# Analysis of reasons for banning nuclear power

Nuclear Power Should Be Stopped In Japan

Electricity is necessary for life. Most items need electricity. There are many kinds of natural resources, such as oil, coal, and fossil fuels in the world. However, there is a limit on consuming these resources. Electricity also can be produced by many methods, such as thermal power, wind power, solar power, geothermal electric power, and hydroelectric power. Each country uses different methods to get electricity. Some countries focus on cost. Other countries focus on carbon emission or damage to humans when accidents happen. In Japan, many methods are being used. There are seventeen nuclear power plants and these are helpful to generate electricity because nuclear power can produce huge amounts of electricity at once. However, nuclear power also has disadvantages. When the Tohoku earthquake occurred on March 11 2011, Fukushima Daiichi Nuclear Power Plant in Japan was broken. Thus, people who live in Japan had a limit of spending electricity. Nuclear power plants should be stopped in Japan because it creates the possibility of radioactive accidents, gives humans cancer, and pollutes air, soil, and water.

The main reason for nuclear power plants to be banned in Japan is that nuclear power creates the possibility of radioactive accidents. On March 11 2011, the Tohoku earthquake and tsunami happened. Fukushima Daiichi Nuclear Power Plant in Japan was broken by this earthquake. Even workers who work at the Tokyo Electric Power Company could not control nuclear power plants at that time. This accident was managed by Nuclear Regulatory Commission. They wrote a document which listed the Fukushima Daiichi Nuclear Power Plant as one of the most trouble-prone nuclear facilities in

Japan. (Wang and Chen 2611) This shows that nuclear power plants create the possibility of radioactive accidents, and gives people fear. Therefore, this is terrible to use for electricity.

Even now, many people who live around Fukushima Daiichi Nuclear Power Plant cannot go back to their town. There are more than 90, 000 residents, who were evacuated from areas surrounding the Fukushima Daiichi Nuclear Power Plant. (Cuttler 1) “ The total amount of released radionuclides has been estimated to be 520 PBq (excluding noble gases); for releases of 137Cs, estimations are about 12 PBq, which is about 15% of that released at Chernobyl.” (Higaki et al. 1) Radionuclides which were released from Fukushima Daiichi Nuclear Power Plant were spread out from Fukushima to Kanto area. Air, soil, and water were polluted directly. Although 15% of that released at Chernobyl, radioactivity which was released by nuclear power plants was higher percentage than average. “ Availability of cooling water has been one of the major issues in the selection of nuclear power plant sites.”(Zhao et al. 41)When a radioactive accident happened in Japan, sea water was used for cooling down.[1]The water which was used for cooling down was contaminated and leaked. As a result, vegetables, fish, and livestock were polluted indirectly by contaminated soil and water. This shows that radioactivity can spread out quickly. “ After the Fukushima nuclear accident from the 17th March 2011 to the 31st March 2012 the Japanese Ministry of Health, Labour and Welfare set a provisional regulatory value of 500 Bq/kg (fresh weight basis) for radiocesium (134Cs and 137Cs) in vegetables and crops.”(Higaki et al. 1) Prefectural government and the Ministry of Health, Labour and welfare serveied food safety and reported. “

Products including spinach, mushrooms, bamboo shoots, tea, milk, plumes, and fish have been found to be contaminated with cesium and iodine as far as 360 km from Fukushima Nuclear Power Plant.” (Zheng, Tagami, and Uchida. 1-2) However, food which is made in near Fukushima and did not find radioactivity was criticized. For example, the north part of Japan is a great place to grow rice, yet rice was not bought because rice might be contaminated. Thus, this accident gave farmers who live in the north part of Japan economic damage. Possibly, if people eat food which contains radioactivity, they are exposed to radiation.

Likewise, humans were contaminated. Many people were killed by not only an earthquake but also radiation exposure. Humans absorbed radioactivity both directly and indirectly from air, soil, and food. Radioactivity causes cancer, such as leukemia. On August 6 1945, an atomic bomb was dropped in Hiroshima. This bomb also gave humans radiation exposure. This tragedy happened 70 years ago. Nonetheless, many people who experienced this tragedy was dropped is suffering from radiation exposure. “ When most or all of the human body is exposed to a single dose of more than 1 Gy of radiation, acute radiation sickness can occur” (Christodouleas et al. 2337) This means that even a small amount of radioactivity can give humans radiation sickness. Clinicians have been interested in x-ray exposure during pregnancy since the 1950s, and they reported an approximately 40% increase in the risk forms of radiation, for instance CT scan, fluoroscopy, or mammography. (Smits and Dolores 441) Radioactivity is used for diagnosis at hospitals. The radioactivity which is used at hospitals should be safe. Nevertheless, even at hospitals, radioactivity can be dangerous. If pregnant

mothers are examined by CT scans, fluoroscopy, or mammography, unborn babies may get trouble. For these reasons, radioactivity is dangerous and harmful for health.

