

DEMO R&D Activity

Radioisotope Usage has been licensed

On July 7, the “Tanabata” day (the Festival of Weave Star and the Cowherd Star), the permission of radioisotope (RI) usage in the DEMO R&D Building at the Rokkasho BA site was given to JAEA by the Japanese Government. We are now going to start the upgraded R&D work by effectively using radioactive materials including tritium, as well as using beryllium. The research subjects at present are: 1) SiC/SiC composites, 2) Tritium technology, 3) Materials engineering for blanket, in particular, development of reduced activation ferritic/martensitic (RAFM) steel, 4) Advanced neutron multiplier for blanket and 5) Advanced tritium breeders for blanket.

Main steps so far on the preparation of this DEMO R&D facility and equipment at Rokkasho were as follows.

March 2010: Completion of the DEMO R&D Building

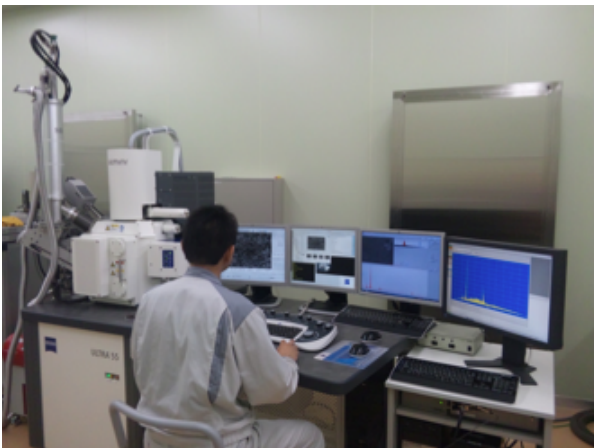
Autumn 2010 to Spring 2011: Moving of many researchers to Rokkasho

Spring 2011: Completion of procurement and installation of main equipment in radioactive and non-radioactive rooms including the Beryllium Handling Room.

Most attractive features of this facility would be:

- 1) Capability of integrated R&Ds for fusion blanket materials of RAFM, SiC/SiC composites, tritium breeder and neutron multiplier, as well as for tritium engineering.
- 2) High-level experimental devices, such as FE-SEM (field emission scanning electron microscope) with high-resolution EDS (energy dispersive X-ray spectrometer), and FE-TEM (transmission electron microscope), for microstructure studies of metallic and ceramic materials, including irradiated small specimens with radioactivity.
- 3) the Beryllium Handling Room for a wide variety of fabrication and characterization R&Ds, which is very few in the world.
- 4) devoted researchers with a long-term scope of fusion material/engineering development.

Collaborative research within the BA framework is highly expected and heartily welcomed.



FE-SEM installed in the Microstructure Analysis Room of the DEMO R&D Building.



Melting (left) and sintering (right) devices installed in the Beryllium Handling Room.