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A Pro-Nuclear Paper

POLS 325-UC

Final Exam

Due: April 30, 2008

People throughout history have always picked one thing to worry about and fear. Americans have chosen nuclear power and nuclear weapons to be afraid of in this day and time. Despite our calls for "progress and improvement, we tend to believe the worst about almost anything that is connected with nuclear phenomena."[1] However, an objective examination of nuclear reality does not justify such pessimism."[2]

In my opinion, there is not anything to worry about when it comes to nuclear reactors and nuclear weapons. "Instead, the media has driven the public insane with fear; fear of radiation from minor nuclear mishaps, though it would usually be less than we get from natural sources every day; fear of reactor meltdowns, though one every two weeks would be required to match the current death toll from air pollution due to coal; and fear of radioactive waste, though it is thousands of times less harmful than the cancer causing chemicals or the radioactive wastes released in coal burning."[3] The media spreading fear among the citizens in the United States about nuclear reactors and nuclear weapons has caused the nuclear power industry to have to endure rising costs. This is because Americans want Congress to put more sanctions against the nuclear power industry.

People try to say that these sanctions are necessary because of the Chernobyl accident that happened in Russia. "The Chernobyl nuclear power accident was awful enough but accidents are learning experiences and the nuclear power industry has learned from Chernobyl what to do, and what not to do, to ensure nuclear power station safety."[4] Indeed, we did learn from the Chernobyl accident, but it also caused many new unneeded sanctions to be placed against nuclear power plants that have caused the price of creating nuclear power go up. A study that "was reported in NUREG-1251, Implications of the Accident at Chernobyl for Safety Regulation of Commercial Nuclear Power Plants in the United States, concluded that no immediate changes were needed in the NCR's regulations regarding the design or operation of U.S. Commercial nuclear reactors as a result of lessons learned from Chernobyl."[5]

There was one issue though that we did learn from the accident in Chernobyl. "Assessments in the light

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1 Tannenbaum, Dr. Aron. "Exam 2, Take-Home Essay Handout." Lander University. 27 April 2008.

2 Id.

3 Cohen, Bernard L. "Nuclear Power is Our Safest Choice." RussP.Org. 27 April 2008. <http://russp.org/nucpower.htm>

4 Tannenbaum, Dr. Aron. "Exam 2, Take-Home Essay Handout." Lander University. 27 April 2008.

5 Backgrounder on Chernobyl Nuclear Power Plant Accident." U.S. NRC. 27 April 2008. 1 April 2006. <http://www.nrc.gov/reading-rm/doc-collections/fact-sheets/chernobyl-bg.html>

of Chernobyl have indicated that the cause of the accident has been adequately dealt within the design of U.S. Commercial reactors."[6] The reason why the United States does not need to worry about a Chernobyl event happening in the United States is because the "U.S. Reactors [unlike the Chernobyl reactors] have different plant designs, broader shutdown margins, robust containment structures, and operational controls to protect them against the combination of lapses that led to the accident at Chernobyl."[7] However, after the Chernobyl accident and with the help of the media to create fear in the public people continued to say we needed to make nuclear power plants safer. "The NRC therefore responded in the only way it could, by tightening regulations and requirements for safety equipment."[8] Since the NRC did this, it made the cost to produce the power to go up dramatically. "Like a ratchet wrench which is moved back and forth but always tightens and never loosens a bolt, the regulatory requirements were constantly tightened, requiring additional equipment and construction labor and materials."[9] Therefore, the new requirements that the NRC was requiring the plants to do in order to meet the regulations caused the cost to go up in two ways. "In addition to increasing the quantity of materials and labor going into a plant, regulatory ratcheting increased costs by extending the time required for construction."[10]

Because the media was duping the public, the NRC decided to tighten the regulations on the nuclear power plants. However, it turned out that these new regulations were not needed. "In fact, the more recent developments suggested the contrary."[11] "Perhaps the most significant result of safety research in the late 1970s was finding that the emergency core cooling system works better than expected and far better than indicated by the pessimistic estimates of nuclear power opponents."[12] Then there was "another important result that found that radioactive iodine and other elements in a water environment behave much more favorably than had been assumed."[13] "Clearly, the regulatory ratcheting was driven not by new scientific or technological information,

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6 Id.
7 Id.
8 "Costs of Nuclear Power Plants, What Went Wrong?" phyast.pitt.edu. 27 April 2008. <http://www.phyast.pitt.edu/~blc/book/chapter9.html>
9 Id.
10 Id.
11 Id.
12 Id.
13 Id.

