

- IAEA

Progress of LWR Enhanced Cooperation between Korea and IAEA

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가 가 (IAEA) IAEA ,  
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 - IAEA ,  
 7-9 IAEA , 3-4 1  
 가 NPA(New Partnership Approach) , IAEA

**Abstract**

According to Korean Atomic Energy Act, national inspection is being performed independently at the same time as the IAEA inspection. As national inspection system settled down, both Korea and the IAEA were looking for possible ways of cooperation for more efficient and effective safeguards implementation. As a first step, enhanced cooperation on LWRs, based on remote monitoring technology and state's system utilization, was introduced and its rehearsal is being undergone for selected facilities. It is expected that the IAEA's on-site inspection would be significantly reduced with this new scheme. After successful rehearsal, this new scheme will be implemented to all LWRs in Korea. This new scheme is considered as a new type of NPA (New Partnership Approach) being applied to a single state. A basic element of this approach is the sharing of inspection activities between the Korea and IAEA while both parties maintain independent conclusion capabilities. For full benefit to Korea and the IAEA, such enhanced cooperation scheme needs to be expanded to another types of facilities.

1975.10 IAEA (Safeguards Agreements)  
 (Subsidiary Arrangements) , 1976.2.12 TRIGA Mark  
 & 1 (Facility Attachment) IAEA  
 . 2000.12 32  
 IAEA 1995.1.5 ,  
 1996.7.23 . IAEA 가  
 가 가 1997 ,  
 IAEA 가 ,  
 가 , 1995  
 가 (SSAC Questionnaire) , 가 ,  
 IAEA (RSAC) EURATOM NPA(New Partnership Approach)  
 가 ,  
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 NPA , NPA  
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 NPA IAEA  
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 IAEA 1994 , 1997 가 가 IAEA IAEA  
 , EURATOM NPA ,  
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 가 1999.6 가  
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2.

IAEA 1991 IAEA ,  
 ‘ -IAEA  
 (IAEA-ROK Joint Review Meeting on Safeguards Implementation)’  
 9 . 8 -IAEA  
 Working Group ,  
 Working Group -IAEA 4  
 ( )  
 - 1 : ( ,  
 (Remote Monitoring, RM) )  
 - 2 : ( RM )  
 - 3 : ( )  
 RM , )  
 - 4 : 3 , 가 1  
 4 , 1 - 3 IAEA  
 , 4 . 가 4 ( )  
 1 가 ) ,  
 1-3 . Working Group 2000.5 ,  
 2 .  
 (Remote Monitoring System) ,  
 - IAEA (PIV Post-PIV)  
 가 SSAC  
 ( -hub station- TCNC )  
 - IAEA IAEA  
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3.1

(IAEA ) , , , ,  
 ,  
 - (Physical Inventory Verification : PIV)  
 :  
 가  
 14 .  
 , 가  
 (Closed-core PIV, PIV Equivalent) .

( , Missile Shield Canal Gate)  
 (Pre-PIV) 가  
 (Post-PIV)가 가 .

- (Interim Inventory Verification : IIV)  
 : 가 , 3  
 가 . 16 , 3

- (Ad-hoc Inspection)  
 : 가 (Zone Approach)  
 가 , (가  
 가 / / , 가

(Fresh Fuel Verification : FFV),  
 (Simultaneous FFV : Sim-FFV), (Pre-PIV, Post-PIV)

- (Special Inspection)  
 : 가 , 가 가

- (Design Information Verification : DIV)  
 : 가 가  
 , 가  
 1 Pre-PIV, PIV,  
 Post-PIV 1 , IIV 3 , FFV, Sim-FFV 1 8 가 .  
 , 가

- (Book Audit)  
 : (Record) - 가  
 , ( , )  
 , , , )

: (Report) - /IAEA 가  
 , 가

- (Field Inspection)

: 가 (Item Counting : I),  
 (Serial Number Identification : A),  
 (Gross Defect Test by NDA : H), (Surveillance : S) (Seal : V)  
 /  
 : - ,  
 , ,  
 : (Containment and Surveillance : C/S) -  
 , (V) (S)  
 . (Equipment Hatch : E/H)  
 . Missile Shield(M/S) (Canal  
 Gate : C/G)  
 . (IAEA)  
 : (Fresh Fuel : FF, I+A+H)  
 . (I) -  
 . (A) - (Serial number)  
 . (H) - Sample size sample  
 (HM-4)  
 : (Spent Fuel : SF, I(+H))  
 . (I) - Map  
 . (H) - (ICVD)  
 . IAEA Post-PIV  
 : (Core Fuel : CF, I+A) -  
 . (I) -  
 . (A) - (Underwater TV :  
 UWTV) (Serial number)

### 3.2

, (PIV)  
 (Post-PIV) IAEA , 가  
 IAEA .  
 - 가  
 - IAEA (PIV) (Post-PIV) 가  
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 )  
 - 가  
 , IAEA

- camera (VACOSS seal) : Digital Computer server

- , IAEA 가 IAEA

- 가

- ( ) : IAEA

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. (Integrated Safeguards, IS)가 4-5

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IS IAEA

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. IAEA 가 SSAC NPA (New Partnership Approach) 가

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2000.5 Working Group ,

,

- : (MOU) .

- : (RM inspection scheme), , ,

- (Remote Monitoring System) ,

: (SDIS) Phase I( Digital Camera DCM-14  
 Computer server , VACOSS ) Phase II(  
 DCM-14 , VACOSS , Computer server )  
 . 2000.12 11 Phase I II가 , 1  
 5,6 2001 .  
 : 2000.8 Hub station  
 , 6 가  
 Hub Station server ,  
 2, 3, 1

- (Rehearsal)  
 : 2000.8 ( 2, 3, 1)  
 : 2000.9 Workshop ( )  
 : 2000.9 ( 가 )  
 : 2000.11 , 2001.2 (IAEA )  
 : 2000.12 ( )  
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- : 2000.10 9 -IAEA  
 가  
 . IAEA  
 . (MOU) IAEA  
 : 2001.3  
 . , computer file  
 . file

5.

가 IAEA  
 가 , 가 IAEA  
 . 1999 -IAEA  
 IAEA 가 New Partnership Approach 가  
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 , IAEA 가

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