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JAPN 407

Assignment 2 reflection

In class last thursday, the main topic that we discussed was whether or not nuclear power should continue to be developed or abandoned. Our group for the most part was against the continuation of the use of nuclear power - especially with the recent meltdown of the Fukushima Reactor. However, one of our group members thought the opposite. They thought that the nuclear power was a good energy source, but needed to be improved. When I heard this, I realized that I didn't know exactly how the Fukushima Reactor melted down.

I had thought that it had to do with the Sendai Earthquake and Tsunami, but through a little research, found out that The Earthquake and Tsunami weren't the only problems. The Fukushima Nuclear Accident Independent Investigation Commission (NAIIC) had designated that the accident was manmade and could have been prevented before the meltdown.¹ one of the problems, which was reported in the investigation was that the Power plant couldn't withstand an earthquake or tsunami.² In my opinion, given the geographical location of Japan, and the frequency of earthquakes, I would think that this would be a large concern for the power plant to keep in mind. Although as obvious as it seems now, since the tsunami and earthquake already happened, the chances of an enormous earthquake and tsunami happening one right after the other is at least a little outlandish to think about. According to Al Jazeera America, The radiation reading of the contaminated water in Fukushima has jumped up more than a fifth of it's highest reading. Because of this, The Japanese Government has prepared the equivalent of almost five hundred million dollars to combat the increasing radiation levels. The current level of radiation at the reactor is enough to kill an unprotected person in a few hours³

I agree that nuclear power is a powerful and clean energy source, but I cannot agree that it is the best source. One reason is that there is always the risk of meltdowns due to either neglect or environmental disasters (i.e. Fukushima discussed in the last paragraph) and another reason being that the by-product of nuclear fusion is terribly bad for the environment and hazardous to human health. Currently, there is no truly safe way to dispose of nuclear waste and from what I've heard, the current method is to store it underground. However, due to the immensely long half-life of nuclear waste, it would still be dangerous even millions of years after humans are extinct. For example, Uranium 235, the basic fuel of nuclear reactors, has a half-life of about 703.8 millions years.

In conclusion, I understand that nuclear energy is viable, but presently, the cons greatly outweigh the pros. I feel that sometime in the future, maybe even before I die, that science will find a way to appropriately deal with nuclear waste, but until then I feel that the alternatives such as solar (even though there is still plenty of pollution in producing the panels) or wind should get a good amount of attention while science works turning nuclear fusion into a safer, and less environmentally damaging means of power.

¹ National Diet of Japan Fukushima Nuclear Accident Independent Investigation Commission. "国会事故調 | 東京電力福島原子力発電所事故調査委員会のホームページ". National Diet of Japan Fukushima Nuclear Accident Independent Investigation Commission. Retrieved 8 September 2013

² Phillip Lipsy, Kenji Kushida, and Trevor Incerti. 2013. "The Fukushima Disaster and Japan's Nuclear Plant Vulnerability in Comparative Perspective." *Environmental Science and Technology* 47 (May), 6082-6088.

³ Gregg, Levine. Al Jazeera and Reuters, "Fukushima radiation readings spike to highest levels." Last modified Sept. 4, 2013. Accessed September 8, 2013. <http://america.aljazeera.com/articles/2013/9/3/japan-to-fund-icewalltostopreactorleaks.html>.