On the other hand, some people prefer to use nuclear power plants because they are ecofriendly. “ World Nuclear Association and International Atomic Energy Agency (IAEA), contend that nuclear power is a sustainable energy source that reduces carbon emissions.” (Bhasin and Aparna 1) Thermal power plants release carbon dioxide instead of radioactivity. This mean nuclear power plants can help to prevent global warming. “ Energy installations, especially thermal power plants that use coal as a fuel, can influence the environment, sometimes leading even to ecological balance damage within areas where they are located, so that the energy field be considered as the main pollution source.” (Costel 1) If carbon emissions are focused, nuclear power plants are better than thermal power plants. “ A large number of studies have illustrated the public concern about the adverse effects of mobile phone radiation and possible health hazards.” (Marica, Luinica and Luminita 561) Not only nuclear power plants, but also some electricity, such as cell phones release radioactivity. “ Human populations have always been exposed to ionizing radiation from natural sources.” (Pehlivanglu and Kilincarslan 275) This means that there is radioactivity in the air already before why radiation accidents.

In addition, radioactivity is used for medication, such as CT scans, and radiotherapy. Radioactivity causes cancer, whereas it is also effective to cure cancer. “ The report, released by the UN Scientific Committee on the Effects of Atomic Radiation (UNSCEAR) warns that the damage caused by stress and

worry over radiation will likely cause much more damage than the radiation itself.”(ASIA 1) The Majority of people think that cancer risk was increased by radioactivity. However, some people think the reason cancer risks increased is not only radioactivity. People who live in Fukushima were under stress because people could not get exact information. When the earthquake happened, media, internet, phone services, and transportations were confusing. Cancer risk was increased by not only radioactivity, but also stress.

Nuclear power plants can be hazardous weapons. “ Fukushima is an eerie replay of the denial and controversy that began with the atomic bombings of Hiroshima and Nagasaki.” (Perrow 56) Japan is only one country that suffered an atomic bomb attack. Accordingly, Japanese people tend to already know how much radioactivity is dangerous. They also notice that they cannot control nuclear power plants if radioactive accidents were to happened. “ The nuclear disaster in the Japan nuclear power plant Fukushima Daiichi has reminded the importance of proofed and reliable systems used in the active or passive mode for application in case of serious nuclear accident”. (Maar and 81) The radioactive accident that happened in Fukushima warned that nuclear power plants creates the possibility of radioactive accidents.

Nuclear power plants can be ecofriendly because carbon emission is low. Nuclear power plants produced 13% of all electricity in the world in 2008. (Islam and Ahiduzzaman 26) In Japanese case, 30% of electricity was produced by nuclear power plants before happening the earthquake. (Wohns 5) Most electricity is being made by other ways in the world. However, Japan count on nuclear plants. Japan can get technology from other countries.

Furthermore, Japan can use alternative energy. Alternative energy is energy generated in ways that do not deplete natural resources or harm the environment, especially by avoiding the use of fossil fuels and nuclear power. (Oxfordd[2]ictionary) Examples of alternative energy are solar energy, biomass energy, wind energy, and geothermal energy. In Japan, solar energy has been becoming common. Solar panels are attached on each house roof. Solar power plants release 40 g/kWh and nuclear power plants release 30 g/kWh. (Murphy and David 522) These two amounts are lower than other power plants. One of benefits of solar power plants is that if electricity which is made by solar power plants so not use everything, the electricity can sale to power company in Japan. In my case, my house has solar panels on roof. The panels can produce electricity for whole my house. Moreover, a few of electricity can sale to power company, so my house does not buy electricity from power company. Solar power plants can replace with nuclear power plants.

Some people said that cancer was caused by not only radioactivity but also stress. This opinion could be true. However, after leaking out radioactivity by accidents, such as Chernobyl, Hiroshima, Nagasaki, and Fukushima, cancer rate was increased. “ In the Ukraine, children were born with deformities and developed cancer; today, most children therestill[3]develop leukemia at an early age.” (Robertson 11) This result shows radioactivity gives humans huge impacts. It also shows children are exposed indirectly. “ In pregnancy, the diagnosis of pulmonary embolism (PE) is problematic.” (Nijkeuter et al. 1857) This shows that radioactivity which is used at hospital is also can expose fetus indirectly. Aftereffects which are caused by radiotherapy are known.

Although radiotherapy is effective for cancer, patients get damages, such as nausea or fallen hair. “ People are always exposed to ionizing radiation, which could badly influence their health.” (Samadi, Bahman, and Nima 52) this means that radioactivity already exists in the air without radioactive accidents, but the radioactivity is not huge amounts. However, if radioactive accidents happen, radioactivity is leaked in the air. After leaking radioactivity, the amount of radioactivity should be more than the average amount which exits in the air.

In conclusion, nuclear power plants can be dangerous when radioactive accidents happen because, air, soil, food, and water are contaminated by radioactivity directly and indirectly after accidents happen. Moreover, radioactivity can cause cancer. For these reason, nuclear power plants should be stopped in Japan.

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[3]misspelling