(Attachment)

Outline of the reactor building covering plan of Unit 1 at Fukushima Daiichi Nuclear Power Station

1. The purpose of cover for the reactor building

A cover for a reactor building is installed for the purpose of preventing diffusion of radioactive materials (radioactive materials discharged from the reactor, water vapor from spent fuel pool, rubbles and dust with radioactive materials, etc) and shutting off rain water into the reactor building. Therefore, we are planning to cover the damaged reactor building with highly airtight material.

The installment of the cover is a temporary emergency measure until a midterm measure is initiated. Under a severe working environment, we are planning to install the cover as early as possible.

2. Summary of the structure

The cover has a steel frame structure, where four pillars are built around the reactor building, with beams connecting the four pillars. Roof panels and wall panels are fitted with film materials made of vinyl chloride resin coating and polyester fiber fabric which prevents diffusion, and these panels cover the whole reactor building.

Dimension of the cover structure is approx. 47m (North-South direction) x approx. 42m (East-West direction), and approx. 54m of height.

The design of the cover for the reactor building confirms the safety of the cover against designed earthquake and wind. Furthermore, we have confirmed that it will not largely affect the reactor building inside even if earthquakes and wind beyond the design occurs.

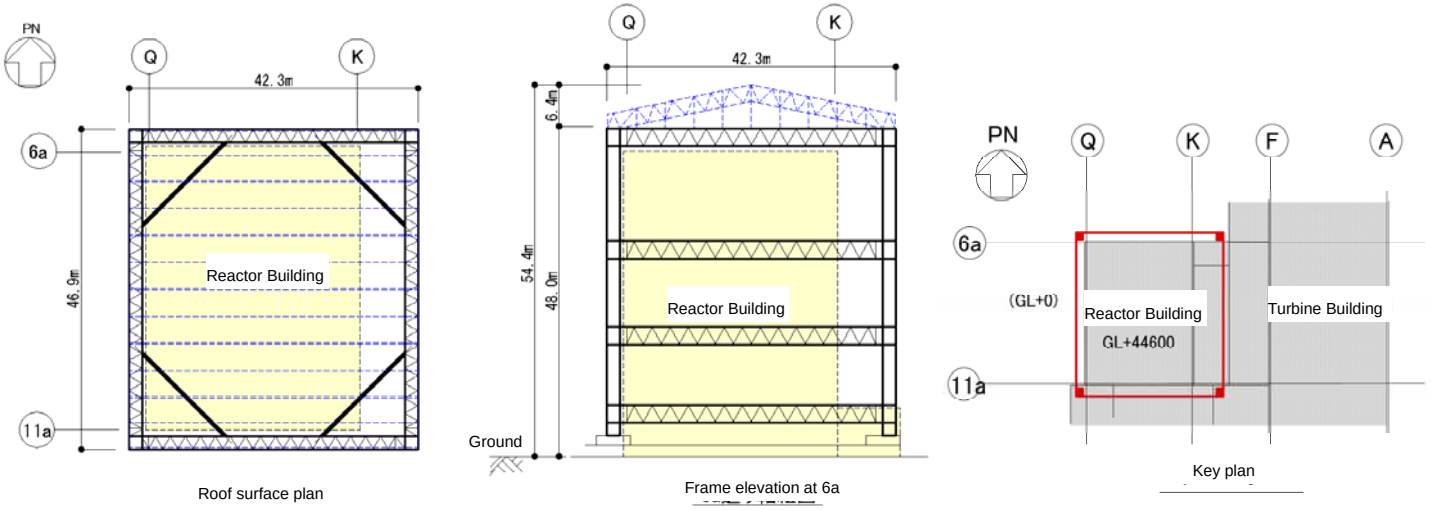


Fig. 2 Design overview of the cover for the reactor building of Unit 1

3．Installment technology

In order to reduce the exposure dose as well as shorten the construction period, we will use the following installment technology so that we could minimize workers' access to the reactor building.

① Large scale units

Steel frame beam (40m), filmed panels for walls (approx. 20m), and filmed panels for the roof (approx. 40m) are assembled into large modules. Large modules will be put together in the site using crawler cranes, with its capable load the largest class in the country (750t).

Assembly of large modules will be carried out at Onahama port outside the site, and they will be carried to the site by ship. By this way, we will reduce the work load within the Power Station site and around the reactor building as much as possible.

② Connection parts of steel frame filmed panels

In regard with connection parts of steel frame filmed panels of pillars and beams, we have developed new connection parts from the idea of traditional fitting connection used in wooden constructions (Ref. Fig. 3). This enables installment of steel frames and filmed panels without workers going close to the assembling area.

③ Measuring / control technology

In order to enable remote installment, we will use the latest technology such as systems to control lifted materials from rotating and detach rigging equipment by wireless signals, 3D laser scanning of the turbine building areas, real-time measurement and control of locations of materials in assembly process.

In order to ensure the installment using each of these technologies, we are undergoing tentative assembly at Onahama port (Tentative assembly Photo 1), installment simulations using model used for examining installation (Photo 2), and 3D CG (Fig. 4).

