

A Study of Adopting Maintenance Rule in the Korean NPP

150

가
 가 (PSR) (RCM)
 PSR
 RCM, PSR 가 , RCM, PSR, PM

Abstract

In Korea, as risk informed applications and regulation become active, the necessity of Maintenance Rule(MR) has increased. Also, as Periodic Safety Assessment (PSR) and Reliability Centered Maintenance (RCM) are introduced, the MR should be integrated and coordinated with them. If PSR is already adopted, then it is not necessary to apply MR for the broader scope of SSC as currently adopted in USA. Instead, a stepwise approach would be more cost-effective for setting the MR scope SSCs. The first step would be to apply MR only for the SSCs whose risk related characters are changed by risk-informed applications. The relationships between RCM and MR, and between PSR and MR are discussed. An integrated plant maintenance model coordinating MR, RCM, PSR, and PM is introduced.

1.

(Maintenance Rule: 10 CFR50.65)¹ 5
 1996 7 10 .
 , 2,3 , (RCM:
 Reliability Centered Maintenance) 4. RCM
 RCM 가
 , 가 (PSR: Periodic Safety Review) 5
 1 PSR 가

가 , , .

RCM, PSR

3.4

3.4

1 3.4

2.

2.1

(10CFR50.65)

(a)(1)

- SSC

가

Monitoring
가

(corrective action)

(2)

-

가

SSC (a)(1)

monitoring

(3)

-

가

가

(4)

-

SSCs

가

가

가

가

2.2

가

2가

1)

:-

2)

:-

가

가

가

3)

:-

가

가

가

가

가

1,2

3,4

(RPS/ESFAS)

6, 8, 3,4

7가

9, 가 10, 가

11

가

DB가

3,4

DB, DB

(LCO) 가

(on-line maintenance)

(a)(4)
(Deregulation) 가

가

가

2.3 RCM

가 가, 가

5

4

가

(PM)

, RCM

PM

, INPO

(Equipment Reliability Process)

12

, RCM, PM,

PSR

가

(Ageing)

, INPO
, RCM, PM,

, PSR

가 ()

2.4 PSR

10 가

가 PSR
PSR

1

5

1

. IAEA

13

[1]

[2]

[3]

[4]

[5]

[6]

[7]

[8]

[9]

가 ()

가

가

가

가

가

가

[10] 가 , / 가
 [11]

PSR PSR 가 ,
 PSR .
 , PSR 10 가 10 , ,
 가 ,
 , PSR 가 10 ,
 가 .
 , 11 PSR .
 PSR .

PSR	
[1] ,	
[2] 가	SSC
[4] 가	2.3
[5]	2.3
[6] 가	2.3
[7] , , , 가	

2.5

2.2 가 (a)(4) 가
 , 가
 , (SSC) ,
 3.4 , 가 , 가 monitoring
 . (² ,
².)

3.4 1,2 RPS/ESFAS (AOT: Allowed Outage Time) (STI: Surveillance Time Interval)
 , RPS/ESFAS , 가
 가 가 .
 PSA SSC . PSA

가 BOP (Balance of Plant) 가
가 Pannel

3.

, (a)(4)
RCM
PSR
PSR

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