but by public concern and the political pressure it generated."[14]

Let me explain, after the Chernobyl accident, the media put so much time and effort into reporting the accident that it caused fear in the people in the United States. The reason why the media is to mostly blame is because they exaggerated the death tolls in the Chernobyl accident by a really huge amount. "An egregious example of such irresponsibility was a New York Post front page, whose headlines screamed, Mass Grave- 15,000 Reported Buried in Nuke Disposal Site, a report that relied on nothing more than a Ukrainian weekly in New Jersey."[15] However, their true death toll according to a"2005 report prepared by Chernobyl Forum, led by the International Atomic Energy Agency and World Health Organization, attributed 56 direct deaths"[16] to the Chernobyl accident. Another example of how the media overstated the death toll from the accident was when "several major news organizations, including the New York Times, the Washington Post, the Associated Press, and the three television networks [used] the figure of 2,000 supposed dead"[17] from the accident. With those figures being thrown out as well as the coverage of the Chernobyl accident the people in America were starting to fear the use of nuclear power because of how deadly they thought they were. As a result, the people in America started calling on Congress to put more regulations on nuclear power. So, as a result, the NRC responded to the calls of the Congress and started putting more regulations in place against the nuclear power plants. This caused the nuclear power plants to have to increase the cost of nuclear power because the new regulations being put in place caused the price to produce the power go up dramatically. In other words, one can speculate that the NRC answered to the extra scrutiny of nuclear power plants by putting many new regulations against them.

In my opinion, the accident at Chernobyl was a learning experience, but I feel that it was blown out of proportion. One thing that we learned was that our design of the nuclear power plant was the best way to go

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14 Id.

15 Dorman, William A., and Daniel Hirsch. "Chernobyl- The U.S. Media's slant." WACC.org. 29 April 2008. < http://www.wacc.org.uk/wacc/publications/media_development/ 2006_4/chernobyl_the_u_s_media_s_slant>

16 "Chernobyl Disaster." Wikipedia.org. 29 April 2008. 28 April 28 2008. <http://en.wikipedia.org/wiki/Chernobyl_disaster>

17 Dorman, William A., and Daniel Hirsch. "Chernobyl- The U.S. Media's slant." WACC.org. 29 April 2008. < http://www.wacc.org.uk/wacc/publications/media_development/ 2006_4/chernobyl_the_u_s_media_s_slant>

because it reduced the risk of a reactor harming the public if a melt down was to occur. The one thing that we really learned from the Chernobyl accident was that the media can help build up fear in the population. This can cause the people in charge of regulating nuclear power plants to pass new regulations that really are not necessary. The one reason why these new regulations are not necessary is that it causes the price of the power produced by these facilities to go up, when they really do not need to be going up.

Another issue that people fear about is what is happening to the waste that is coming from the nuclear power plants. "Nuclear waste is not going away, it is true, but the government has experts with plans to deal with it."[18] The United States does indeed have experts working on a solution for dealing with the waste from the nuclear power plants. The experts have come up with the "giant, federal nuclear waste warehouse at Yucca Mountain, Nevada."[19] However, this nuclear warehouse "was scheduled to open 10 years ago, and it is unlikely to open for another 10 years."[20] The nuclear power plants have made other means for holding the nuclear waste though, until the nuclear waste plant at Yucca Mountain actually opens. The nuclear power plants have come up with a thing called dry casks. "Dry cask storage allows spent fuel that has already been cooled in the spent fuel pool for at least one year to be surrounded by inert gas inside a container called a cask."[21] These "casks are typically steel cylinders that are either welded or bolted closed."[22] These casks are sealed where they are leak tight containment, and each of the cylinders are "surrounded by additional steel, concrete, or other material to provide radiation shielding to workers and members of the public."[23] Now the casks are being made so they can be used as a transportation tool as well, so when Yucca Mountain does open they can just transport the cask to the mountain. Although Yucca Mountain has not opened yet, the nuclear experts have come up with other ways to dispose of the nuclear waste until Yucca Mountain does open. One plus to the casks systems is that "over the last 20 years there have been no radiation releases which have affected the public, no radioactive contamination,

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18 Tannenbaum, Dr. Aron. "Exam 2, Take-Home Essay Handout." Lander University. 27 April 2008.

