

2004

An Analysis of Electricity & Service Water Use in HANARO

150

2001 2003

가

40 %

30 MW 240

40% 6%가 가

2003

Abstract

For the effective management of the HANARO, an analysis was made on the use of electricity and service water for the period of 2001 to 2003. In this period, the electricity cost was saved by reducing the reactor operation time in summer when the electricity price is higher than the other seasons. The use of KAERI reservoir water as the coolant made it possible to save the coolant cost by 40 %. It is estimated that the 240 day operation at 30 MW will need the electricity and the coolant by 40% and 6% more than those for the year of 2003.

1.

1995 2 (criticality)

24 MW , 2005

240 , 30 MW

2

2

1 2

2001 2003

30 MW

2.

1998 2002 6 (17) 1

2~3 , , 3~4

2002 6 (18)

3 2 /1 1

2003 8 (27)

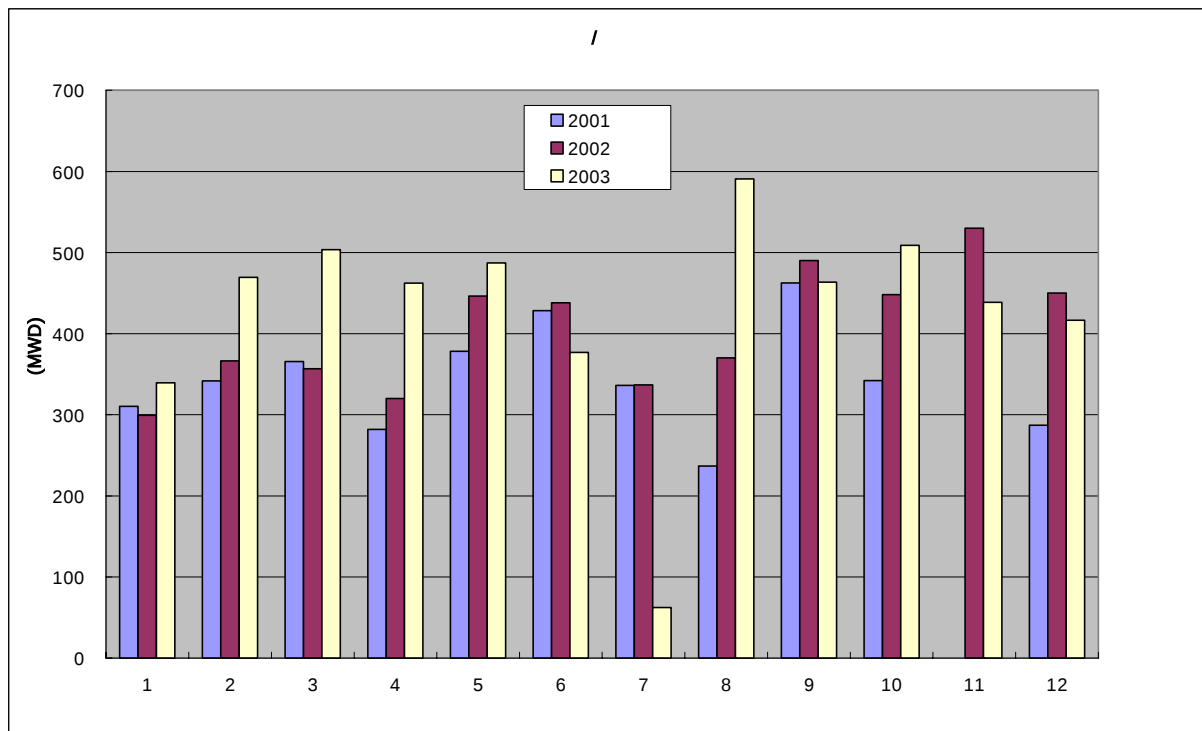
18 /10

가 가

가 [1,2,3]. 2001 2003

2.1

1 2001 2003



1.

