Fukushima daiichi nuclear disaster essay sample

Environment, Water

Japan’s immediate response to correct the impact of the accident

In March 11, 2011 Japan experienced one of the biggest, most catastrophic natural disaster. This refers to the tsunami that was triggered by the 9. 0 magnitude Earthquake that hit the country at 2: 49pm, JST. The impact of the tsunami and earthquake resulted to over 15, 889 casualties (National Police Agency of Japan, 2013) and US$500 billion worth of economic loss (American Nuclear Society, 2012). Among the biggest impact of the calamity involved the destruction of the Fukushima Daiichi Nuclear Disaster that resulted to the release of radioactive materials into the waters and grounds of Japan. In addition, a 10 to 30% radiation exposure was documented by the Frank von Hippel in his paper published in 2011 (von Hippel, 2011). Japan immediately launch corrective measures to address the effects of the accident. Included to Japan’s risk management plan was building chemical underground walls to lessen the leaks (The Associated Press, 2013). The plant also had to build hundreds of tanks that could accommodate the contaminated water originating from the three reactors that melted because of the accident. TEPCO has also stepped in to prevent the problem from escalating further. It launched a clean-up drive whose intention is primarily to control the further worsening of the negative effect of the leak. Enumerate in TEPCO’s cleanup plan (American Nuclear Society, 2012, p. 18) includes:

- Treating the contaminated water and filters and equipment wastes.
- Construction of storage and disposal facilities that could house the secondary wastes, and contaminated vegetation soils and debris
- Decontamination that would facilitate for the reinforcement of the

weakened structure

- Installation of management system related to gas and cooling system

- Installation of new containment structure and equipment related to handling materials

There had been evidence of leakage of radioactive materials to the soil, air and water because of the Fukushima Daiichi Nuclear Power plant Accident. Radioactive isotopes were released after three reactor containment vessels were destroyed because of the accident. Those who were within the 20 meter perimeter of the plant are predicted to have a 70% risk of developing certain types of cancers like thyroid cancer, breast cancer and leukemia . This was from a study conducted by no less than the World Health Organization. This is the effect of the air contamination caused by the radioactive isotopes released to the air when the reactor vessel was compromised.

The soils were also found to have been contaminated with Caesium-134, Caesium-137, Plutonium, radioactive strontium-89 and strontium-90. As a result agricultural products had been contaminated and the soils may not be used for farming until the grounds had been cleared of these dangerous element can could cause physical and mental side effects if consumed by man and animals. As a result, the Japanese government had imposed restrictions on a number of consumables in April 25, 2011 .

In an analysis conducted by Stanford University Professor Mark Z. Jacobson, approximately 81% of the radioactive emission were released and deposited to the ocean than it is to the grounds and the air . Naturally, the sea creatures are greatly affected by the contamination causing significant

damage. In addition, there were scientific studies that the presence of iodine-131 and caesium-137 found in the waters of Japan as determined by the Japan Agency for Marine-Earth Science and Technology in March 22-23 of 2013 suggests to leave health implications including damages to the DNA structure of an individual. There had also been causalities documented due to the evacuation conducted by the government as one resulting from stress and fatigue .

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