19 "Nuclear Fuel Reprocessing." The Why Files. 27 April 2008. 28 Feb. 2008. <http://whyfiles.org/275nukewaste/>

20 Id.

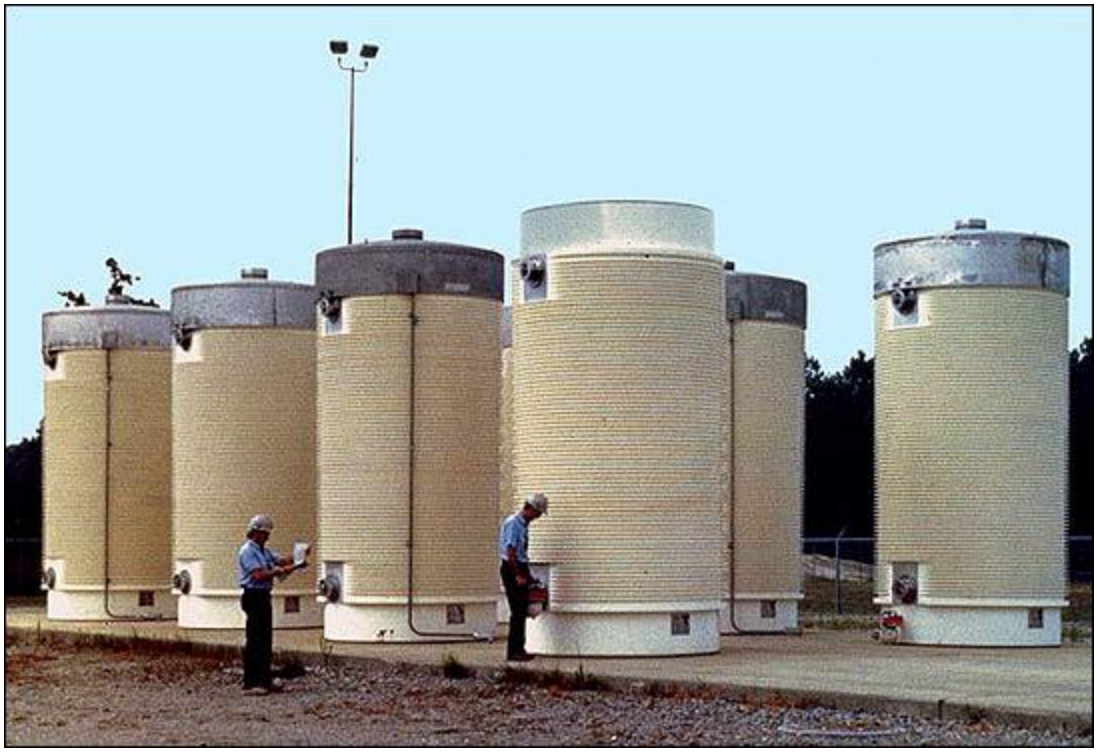
21 "Dry Cask Storage." U.S. NRC. 27 April 2008. 13 Feb. 2007. <http://www.nrc.gov/waste/spent-fuel-storage/dry-cask-storage.html>

22 Id.

23 Id.

and no known suspected attempts to sabotage spent fuel casks."[24] Another incentive to using "dry cask systems [is that they] are designed to resist floods, tornadoes, projectiles, temperature extremes, and other unusual scenarios."[25] Although people might say that the nuclear power plants are just putting the nuclear waste in a hole in the ground, the nuclear power plants had to come up with something in order to hold the waste until Yucca Mountain opens up.

I agree that nuclear waste is not going away. In my opinion, I feel that we do have experts that are working on Yucca Mountain where we can dispose of all of the nuclear waste that we have in America. Until Yucca Mountain opens though, the nuclear power plants have come up with the dry casks system that holds the nuclear waste. Indeed, these cask might be down in the ground, but it is getting the job done of holding the nuclear waste until the waste can be moved to Yucca Mountain when it does open up. The picture below shows one of the dry casks at one of the nuclear power plants.



"Dry Cask Storage." U.S. NRC. 27 April 2008. 13 Feb. 2007.
<http://www.nrc.gov/waste/spent-fuel-storage/dry-cask-storage.html>

24 Id.
25 Id.

Since nuclear power and nuclear weapons have come into existence, people have always feared them because of the way the media has portrayed them. However, people have gone overboard on their fears and should realize that nuclear power is a safer way to produce power than any other method. If people actually took the time to study nuclear power and nuclear weapons, they would realize that they are not as dangerous as the media has made them out to be.

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