2001 3771 MWD 99.7 % ,
169 [1,4]. 7 , 8

2002 4852 MWD 100.5% ,
209 가 2002 6 3
2 /1
40 , 1081 MWD 가 [2,5]. 2002 7 8

2003 5119 MWD 98.8 % ,
217
2003 8 2 /1 18 /10
8 , 267 MWD 가 [3,6].
6 7

2.2

2 2001 2003
()

5000

kVA , 1 , 2 ,

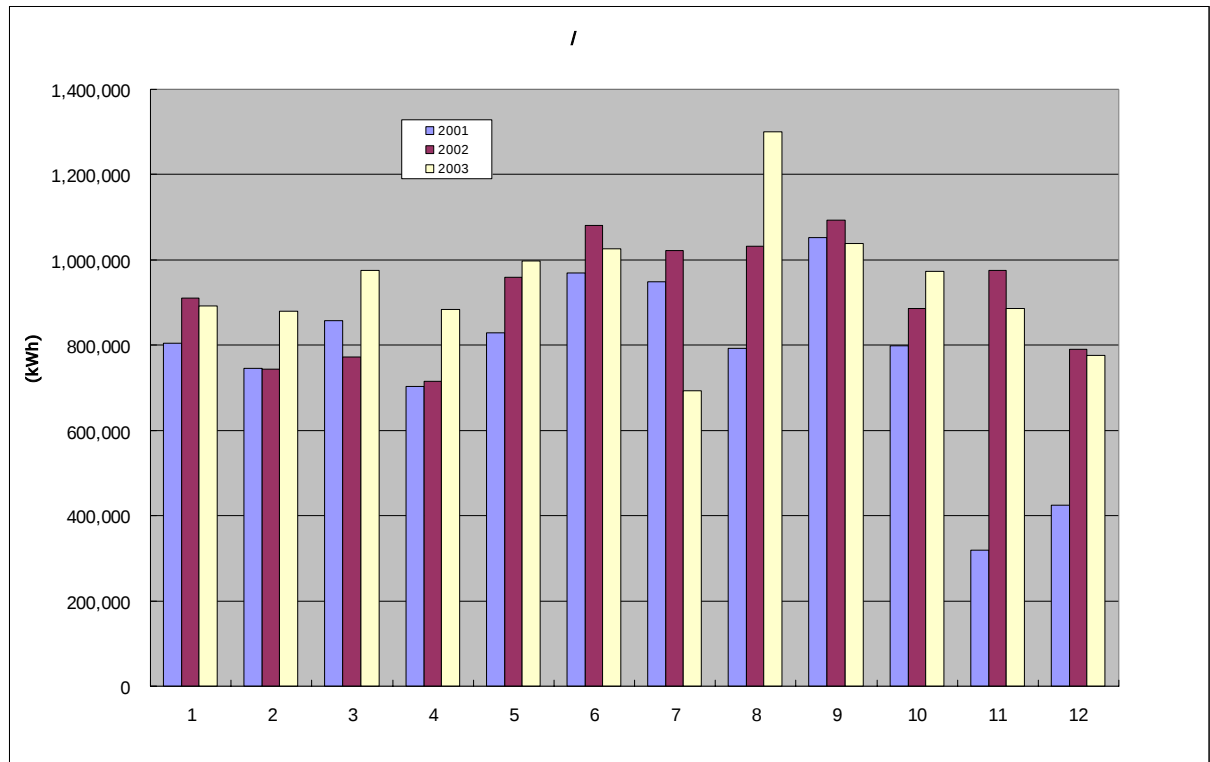
2001 9,244,909 kWh 1,104,239 . 8

. 11 KINS
. 12 KINS

가

2002 10,981,785 kWh 2001 16 % 가 ,
1,240,859 , 가 가

2003 11,318,112 kWh 1,237,719
2002 가
가가 2002 . 7
가 KINS 3
. 8 가
25 가



2.

