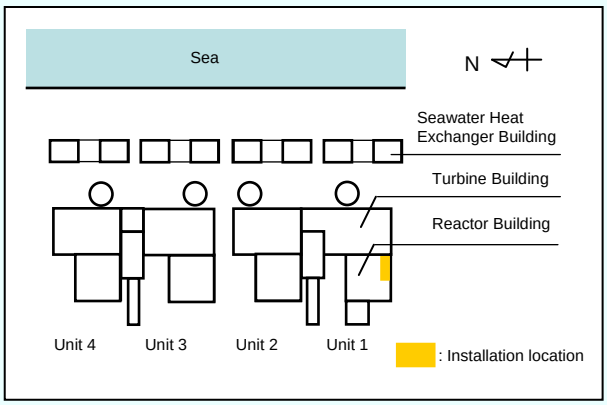
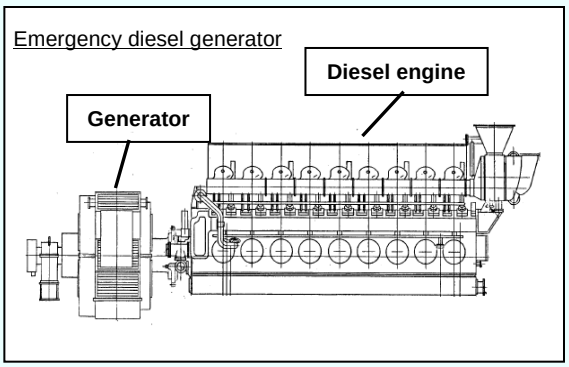
Installation of the emergency diesel generator (A) in Unit 1 Reactor Building Annex (August 31)

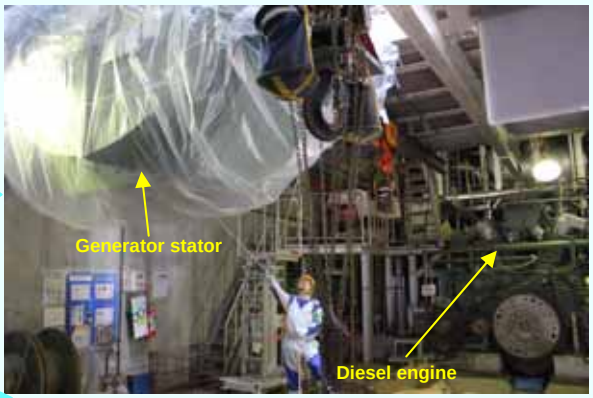
As for the emergency diesel generator (A) in Unit 1 Reactor Building Annex which was damaged by the Tsunami, the control panel was removed on August 2. The generators* newly manufactured and repaired were installed on August 31.
* Generator is comprised of rotor winding (rotates utilizing the power provided by the diesel engine) which generates a magnetic field necessary for power generation and stator winding through which the generated power goes through.
Generator rotor: Rotates utilizing the power provided by the diesel engine. Generates a magnetic field by the excitation current applied through the rotor (rotating magnetic field).
Generator stator: Coil fixed around the generator rotor. Generates power utilizing the rotating magnetic field generated by the rotor.



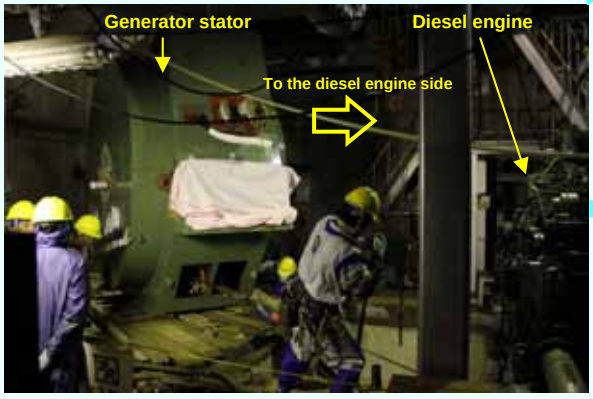


Carrying in and installing generator stator

1. Generator stator being lifted up by a crane car (Photo taken on August 7, 2012)



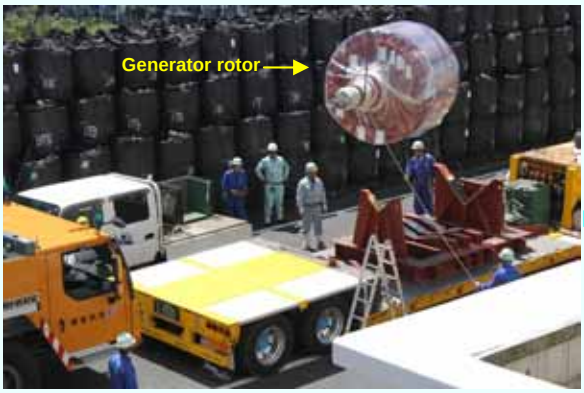
2. Generator stator being lifted down into the building (Photo taken on August 7, 2012)



