (IF YES, PLEASE ATTACH IT)													<input checked="" type="checkbox"/>	<input type="checkbox"/>
SHORT DESCRIPTION OF THE EVENT: On 8 March 2002, with the reactor shut down for a refueling outage, the licensee discovered a significant loss of reactor vessel head base material adjacent to a penetration nozzle that was being repaired. The licensee had performed an inspection of control rod drive nozzles in the reactor vessel head as required by the regulator (US NRC). During the repair of one of the nozzles, the licensee noted some deterioration of the base material surrounding the nozzle. The reactor vessel head is composed of an approximately 6.5 inch thickness of carbon steel base material with a stainless steel weld cladding applied to the interior surface. After removal of the nozzle and cleaning of the immediate surrounding area, the licensee discovered significant wastage of the carbon steel material adjacent to the nozzle boring with a total approximate size of 5 inches by 7 inches. The reactor vessel head material in this area had been reduced to a minimum thickness of less than 0.3 inches, which is the thickness of the cladding.														
JUSTIFICATION OF THE RATING: This event was rated in accordance with Section IV-3.2.3 of the INES User's Manual "Potential Events (including structural defects)". The potential initiator (major LOCA) is considered to be an unlikely occurrence. According to Table III, this event, with safety function operability within Operating Limits and Conditions (applicable due to normally scheduled outages of safety equipment during long periods of operation of the unit) results in a base rating of 2/3.														
A rating of level 3 was chosen based upon the extent of the structural degradation and the increased possibility of a structural failure. Since the basic rating of level 3 was obtained using the impact on defense in depth, no additional escalation was warranted. However, the inspection revealing the condition was not part of the normal surveillance inspection process at this facility and the discovery of the degraded condition occurred only during inspections specifically required by the regulator.														
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PLEASE ATTACH ADDITIONAL INFORMATION ON JUSTIFICATION OF THE EVENT RATING AND DIFFICULTIES ENCOUNTERED, IF NEEDED														

ENCLOSURE 1