가
가

2.3

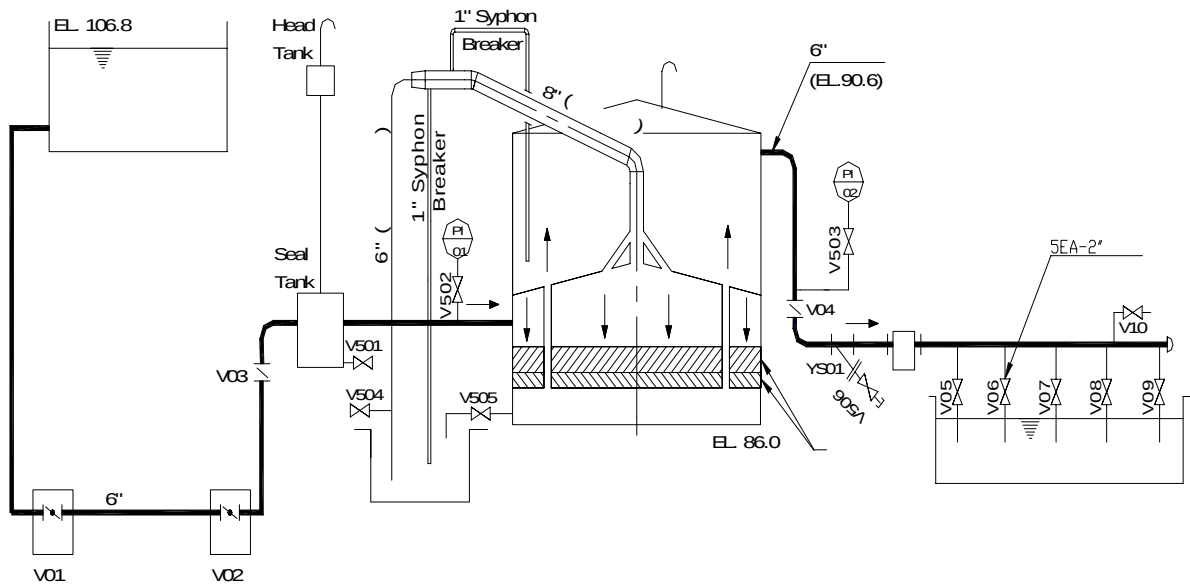
1000 (basin) 2 4320 ,

3 가 가 2 가 ,

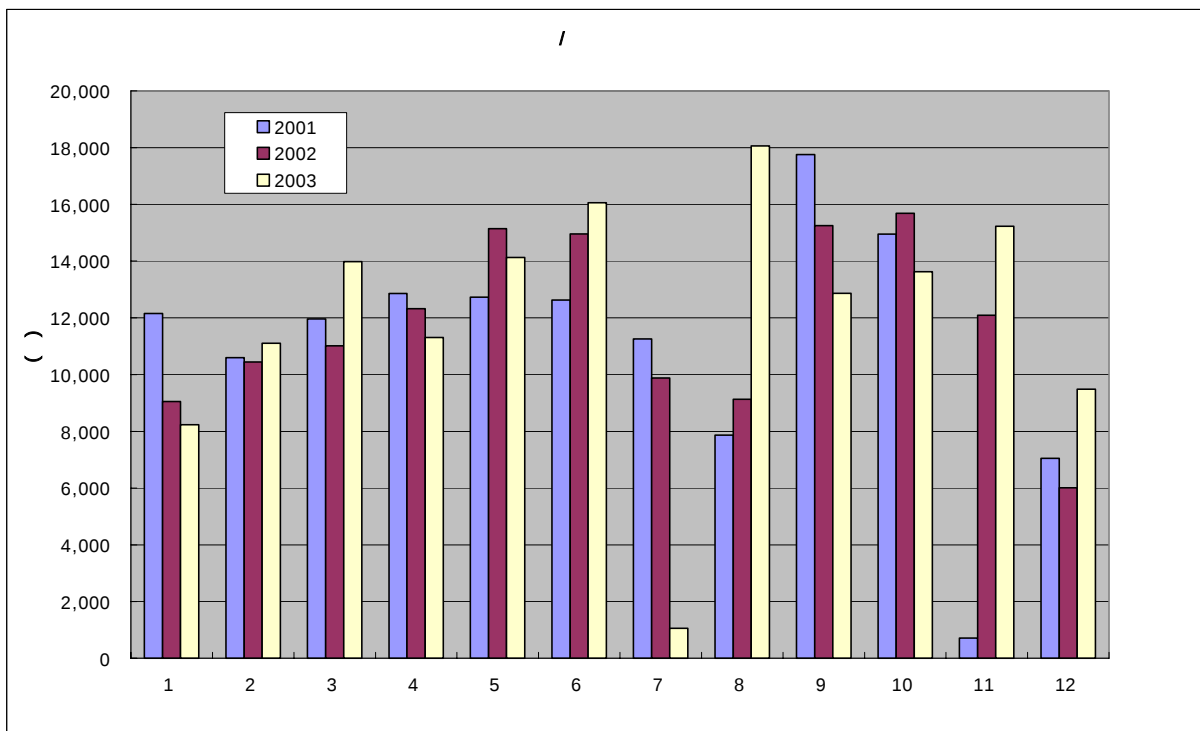
가 2001 가 , ,

가 가 ,

가



3.



4.

4 2001 2003 .
 2001 99,592 , 112,539 .

32,941 ,
 37,223 . 25 %
 2002 78,792 , 92,022
 . 2001 21 % , 2001
 18 % . 2002 62,187 ,
 73,683 . 44 %
 , 2001 2 가 .
 2003 85,448 , 107,945
 . 2002 8 % 가 , 2002
 15 % 가 . 2003 59,693 ,
 74,616 . 41 %

2.4

2001 2003 , , 1 .
 5 .

