

## ***Chronological Sequence of Events updated on 18 June 2013***

### **23 May 2013**

- 11:55 Delivery of proton beam from 50 GeV synchrotron (MR) was halted by Machine Protection System (MPS).
- 12:08 MPS was reset following the regular resetting procedure after discussing with relevant people and delivery of proton beam for users' experiments was resumed.
- 13:30 Increase in radiation dose rate of an area monitor in the Hadron experimental hall (HD hall) was acknowledged. The maximum value of 4  $\mu\text{Sv/h}$  is ten-fold of the normal value.
- 14:26 MR beam operation was stopped, resulting gamma-ray dose rate stopped increasing and neutron monitor value decreased.
- 15:15 Ventilation fans were turned on. Further decrease in ambient dose rate was acknowledged at around 15:20.
- 15:30 Ventilation fans were turned off.
- 15:32 Beam extraction resumed for beam retuning.
- 16:00 Higher-than-normal radiation rate in the experimental hall (4-6  $\mu\text{Sv/h}$ ) was found using a survey meter. An increase in gamma-ray rate was also noted.
- 16:15 Beam operation was stopped.
- 17:00 Radiation survey of experimental hall found areas with high dose rate were localized.
- 17:20 An air sample was collected in the experimental hall for measurements.
- 17:30 Ventilation fans were turned on to reduce airborne radiation dose rate in the experimental hall.  
Evacuation of workers from the experimental hall began.
- 18:20 Surface contamination was confirmed through smear sampling from a floor and a desk in the HD hall.
- 19:00~20:00 Systematic measurements of radiation dose rate and surface contamination were carried out in experimental hall.
- 23:30 Completed evacuation and full-body radiation surveys of all workers in the radiation controlled area. Access to the HD Facility was restricted.

### **24 May 2013**

- 17:30 J-PARC Center received inquiry from Nuclear Fuel Engineering Laboratories concerning increased radiation levels recorded by their monitoring posts at around 15:00 and 17:30 the previous day (23 May).
- 18:00 Data logs of gamma-ray monitoring posts on the boundaries of the controlled area of the Hadron Experimental Facility were examined. Found increased radiation levels at around 15:00 and 17:30 on 23 May. Found that the increased dose rates coincide with the operation of ventilation fans in experimental hall.
- 21:10 Reported to an emergency post of the Nuclear Science Research Institute.

21:19 Nuclear Regulation Authority was contacted by telephone.

21:40 Ibaraki Prefecture was contacted by telephone.

21:43 Tokai Village was contacted by telephone.

22:40 As required by law, the first report to Nuclear Regulation Authority was transmitted by facsimile transmission.

22:40 As required under the terms of relevant agreements, the first report was faxed to Ibaraki Prefecture, Tokai Village and other authorities.

### **25 May 2013**

0:46 All J-PARC accelerators were suspended their operations.

01:00 Found out that the maximum total exposure dose of the workers in the HD hall was 1.7 mSv.

### **26 May 2013**

11:00 Stopped operation of ventilation fans.