Development of Information Management System on LWR Spent Fuel

, , , , ,

150

,

. IAEA ,

. , 가

·

가 ,

LWR

Abstract

LWRs in Korea should manage all the information of spent fuel to implement the obligations under Korea - IAEA safeguards agreement and to perform the nuclear material accountancy work at the facility level. The information management system on LWR spent fuel was developed to manage all movement records from receipt to shipment of LWR fuels, and to get the necessary information such as nuclear fuel inventory lists and status, maps of fresh fuel storage, reactor and spent fuel pool, receipt and shipment records and so on. This information management system has a function to setup the system environments to cover the various kinds of storage types for all LWRs; reactor, spent fuel pool and fresh fuel storage. The movements of nuclear fuel between the storages can be easily done by double click of the mouse to the destination. It also has a several error checking routines for maintaining the correct accounting data. Using this information management system of LWR spent fuel, facility operators can perform efficiently and effectively the safeguards related works including nuclear material accountancy at each facility.

			IAE				,
가	. ,			가			
IAEA					,	,	
	가						
	,		,				
				tage 5 ty		,	
·						기	
					IA	EA	
	,			,			
	가			,			
				가			,
				가			
,	,	,			ID.		가 가
		We	eb	Intranet	system	Server/C	lient
	GUI	DBMS	MS SO	QL sever	7.0,	. , MS IIS	S (Internet

Information Server) , Web. VBScript(Visual Basic Script) ASP(Active Server Page) , Visual basic 6.0 far Point Spread 3.5 .

.

, User Interface

2.

Window 2000 OS , Window NT 4.0 .

1 , Window 2000 Window NT 기 1 2 , DBMS(DataBase Management System) MS SQL sever 7.0 , MS IIS(Internet Information Server) .

Web.

가 가 .

Network

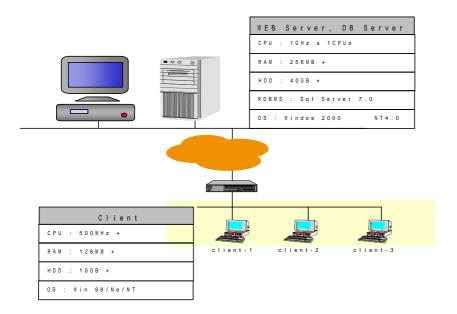
- ,

Stand alone

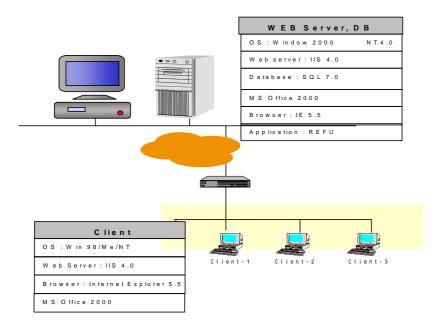
•

Operation System	Window 2000 NT 4.0							
Web Serber	IIS 5.0							
Database	MS SQL 7.0							
Web Develop Language	ASP (Active Server Page) VBScript (Visual Basic Script)							
Development Tool	Visual Vasic 6.0 SP 5 (Active X) Far Point Spread 3.5							
Browser	Internet Explorer 5.5							

1. H/W



2. S/W



```
가.
    - ODBC
                                DB
                                                            DB
                                   가
                     DB
              가
                                                                  가
       a.
         가
                                             가
                                                               가
       b.
                                     ,
가 가
                                           가)
                  Мар
                                       가
      а. Мар
      b. Map
      SFP(Spent Fuel Pool) Map
                                                      가
             Мар
                        Region
                                     10
       a.
       b. Map
                                      가 Region
                                                   가
                가
                                        10
                           Мар
                                                                Мар
                                  Region
                                                                Мар
        a.
                               Region
        b.
                                           Мар
                                Мар
        a.
        b.
                                                Мар
                                                            가
        c.
```

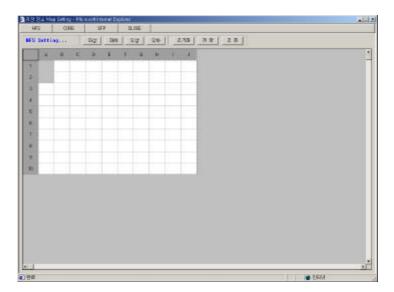
가

a.

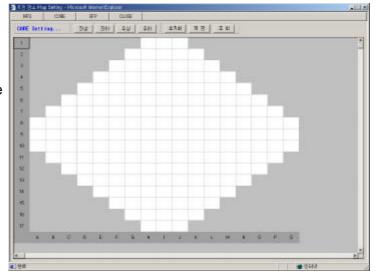
```
가
             b.
                                       LN & NP
             b. LN & NP
                                        가
                          LN& NP
4.
                                              database가
                                              . 3
     3
          database
                                                            field
        "Database"
                                                            database
                                        user id.
                                                                             가
4
                                                   10
                                    5
                                                  가
        5
                                              header
                           disable
                                         Disable
                                         가
                                                       가
                                           가
                                                                    가 ,
                                                가
                                                               map
     6
                                                    핵연료이력관리시스템
                                                1. DIES 60.4807 SIDER 66 SACING
20.485# (31.29.297.30)
                                                S STEE MAN ELIS DIES BRANCO
                                                 A DES MANUSCOS STORES.
        3.
```

4.

