



RMS alarm under IHA decontamination

2012. 9. 25

Korea Hydro & Nuclear Power
Shin-Kori Nuclear Power Plant



INTRODUCTION

**During the Operation,
Occurring the Radiation
Particle**

Appropriate Protection



Dose reduction

Protection from Internal Exposure



As Low As Reasonably Achievable



INTRODUCTION

Title : IHA Cleaning operation

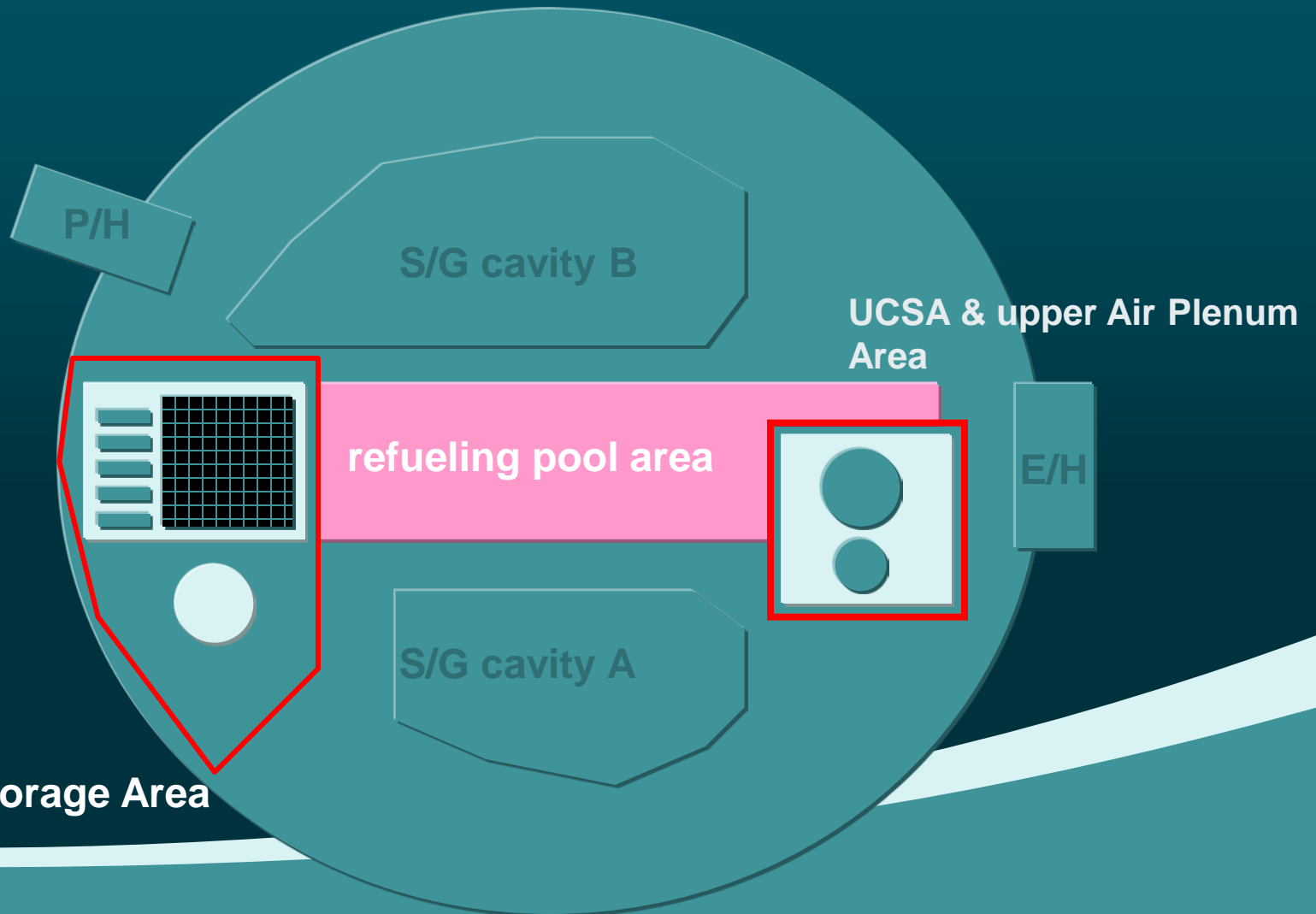
Period : 2012. 1. 26 ~ 2012. 1. 28

Purpose : Removal of the foreign substance attached to IHA

Operation personnel : 12person

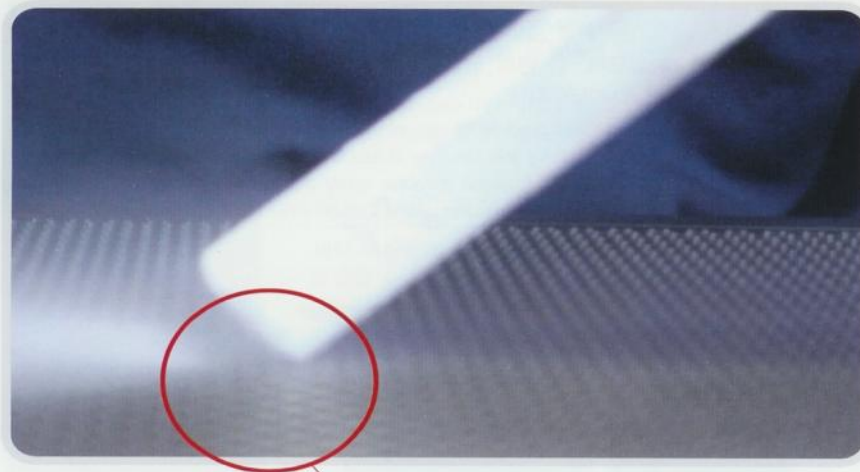


WORK PLACE




Dry Ice Cleaning Theory

드라이아이스 세척원리 Dry Ice Cleaning Theory





Dry Ice Features

1. **Sublimate Material**
