



- Representative Reactor Accident Classifications for a PWR System
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- INES
- EVENT CLASSIFICATION
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- **Condition** ;
- **Condition**
- **Condition**
- **Condition**
- 4가
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**Table 16-2 , Representative Reactor Accident Classifications  
for a PWR System**

<b>Class #</b>	<b>Description</b>	<b>Example(s)</b>
<b>1</b>	Trivial incidents	Small spills ; small leaks inside containment
<b>2</b>	Misc. small releases outside containment	Spills; leaks and pipe breaks
<b>3</b>	Rad -waste system failures	Equipment failure; serious malfunction or human error
<b>4</b>	Events that release radioactivity into the primary system	Fuel defects during normal operation; transients outside expended range of variables
<b>5</b>	Events that release radioactivity into the secondary system	Class 4 and heat-exchanger leak
<b>6</b>	Refueling accidents inside containment	Drop fuel element; drop heavy object onto fuel; mechanical malfunction or loss of cooling in transfer tube
<b>7</b>	Accidents to spent fuel outside containment	Drop fuel element; drop heavy object onto fuel; drop shielding cask-loss of cooling to cask; transportation incident on site
<b>8</b>	Accident initiation events considered in the safety analysis report	Reactivity transient; rupture of primary piping; flow decrease; steamline break
<b>9</b>	Hypothetical sequences of failures more severe than Class 8	Successive failure of multiple barriers normally provided and maintained

7	Major Accident	:		
6	Serious Accident	: 가		
5	Accident with Off - site Risk	: 가		
4	(Accident without Significant Offsite Risk)	:	;	
3	Serious Incident	:	;	- 가 .
2	Incident		;	
1	Anomaly			가
0	Below Scale Event Deviation			
		.		

# INES

	7		- ( : , I-131 $10^{16}$ Bq , .	(1986 )
	6		-I-131 $10^{16}$ Bq ,	1957 Kyshtym
	5		- I-131 $10^{14}$ - $10^{15}$ Bq ; - ; ,	Windscale (1957) TMI (1979 )
	4		- mSv , - ; -1 가 가	Windscale (1973), S-L (1980) (1983)
	3		- ( : 0.1 mSv ) - -	1989 Vandellos
	2		- , 가 -	
	1		가 . , , .	

## EVENT CLASSIFICATION

EVENT FREQUENT RANGE (PER YEAR)	PROPOSED PLANT CONDITIONS	EXISTING TERMINOLOGY					
		NRC			ANS		
		10 CFR	RG 1.48 ASME CODE*	RG 1.70 REV. 2	N 18.2	N212	N213
PLANNED OPERATIONS	PC-1	NORMAL	NORMAL	NORMAL	CONDITION I	NORMAL PCC	PLANT CONDITION A
<div><div>10<sup>-1</sup></div><div>10<sup>-2</sup></div><div>10<sup>-3</sup></div><div>10<sup>-4</sup></div><div>10<sup>-5</sup></div><div>10<sup>-6</sup></div></div>	PC-2	ANTICIPATED OPERATIONAL OCCURREN- CES  ACCIDENTS	UPSET	MODERATE FREQUENCY	CONDITION II	FREQUENT PPC	PLANT CONDITION B
	PC-3			INFREQUENT INCIDENTS	CONDITION III	INFREQUENT PPC	PLANT CONDITION C
	PC-4		EMERGENCY	LIMITING FAULTS	CONDITION IV	LIMITING PPC	
	PC-5						
	NOT CONSIDERED						

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(ASME Section

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- (2) Condition ;
- (3) Condition ;
- (4) Condition ;

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  - 16.
  - 17.
- Condition 가 가 .
- . Condition 10CFR20 " Standards for Protection Against Radiation " Condition
- . Condition 가 Condition



# Condition

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10CFR20

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- 4.
- 5.

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Condition

Reactor Site Criteria "

10CFR100 "

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Condition

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# 4가

	Condition I	Condition II	Condition III	Condition IV
		1 1	1	
( )	- (CHF DNB ) - (P < 1.1 P <sub>design</sub> ) 110%		- 가 - 10CFR100 10% - P < 1.1 P <sub>design</sub>	- (10CFR100) - LOCA
PWR ( )	- - - -	- - - -	- - -	- (LOCA) - -



1952	NRX ( )	, (30 MWt)		, 가
1955	EBR-I ( )		40-50%	
1957	Wind-scale ( )	Pu	Wigner Energy ( )	2 (l)
1958	Vinca ( )			1 5 ,
1961	SL-1 ( )	/		3 ( ) ,
1965	Venus ( )			
1966	Fermi-1 ( )	(200MWt)	(2 )	4 가
1969	Lucens ( )		ICLOCA	,
1979	TMI-2 ( )	900 MWe 가	PORV 가 ,	, .
1986	Chernobyl-4 ( )	1000 MWe LWGR (RBMK)	가 , .	31 1 , .