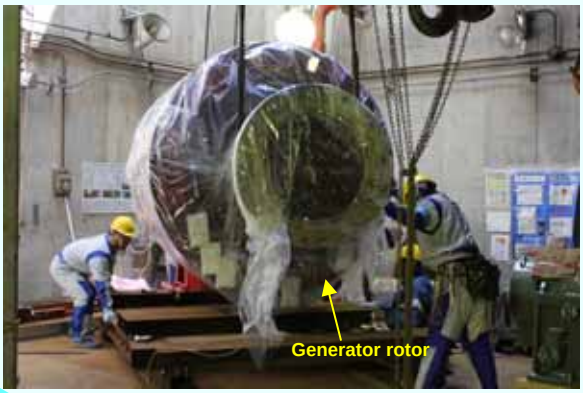
3. Generator stator being moved (Photo taken on August 8, 2012)

4. Generator stator being installed (Photo taken on August 8, 2012)

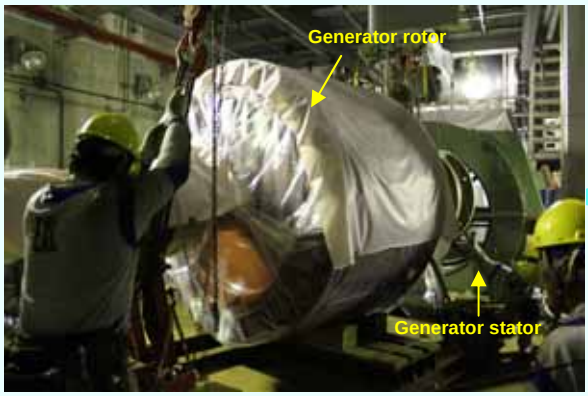
Carrying in and installing generator rotor



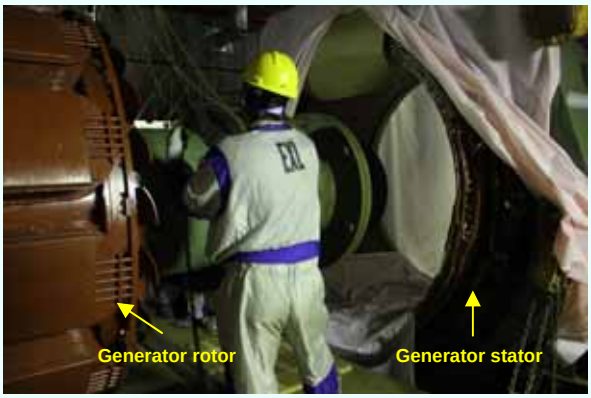
1. Generator rotor being lifted up by a crane car (Photo taken on August 20, 2012)



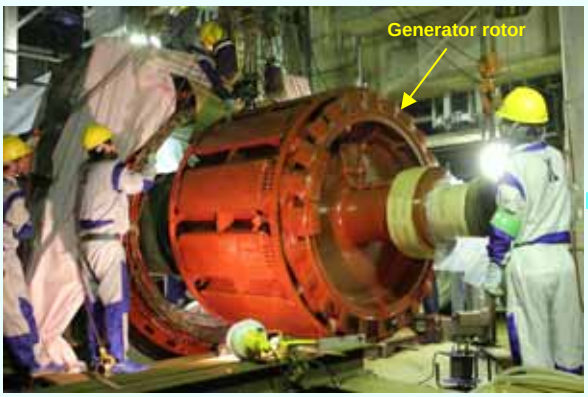
2. Generator rotor being lifted down into the building (Photo taken on August 20, 2012)