 2. **Carbon Dioxide Created by Compressing and Cooling**
 3. **Liquefied At a Low Temperature**
 4. **Sublimation as to supply heat to the surround and foreign objects fall as expended**
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Work Procedure

1. Spray Drylce on the IHA
2. The operator wears a mask
3. Work environment
Spatial Dose = $5\mu\text{Sv/hr}$, No airborne particle
4. Work with the Radiation Safety Manager

Attached Boric acid

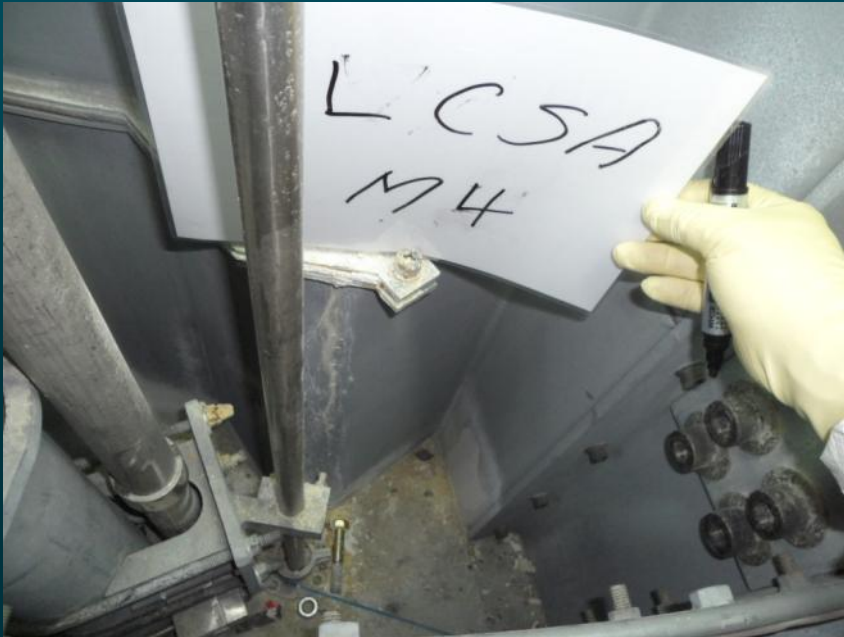


Cleaning of Boric acid



Cleaning internal IHA

LCSA Cleaning





Radiation Monitor Alarm

During the Dryice spray, Alarm occurs in the Radiation Monitoring System(RMS)

