Current Status of J-PARC Facilities

October, 2011

LINAC-1

・Repair work of inside the building has been completed, while that of exterior (e.g., plumbing) still continues.
・ACS (Annular Coupled Structure)-type acceleration cavity has been repaired and it is functioning.

Restoration Work in front of the Entrance

Repair Work of Partition Walls

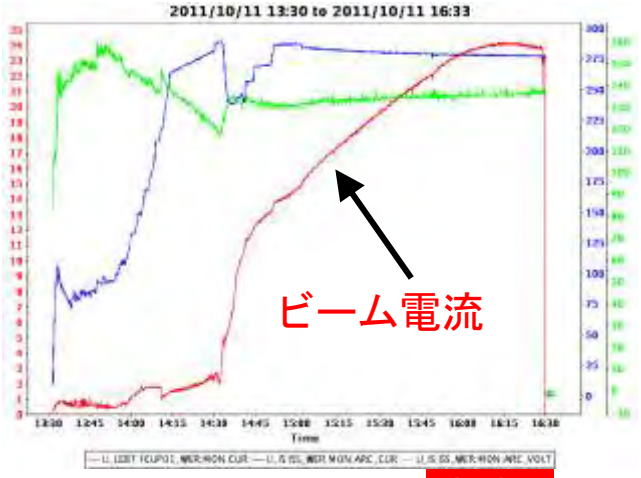
Replacement of Catch Pit, and Supply and Drain Pipes

Installation of ACS in Tunnel

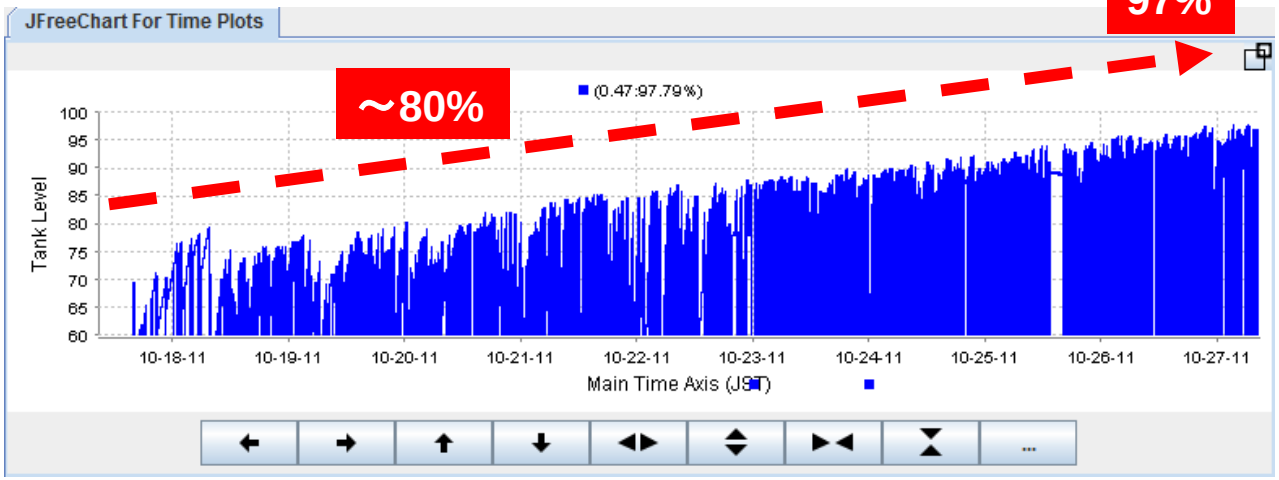
LINAC-2

・We have been conditioning the ion source since October 11. This is the **first proton beam** at J-PARC after the March earthquake.
・Alignment of ~200 L3BT electromagnets is continued, and 60% has been completed .
・Continuous running test of RFQ has been conducted since October 17.
・Leak check of newly installed monitors has been completed.
・Cooling water is supplied for 24 hours as usual.

Alignment of L3BT electromagnets



Ion source (above); The beam current reached to 24 mA within three hours (left).



←RQF test: The high voltage is increasing smoothly.