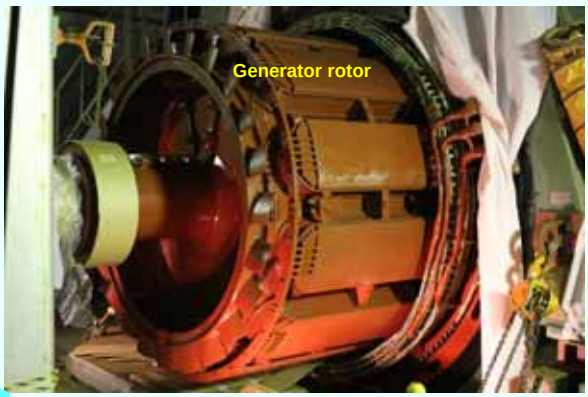
3. Generator rotor being moved (Photo taken on August 21, 2012)



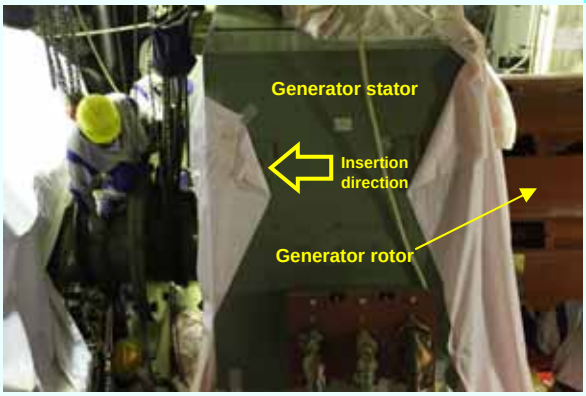
4. Generator rotor being inserted into the generator stator (Photo taken on August 22, 2012)



5. Generator rotor being inserted into the generator stator (Photo taken on August 22, 2012)



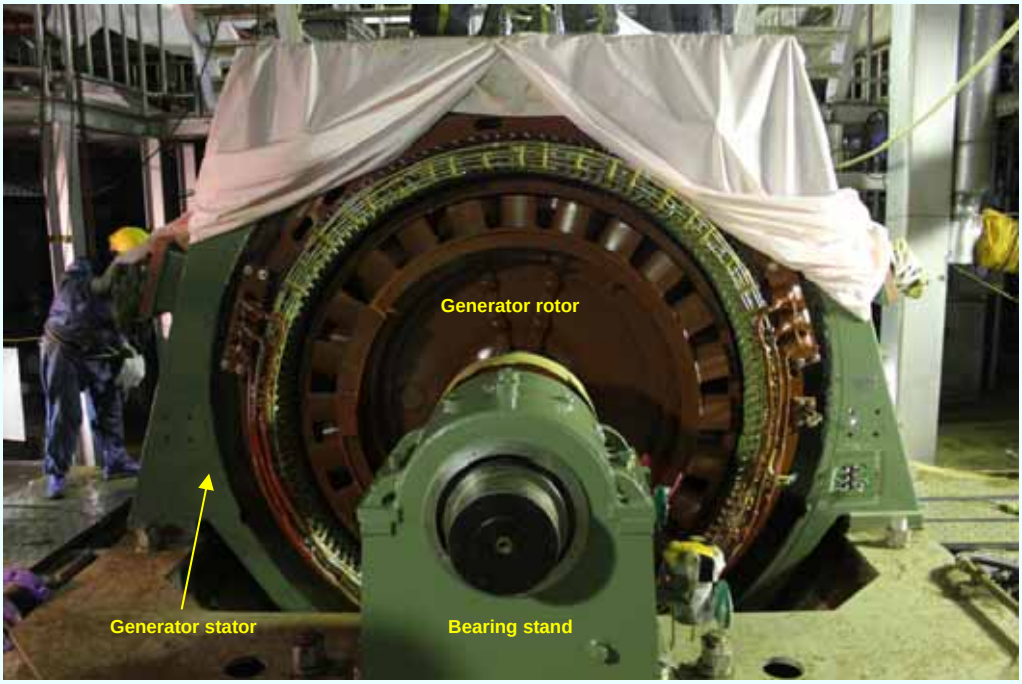
6. Generator rotor being inserted into the generator stator (Photo taken on August 22, 2012)



7. Generator rotor being inserted into the generator stator (From above) (Photo taken on August 22, 2012)

8. Generator rotor being inserted into the generator stator (Photo taken on August 22, 2012)

Generator installation completed



Generator installation completed on August 31, 2012 (Photo taken on August 31, 2012)

