

가 가 (2)

Development of Regulatory Guides on Aging Management for CANDU Reactors

, , , ,

19

,

( )

360-9

가 2002-5

1 가 가 2003 9

가

가

2003

가 , 가

가

[1].

가

**ABSTRACT**

The results of the periodic safety review (PSR) for Wolsong Unit 1, a CANDU reactor is scheduled to submit in June 2003 according to the National Atomic Energy Law and the Notice of Minister of Science and Technology, 2002-5. In this regard, the Korea Institute of Nuclear Safety (KINS) are developing the regulatory guides on the management of aging for CANDU reactors in collaboration with the Korea Power Engineering Company (KOPEC) as a part of mid- and long-term research and development (R&D) program. In 2003 KNS spring meeting, the R&D direction, structure and contents, and a level of depth for developing regulatory guides of the PSR for CANDU reactors was introduced. This paper is described the results performed during the second phase (year 2003) and the further implementation plan.

**1.**

가(Periodic Safety Review : PSR) 가

( “ ”

) , 가 가 [2],  
 . 2001 1 가  
 가 가 가  
 가 (IAEA) 1988 가 (Advisory Group)  
 PSR  
 (PWR, BWR) 가 가 NUREG-1800, -1801[3,4]  
 가, IAEA  
 IAEA PSR 가 , 가  
 (CANDU) ,  
 가  
 PSR 가 IAEA  
 가 가 [5],  
 1 2,3,4 PSR .  
 1  
 가  
 가 PSR ,  
 . , 가  
 [6] ,

## 2. PSR 가

### 2.1 PSR

가 PSR IAEA  
 가 , 가 가 . IAEA  
 11 가 15  
 . 11 IAEA  
 15 가 (Plant Design),  
 (Deterministic Safety Analysis), (Probabilistic Safety Analysis),  
 (Hazard Analysis) 가 (Global Assessment)  
 , IAEA  
 1 PSR  
 가 , PSR



가 Part II , 가, , 6 35 , PWR 가 , , , .

1. : 가  
 2. : 가 ,  
 3. :  
 4. :  
 5. : 가  
 6. :

( , , , )  
 ( IAEA 가 [7,8], NUREG-1800, -1801, 가

1. 가 PSR 가

| Part |                       |                 |   |               |  |
|------|-----------------------|-----------------|---|---------------|--|
| I.   | 1. , 2. PSR           | , 3. 가          | , 4. , 5. , 6. PSR  |               |  |
| II.  | 1.                    | 1.1             |   |               |  |
|      |                       | 1.2             |   |               |  |
|      | 2. 가                  | 2.1             |   |               |  |
|      |                       | 2.2             | 2.2.1 , 2.2.2   |               |  |
|      |                       | 2.3             |   |               |  |
|      |                       | 2.4             | 2.4.1 , 2.4.2 , 2.4.3 1 , 2.4.4 , 2.4.5 , 2.4.6 가 , 2.4.7 / , 2.4.8 |               |  |
|      |                       |                 | 2.5   | 2.5.1 , 2.5.2 |  |
|      |                       |                 |   | 2.5.3         |  |
|      |                       |                 | 2.6   |               |  |
|      |                       | 2.7             |   |               |  |
|      |                       | 2.8             | 2.8.1 , 2.8.2   |               |  |
|      |                       |                 | 2.8.3 EDG   |               |  |
|      | 2.9 /                 | 2.9.1 2         |   |               |  |
|      | 3.                    | 3.1 , 3.2       |   |               |  |
|      | 4.                    | 4.1 , 4.2 , 4.3 |   |               |  |
| 5.   | 5.1 , 5.2 , 5.3       |                 |   |               |  |
| 6.   | 6.1 , 6.2 , 6.3 , 6.4 |                 |   |               |  |

### 3.3 가

가 1 ,  
21 , 가  
Part I 가 Part II 가

### 4.

가 IAEA PSR 가  
가  
○ 가 , 가  
가  
○ 가 Part I Part II , Part I 가  
가 , 가 , Part II  
가 ( 35 )  
○ Part II 21 가 ,  
1 2 ,  
가  
1 , ( )  
1  
2004 2

---

1. KOPEC & KINS, 가 (1), 2003. 5

2. IAEA, Periodic Safety Review of Operational Nuclear Power Plants, A Safety Guide, Safety Series No. 50-SG-O12, Vienna, 1994

3. USNRC, Standard Review Plan for the Review of License Renewal Applications for NPPs, NUREC-1800, April 2001
4. USNRC, Generic Ageing Lessons Learned (GALL) Report, NUREC-1801, April 2001
5. , 가 가 , KINS/ HR-376, March 2001
6. , 가 가 , KINS/ HR-525, March 2003
7. IAEA, Assessment and management of ageing of major nuclear power plants important to safety : CANDU pressure tubes, IAEA-TECDOC-1037, 1998
8. IAEA, Assessment and management of ageing of major nuclear power plants important to safety : CANDU Reactor Assemblies, IAEA-TECDOC-1197, Feb. 2001