

Study on the Development of Safeguards Information Treatment System at the Facility level

150

- IAEA

Y2K

Abstract

Safeguards Information Treatment System(SITS) at the facility level is required to implement efficiently the obligations under the Korea-IAEA Safeguards Agreement, bilateral agreements with other countries and domestic law. In this paper, the requirements and major functions of SITS were considered, and the error checking methods and the relationships of safeguards information were reviewed. SITS will be developed to cover the different accounting procedures and methods applied at the various facilities under IAEA safeguards. Also, the resolved result of the Y2K problem in the existing nuclear material accounting program was described.

1.

(IAEA)

IAEA

가 , IAEA

'2000

가 , - -

IAEA

IAEA

DOS
1988

PC

tool dBASE III CA Clipper

, 가

IAEA

'90

PC

가 DOS

IAEA

, , IAEA

, IAEA

DOS

CA Clipper

(Safeguards Information Treatment System : SITS)

SITS

Y2K

SITS

2. Y2K

IAEA

-IAEA

CODE 10

, Code 10

'2000

(fixed format)

heading information

“YYMMDD” 6 digit 8 digit

2000

IAEA ‘98 7 가

가 . IAEA가 ,

6 digit 1) , 6 digit 8 digit

2) . 1) IAEA 가 6

digit 가 8 digit , 2000 1 22

“000122” IAEA “20000122” .

2) “20000122” ,

fixed format labelled format (flexible field)

가 1) 가 가

6 digit 8 digit

, 2) 가 fixed format labelled

format 1) . “

” fixed format

가 , 1)

6 digit

IAEA 6

digit 가 8 . ,

IAEA 6 digit

“00/01/01”

3. (SITS)

SITS IAEA IAEA ,
IAEA , / / , IAEA

, , - - .

IAEA / , / / ,

, , SITS 가

가

-IAEA CODE 10
IAEA (Facility Attachment : FA)

CODE 10

가 . SITS

SITS가

, (Physical Inventory List : PIL) (Material Balance
Report : MBR) ,

SITS IAEA (Inventory Change
Report : ICR), PIL, MBR, 가 Concise note - , -

'2000

, IAEA

, IAEA

96-30

“ ”

SITS

SITS가

가 가

가 SITS

CODE 10

IAEA

IAEA

PIL MBR

가

PIL

PIL

가

가

batch

PIL

PIL

batch

, batch

SITS가

PIL

PIL

PIL

가

PIL

KMP

field

PIL

PIL

SITS

PIL MBR

, SITS

PIL

PIL

batch

item

,

가

MBR

MBR

Batch

PIL

PIL

PIL

PIL

PIL

가 MBR

(Material Unaccounted For : MUF)

MBR MUF

PIL

'2000

SITS ICR, PIL, MBR Concise Note IAEA
/ / , KMP ,
PIL MBR, ,
/ , IAEA ,
IAEA

. , SITS

, IAEA

- -

IAEA ,

IAEA ,

가

, Batch

follow-up , Pu Pu , MBA(material Balance Area) code
, KMP(Key Measurement Point)

, ICR KMP .

, Batch follow-up

MUF

가

SITS

SITS

SITS가

4.

SITS

CODE 10

'2000

(Transit matching)

가

IAEA

가

SITS

ICR

가

가

가.

IAEA

CODE 10

field

. CODE 10

가

CODE 10

CODE 10

code "RF", element code "E", "g"

Isotope code "g", Country-From field

, Country-To field

MBA code

element code가 "E" 가 "kg"

Isotope code가 blank

(Database : DB)

가

KMP

가 "A"

"F"

"F"

KMP

KMP

가

(Material description

code)가

KMP

가

1)

KMP

, 2) KMP

'2000

, 3) KMP , 4)
, 5)

. CODE 10

. , "A-1" Batch name 100Kg
Batch name 100Kg

가

가 가 가

Transit matching

key word . Key word

batch name element type

가

batch name element type

. Batch name 가 ()

Element

. Transit Matching

Transit matching /

. Transit matching 가

가 SITS transit matching

가

'2000

가 가 .

5.

. ,
1 ,

PIL ICR

code 가

SITS

field record ,

CODE 10

field

field

Code 10

field

unit isotope code가 'g'

element

code, unit isotope code field

, Concise note field가 "X"

correction report/entry field

Concise note correction report/entry field가

record

batch name element code

record

ICR DB, PIL DB, MBR DB,

DB, Concise note file

DB

DB

ICR

가 MBR entry name ,

fresh fuel core , ICR "LN"
"NP"가 PIL KMP code, Measurement basis code spent fuel
field .

6. fields

SITS DB, DB,
DB, DB, IAEA DB, DB .
DB ICR, PIL, MBR Concise note DB
DB . DB , record field,
record field, burn up field CODE 10 fields
가 field .
SITS DB

- ,
- batch follow-up ,
- (Material Unaccounted For : MUF)
- SRD (Shipper/Receiver Difference)
- PU PU ,
- , LOF(Location Outside Facility) 가 KMP
- ,
- LOF ICR KMP
- , ISTS
- ,
- MBA , KMP MBA
- , 가
- Password .
- field 가 DB 가
- field . DB

'2000

CODE 10 (Facility Attachment : FA)

CODE 10 field ,
 Element code, Measurement Basis code, Isotope code, Material Description code ,
 field KMP ,
 KMP 가 Material Description code Measurement Basis code, KMP 가
 , Material Description code Measurement Basis codes .
 DB - - DB , -
 DB , DB
 . IAEA DB DB field , ,
 DB ,
 discharge , Burn up . , DB

7. SITS

SITS가

, batch follow-up MUF
 , IAEA 4가
 .
 Category 1 : assembly rod batch follow-up
 MUF가
 .
 Category 2 : batch follow up
 hot cell
 가
 가 MUF 가 , ,
 DUF4

'2000

Category 3 : MUF가 batch follow-up
, DUPIC

Category 4 : MUF가 , batch follow-up

PWR CANDU 가
가 4가 SITS가 DB 가

SITS 가
DB field 가

가 DB DB
SITS가

8.
Y2K SITS ,
field,

SITS가 '99 Y2K

KAERI
-IAEA ,

SITS
. SITS

SITS가

'2000

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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
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