3 GeV Synchrotron (RCS)-1

Restoration work of RCS is going smoothly.

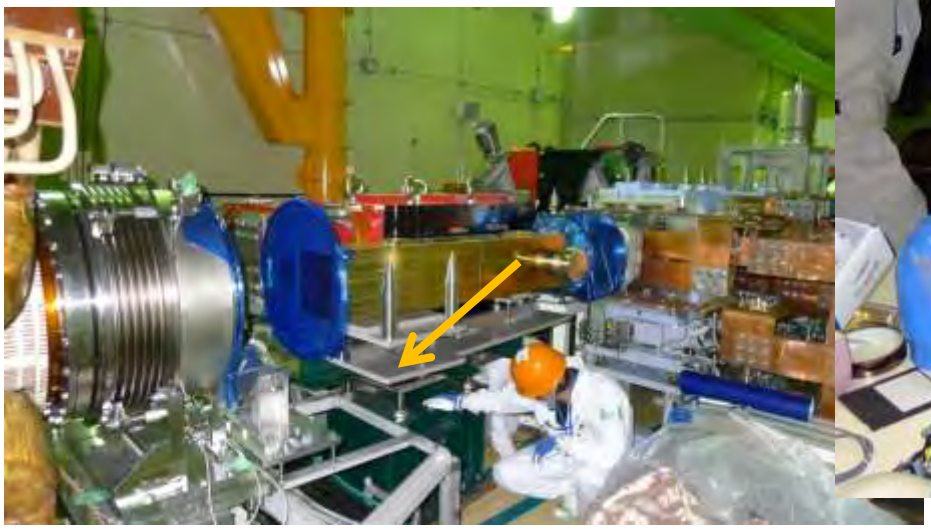
・Re-leveled transformers and condensers in the yard have been inspected and maintained.

・Inspection and maintenance of the vacuum system, high frequency cavities and monitor system have also been conducted.

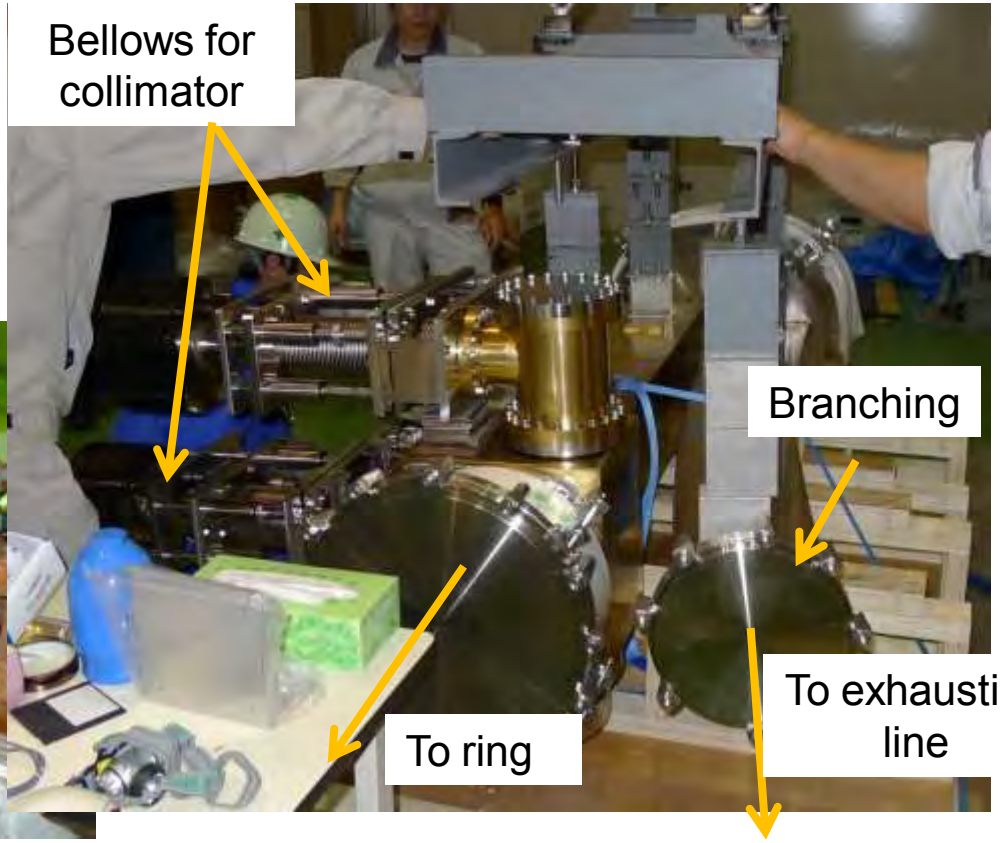
・Restoration work of the building and the yard has been almost completed.