5.



6. disable



5. excel 가 가 가 map , map 가 가 map 가. excel 가 가 . Excel database error가 file excel 6 excel 7 가 가 , excel excel 8 가 field excel (KNFC)가 IAEA

6.

7. Excel

8.

excel

		-	-		-	E 6 21 6				el D	1000	40.00	W 5	-	With the section of	
Ž	_	990				五世 計畫	B : 130	2		8 10	1 76	4 5	F. 9	• =	50 OF _	200
	- 1,1			RMO.									-	_		
	4	Marie Control		D		P		100		1		m los	10	147	0	D.
Ė	3HD	BATCH NO		0.14		ELEMENT WI		ESO 100P W	UNIT	н	ONEM		ш			公田県 名
		Y4,800	9035	1.	106976	94391	1.931	3769	- 6		82	MF B	E	- 10	. DFG001	9494
	_	1-07	500	-	38077	200231	1.69	10007	- 6		1.5					
	_				16315	12580	DT	25	- 6	- 6	- 53	_			2000	
	2	Y4,800	803F		108976	34291	8,881	3759	- 8	E	82	MES	F	-8	06005	9/3/
		0.000	570		305077	322231	4.49	1.446	- G	_	- 0					
				-	1631.5	19586	0.7	95	- 6	8	-11					
	3.	V4.800	825	-	107591.0	9811.1	2004	- 2098	- 0		102	160	E	-	DEGROSS-	9.01
		00.00			300036	286723	4490	15119	G		Pli	* 1/4				
	A	94,004	50F	1	10723-3	34464	7999	3711	- 8	-	1/2	M.R.	F	-1	DFG004	PE
	_			-	30200	26/50	4,690	192	9	_	15	_	_			
	5	V4.008	537		108/05	9431	3,951	3750	- 6		82	85	F	- 5	DEGUE	9/3/
		(+1.71	13.1		365577	302231	4,49	1.4461	. 0	100	1,00				-23000	
	_				153.5	1998	0.7	25	- 6		10					
	8.	Y4,808	507	1	108975	5631	1,551	3750	- 15		82	Mrs.	T	0.	DEGINE -	9/5
	111	10.19	-000		36637	383831	4.49	1.0007	.6		- Ch	1000		- //	11/2000	
	_				15515	19565	0.7	-2	. G	- 1						
	7	Y4,607	93.7	1.1	301910	98111	2254	- 3799	- 6		.87	M.P.	F	7	DEGUOT.	- 9454
	12.7		200		202026	200723	4490	18.11	- 19		Ph				100000	40000
	8.	Y4,608	BOST		10753.5	94464	5901	2070	- 6	-	1/2	W.S.	T.	g.	OFGOOD	9/04
		W 10	V3.5		362086	396799	4490	19122	- 6		1,56	1. 11			- 100	
	9	94,300	ROF		CROSS.	9630	3.821	230	G		- 62	100	-G	-	1F(2)(8)	9.034
		1/2-/-	100		368677	30,237	4.49	1.4467	- 5		.05			-	11.00	
	-	100000			16315	13588	0.7	- 65	-16	- 1	800.					
	72	V4JE1E	227		KORSONS	9831	1.87	3759	- 6		3/2	8.5	- G	_	- OFGOLD	PS
	200	A5000			365677	322237	4,43	1.9957	- 6	150	Ch	40.00			test adds	
					1921 6	13688	0.7	96	- 6	-	Th					
	11	94,811	BOST		307910	58111	204	10000	G		1/2	1 M/S-	G	-2	OPGO! 1	9434
	V.1.	10000			302036	286728	.4490	160.19	- 16		15	200			1000	
	12	V4.613	127		10703.3	94.65	3954	277	0		- 62	160	-9.	-3.	OFG04.2:	9404
	23/	100	3.38		3000000	030700	4400	15122	G		Uk	1000			Control in	
	13	Y4,613	8035	1	108976	94291	3,981		- 6		82	MFB	C		DROOTS:	- \$494
			1-77		30,000,000	20222	2.23	1387	- 6		1,6					-
					16315	13586	D.T.	35	- 0	- 5	103					
	12	V4.014	8025	1.1	108695	94291	3,981	250	0	1	162	- MED:	I G	-2	089014	#4GH

9 map

가

, 가 .

database

10 (NP: nuclear production) (LN: nuclear loss) . 가 가

excel 가

LN NP .

LN, NP 가

10.

map

region region

map region excel

map .

가

가 database

database

database , .

가 . (nuclear loss)

11

11.

12 " field

13

12.

6.

•

excel file

가 ,

.

, 가

, . 가 LWR

가 .

가 , nuclear loss & production, ,

,

1. 2002 , " ", , , May, 2002

- 2. "Subsidiary Agreement to the Agreement between the Government of the Republic of Korea and International Atomic Energy Agency for the Application of Safeguards in connection with the Treaty of the Non-Proliferation of Nuclear Weapons",1995
- 3. INFCIRC/236, "Agreement between the Government of the Republic of Korea and International Atomic Energy Agency for the Application of Safeguards in connection with the Treaty of the Non-Proliferation of Nuclear Weapons", 1975