The alarm Caused by Radioactive particle

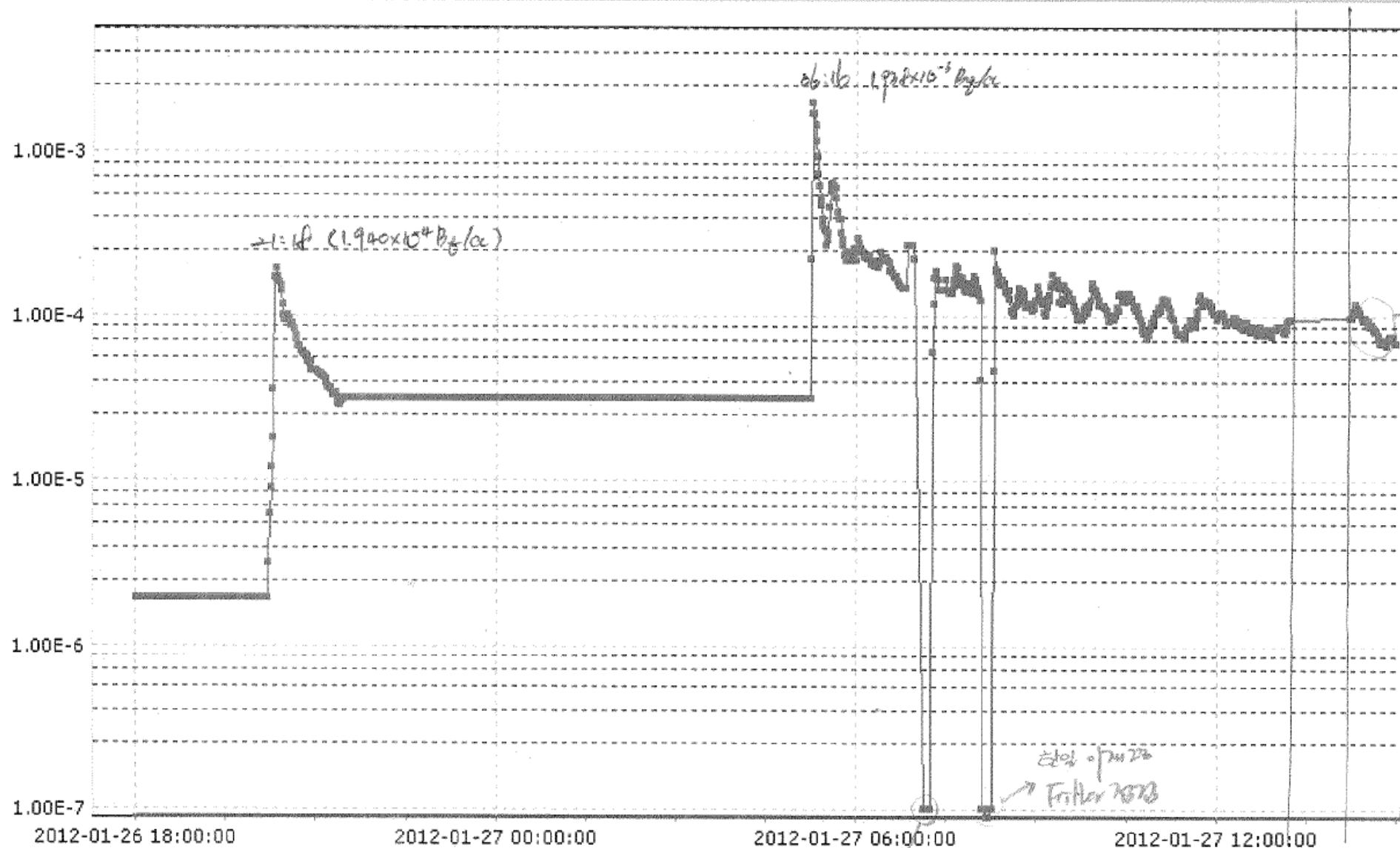
Radioactive Particles blow into the air with the dryice