Photo 1　Tentative assembly of reactor building's cover unit by crawler crane (Onahama port)

Photo 2　Model used for examining installation of cover for the reactor building of Unit 1

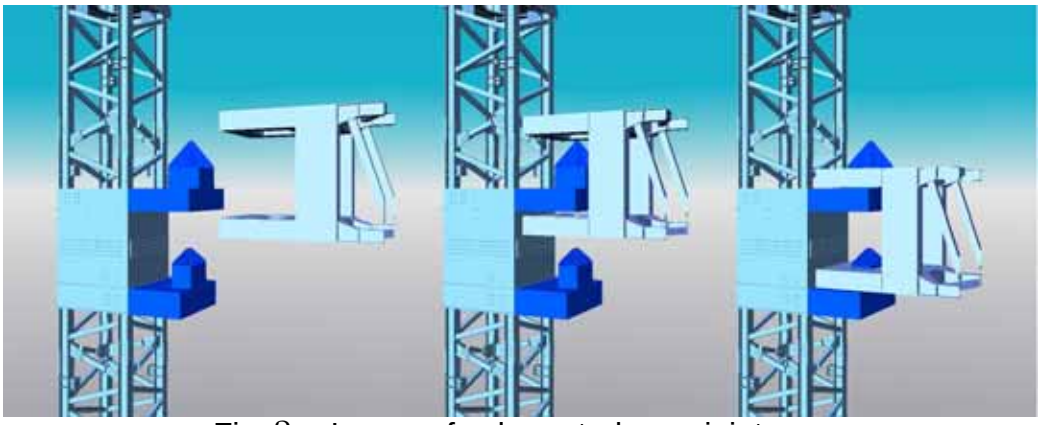
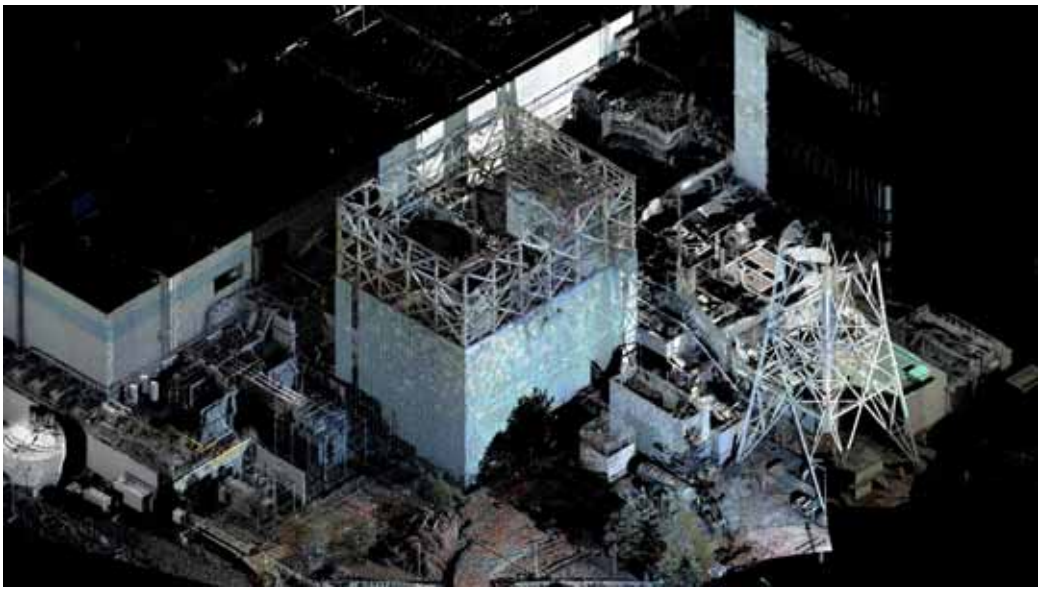
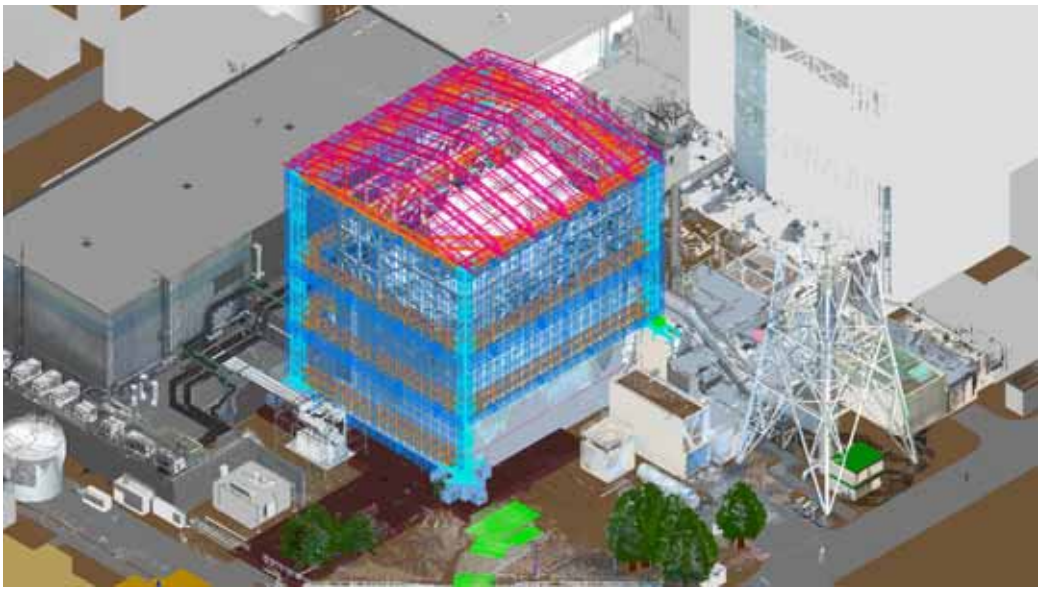


Fig. 3　Image of column-to-beam joint



（a）Point group data composited by 3D laser scan（40 million points）



（b）Composite image of polygon data converted from point group and 3D building　CAD data.

Fig. 4　Composite image of laser scanned data and building data