・Conditioning of the cooling water system has started.

・A new collimator was installed at the injection part.



Installation of New Collimator



Installation of New Collimator

The collimator has been installed without breaking vacuum, and baked after the installation.

50 GeV Synchrotron (MR)-1

Restoration work at MR is progressing as we planned.

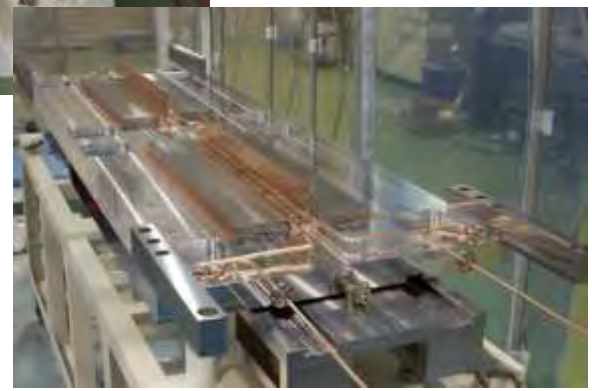
・Realignment of ~400 electromagnets was completed at the end of October.

・We are realigning beam input and output apparatuses and monitors, and connecting vacuum pipes.

・Plumbing for RF cooling water in a sub-tunnel was completed, and we are testing the cooling water system now.

・We completed to increase the acceptable beam capacity of the collimator and to set new wall-type shields in this area.

・A new injection-kicker electromagnet is being set up at KEK in Tsukuba.



Vacuum chamber of the new injection-kicker magnet (above); Mount for the new magnet (right)

New absorbers and wall-type shields in ring-collimator area

Materials and Life Science Experimental Facility (MLF)-1

・Restoration work of damaged exterior facilities, such as roads, helium tanks and piping system, was completed.
・Repair work and construction for the buildings were completed.

Piping system around the building was heavily damaged.

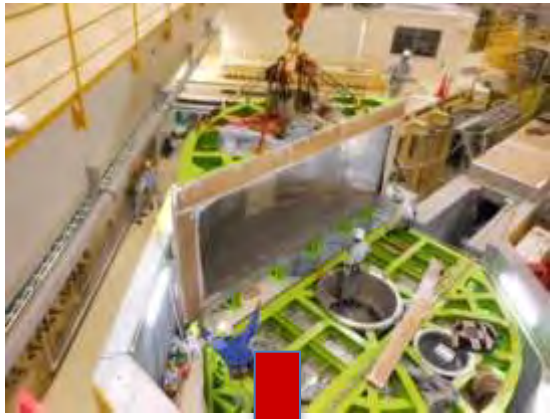
Restoration work of an expansion joint in 3NBT tunnel was completed.

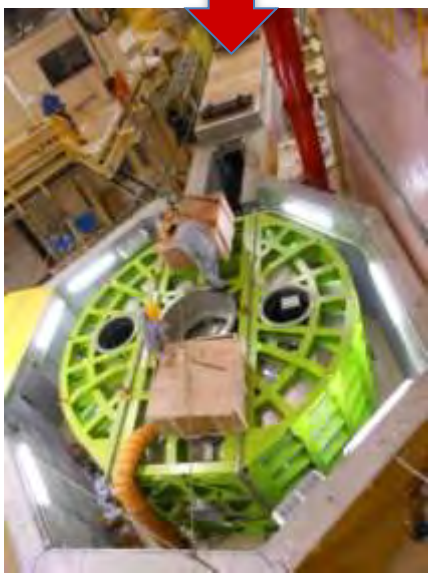
Tilted liquid He tanks were straightened. The surrounding road was also restored.