Workers complete the decontamination, and leave the workplace

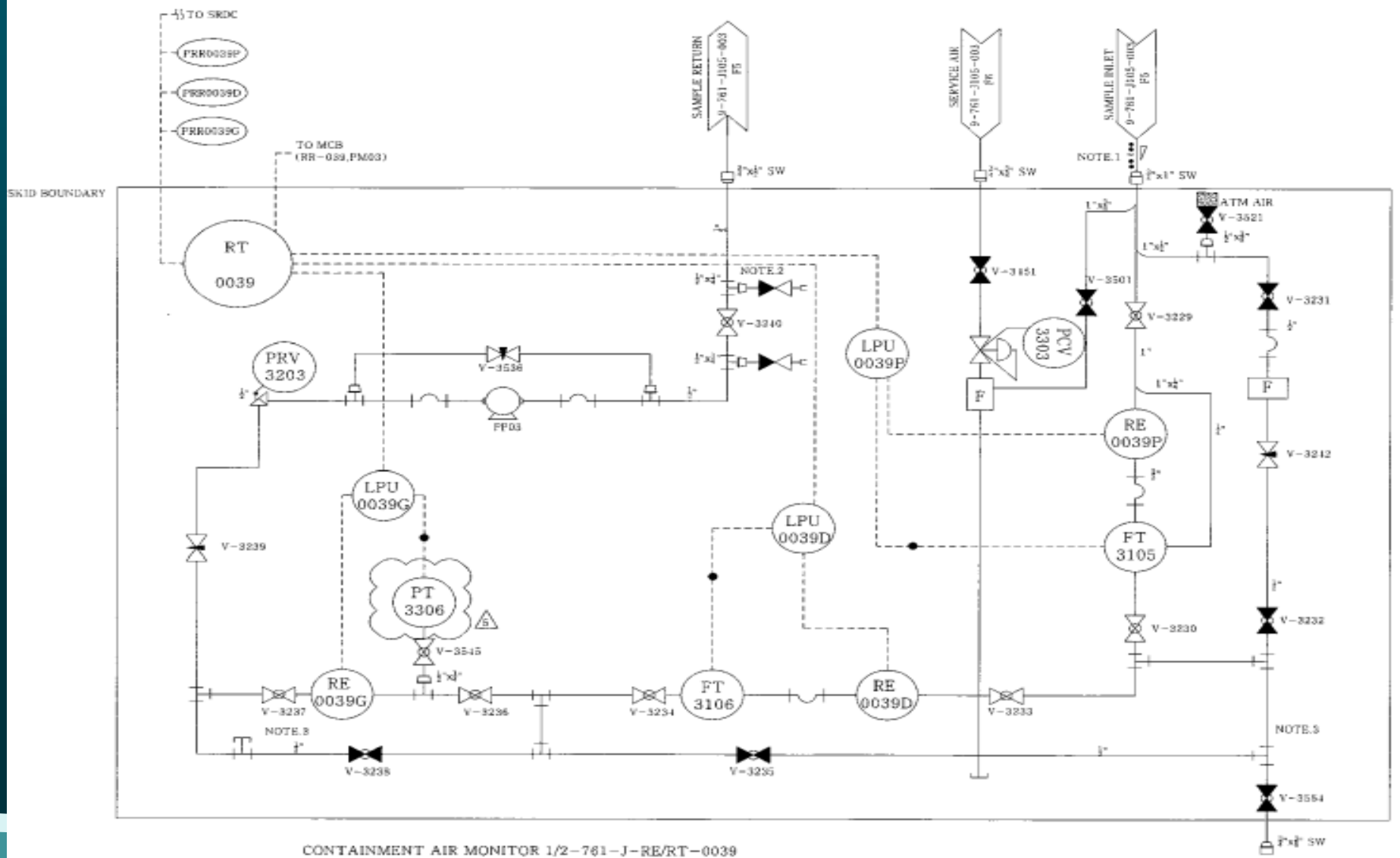
Airsampling is Performed, Checking Exposure



RMS Alert / High



RMS Line Drawing




Precaution





Precaution

1. Tent is installed in the workspace
 2. Workers are wearing a mask
 3. Discharged to the outside from inside the tent through the air ventillation
 4. More Clothes on the outside, In order to prevent additional contamination
- 



Results


1. Workers are not internal Exposure
2. Total External Dose = 0.9man-mSv(total : 10person)
This Dose is due to the spatial dose
3. IHA thoroughly cleaned
4. Radiation Monitoring System was normal operation

Comparison on decontamination Before work / After work





Conclusion

1. **Radioactive Particle Floats in the Air.
It causes Internal exposure.**
 2. **Maybe necessary Particles occurring in the workplace should not be entered into the human body**
 3. **IMA cleaning need something like the size of the tent because of the size and installed to perform the operation.**
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Thank You !