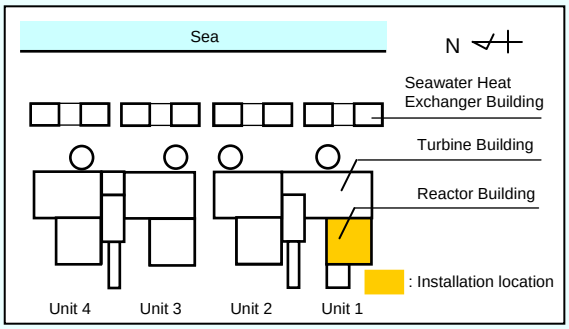
(Reference) Conditions of emergency diesel generators right after the Tsunami and the current conditions

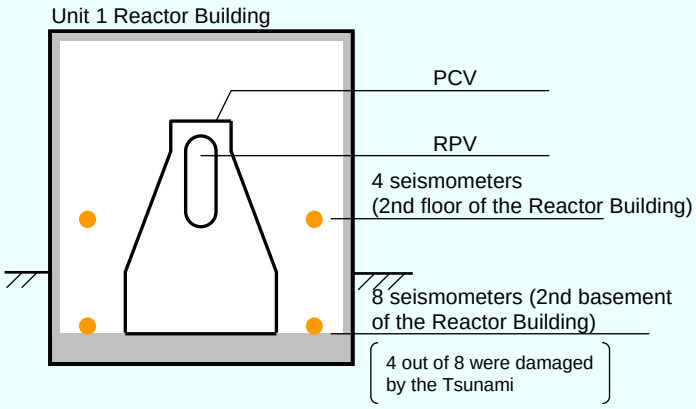
		Unit 1		Unit 2		Unit 3		Unit 4	
Equipment	System	Right after the Tsunami	As of the end of August 2012	Right after the Tsunami	As of the end of August 2012	Right after the Tsunami	As of the end of August 2012	Right after the Tsunami	As of the end of August 2012
Emergency diesel generator	A	Unavailable	Unavailable	Unavailable	OK Recovered on Aug 8, 2011	Unavailable	OK Recovered on Aug 31, 2011	Unavailable	OK Recovered on Aug 3, 2011
	B	Unavailable	OK Recovered on Jul 15, 2011	Unavailable	OK Recovered on Mar 14, 2011	OK	OK	Unavailable	OK Recovered on Mar 14, 2011
	C	Unavailable	Unavailable	Unavailable	Unavailable	OK	OK	OK	OK

Permanent installation of seismometers in Unit 1 Reactor Building (August 6)

All the seismometers in Unit 1 Reactor Building (12 including 4 damaged by the Tsunami) newly manufactured by June 13 have been permanently installed after a function check was completed on August 6.

- The seismometers send a scram (to quickly insert the control rods in the case of emergency reactor shutdown) signal when a large earthquake occurs during operation. The seismometers functioned as designed when the Tohoku-Chihou-Taiheiyou-Oki Earthquake occurred, and Units 1-4 were automatically stopped.
- The seismometers were installed on the second floor and the second basement of Unit 1-4 Reactor Buildings. 4 out of 8 seismometers installed in the second basement of Unit 1 Reactor Building were damaged by the Tsunami, while those installed in Unit 2-4 were not.



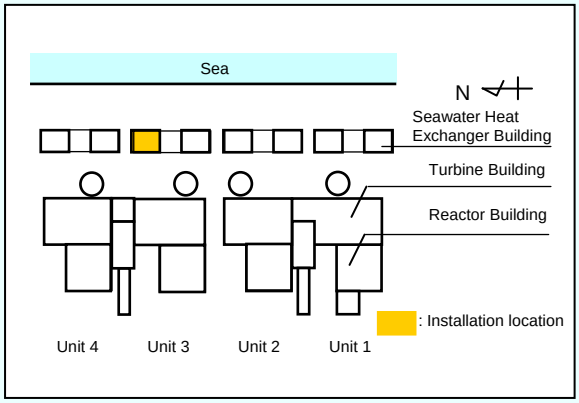


Function check (Second basement of Unit 1 Reactor Building)
(Photo taken on July 25, 2012)

A weight was placed on the seismometers to check for their proper operation.

Permanent installation of power panel (P/C 3C-2) in Unit 3 Seawater Heat Exchanger Building (August 27)

As for the power panel (P/C 3C-2) in Unit 3 Seawater Heat Exchanger Building which was damaged by the Tsunami, a new power panel was manufactured and installed on January 27. The power panel was permanently installed after a function check was performed on August 27.



Function check (Photo taken on August 27, 2012)