Materials and Life Science Experimental Facility (MLF)-2

Restoration work goes as scheduled.

- Sank western extension building was jacked up and leveled to the main building. Markers were re-set.
- Re-installation of shielding blocks and construction of new beam lines in experimental halls are progressing smoothly.





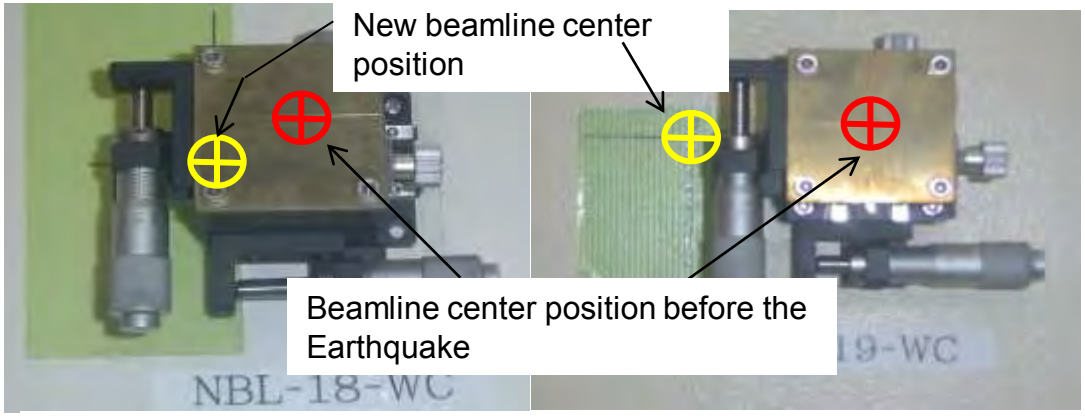
Bringing in a large-scale vacuum scattering chamber for DNA (BL02)

XY stage of BL18 wall

Measurement and marking in the western extension building →

← Re-installation of shielding block (BL17)

XY stage of BL19 wall



Beam center displaced more than 30 mm depending on a place of the western extension building. New plates were installed.

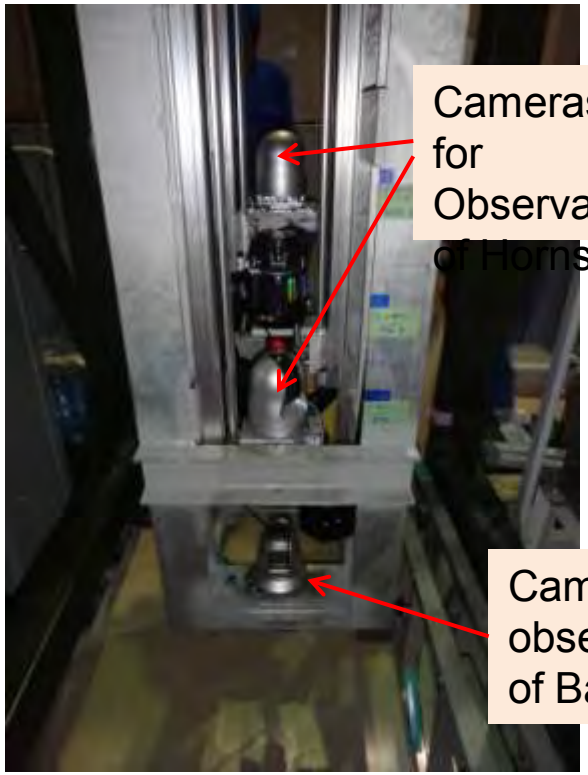
Neutrino Experimental Facility

Restoration work goes smoothly as scheduled.