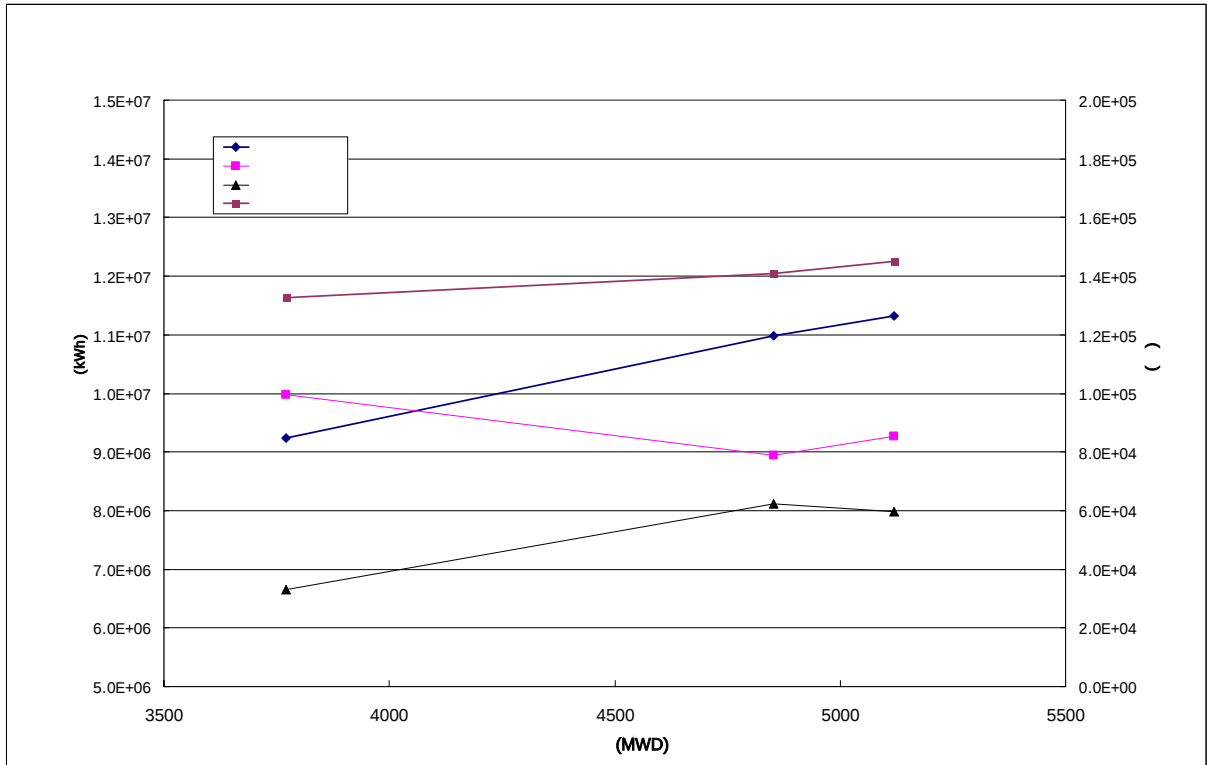
1. ,

	(MWD)	(kWH)	()
2001	3771	9,244,909	132,533(32,941)
2002	4852	10,981,785	140,979(62,187)
2003	5119	11,318,112	145,141(59,693)

* ()

2001 17%
 1.7% . 25%
 40,000 .
 2002 19%
 1.4% . 44%
 75,000 .
 2003 19%
 1.7% . 41%

75,000



5.

가

가

2001 2003 1 9000
30 MW
2003 40 % 가 200,000
2003 6% 가 12,000,000 kWh

가 240

3.

2001 2003 , 가 가 ,

1) 2001 2003
19 21 %
가

2) 2001 2003

190,000 40%

.

3) 가가

.

4) 30 MW 가 240

2003 40 % 가 200,000
2003 6% 가 12,000,000 kWh

.

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1. , “ 2001 ,” KAERI/MR-379/2001, , 2002. 1.

2. , “ 2002 ,” KAERI/MR-395/2002, , 2003. 1.

3. , “ 2003 ,” KAERI/MR-411/2003, , 2004. 1.

4. , “ 2001 ,” ,
, 2001. 12. 27.

5. , “ 2002 ,” ,
, 2003. 1. 8.

6. “ 2003 ,” , ,
2004. 2. 16.

7. “ IMEF ,” .

8. “ ,” .

9. “ ,” .