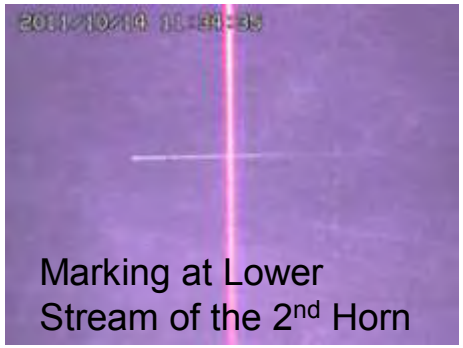
・Repair work of exterior wall and sank roads was almost completed. Remaining work should be finished in December.

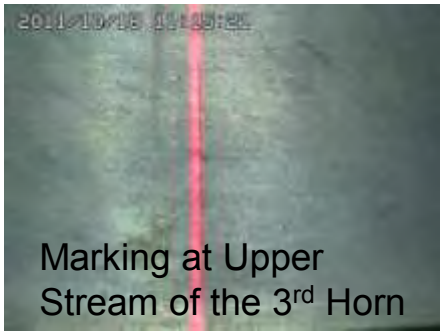
・ Electric and Superconducting magnets have been tested and conditioned since October.

・ There was no significant displacement at the target station.



We put a measuring device in a helium tank between 2nd and 3rd horns to label horn position.





Displacement of Horns (mm)
2nd Horn：0.0±0.3、3rd Horn： 0.3±0.3
（No displacement）

Displacement at lower stream of 1st horn is <1 mm.

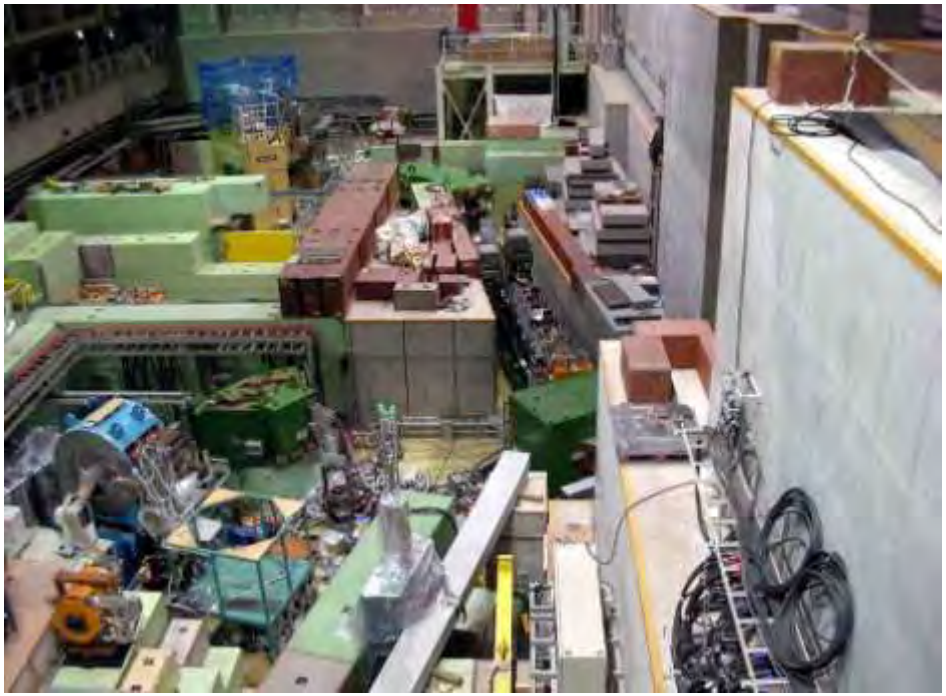
Hadron Experimental Facility

Restoration work is progressing as scheduled.

・Almost all recovery work of damages around building was completed.

・Alignment and other recovery work in the experimental hall go smoothly. Re-installation of shielding blocks continues.

Restoration work near cylinder stands was completed.



Hadron Experimental Hall (North)

↑ Started to repair distortion in the cooling water piping system

Summary

- Restoration work has been progressing smoothly as scheduled.
- The soundness of all equipment/instruments/devices is carefully checked through various different tests.
- We have started to adjust work schedule of each section to resume beam in December, and to reopen J-PARC to the public in January.

J-PARC Recovery Schedule （@2011.5.20）