

**From:** PDW [seawolf@cloud9.net]  
**Sent:** Saturday, September 15, 2012 9:49 PM  
**To:** Docket, Hearing  
**Cc:** seawolf@cloud9.net  
**Subject:** Entergy Application to the NRC for Indian Point to be RE-licensed  
**Attachments:** pip10reasnrc.doc

**The Entergy Application to Operate Indian Point for Another 20 Years Should Be Denied**

Ten reasons why Entergy should not be allowed to Operate Indian Point follow below:

**1. Failure to Comport with Existing Safety Standards at the Facility**

Indian Point 2 &3 have a long history of more leaks, outages, shutdowns, and other types of failures than the vast majority of other nuclear plants in the country, yet they are closest to the country's largest metropolitan area. One might think that the Indian Point owners, Entergy Corp., would be especially vigilant in keeping the facility safe and protecting the plant and surrounding area, given its close proximity to the New York metropolitan area, but often the opposite is true. In response to a long-standing radioactive leak into the Hudson River ultimately attributed to a corroded pipe, an Indian Point spokesman explained: "It's eight feet underground, so there's no way of knowing when you have to replace it."

When looking at practically all major accidents in recent U.S. history, such as the Deepwater Horizon, one finds at the core that a major energy company, has not instituted proper safety procedures and/or they were not properly followed, coupled with inadequate federal governmental enforcement. Of course, no prior disaster would have the long-standing impact that a serious incident at Indian Point would have, because of the lethal nature of radioactivity and its concomitant long-lasting effects.

Since some of the blame for the Fukushima disaster being is placed on the owner/operator, one would think that Entergy would at least correct the violations and bring all exemptions to safety requirements up to the current standards, but there is no overt evidence that they are making any special effort to comply with current minimum safety standards. For example, electric cable which is in the plants for cooling pumps which are essential for keeping a nuclear power plant under control, has a rating of 24 minutes, whereas the requirement is for one hour, 250% higher.

Clearly, Entergy does not believe that the safety of the plant and those who live around it are of paramount importance.

**2. Governmental Oversight**

We are supposed to take solace that the US Nuclear Regulatory Commission (NRC) is there to protect us, the public. This at best is a myth. As stated above, the NRC does not enforce its own standards for safety, but rather, perhaps to allay our worst fears, just tells us the plants are safe.

Indeed, the NRC carries on 'business as usual'. In fact, in its entire 37 year old history, it has never disapproved an application for a license or re-license of a nuclear facility. When it gets an application for re-licensing, say for Indian Point, it does even permit evidence about such critical matters as 9/11 or new

seismological data or Fukushima; it only uses antiquated information and criteria for relicensing, making the process a farce.

Moreover, the Commission is supposed to protect the general public, but it does not do so adequately. It does not insist that the minimal safety requirements are met, and it does not address problems needing quick resolution.

For instance, the NRC says Indian Point 3 is the nuclear facility most vulnerable to earthquake damage; yet, what meaningful steps have been instituted to address the issue? Why then should the public be subjected to another 20 years of vulnerability?

The NRC which should provide the solution is part of the problem, and those who live around Indian Point believe that the response of the NRC is weak and not timely.

### **3. Terrorism**

As horrific as 9/11 was, a successful attack on the Indian Point nuclear facility would probably be far more devastating. The main reason is that attacks such as 9/11 are singular events with discreet consequences, whereas an attack on Indian Point could unleash radiation for centuries to come.

It is well known that Indian Point has been a choice target of terrorists, which was again confirmed when a search was made of the compound after Osama Bin Laden was killed and evidence of a planned attack on Indian Point was found. Moreover, a terrorist incident could emanate domestically, such as the Oklahoma City attack, or even from within the facility, such as was suspected with Bhopal.

Also, there are a plethora of possibilities to reach Indian Point which make the facility even more vulnerable, by water, by rail, by road and by air. Still another potential mode for disaster comes from the major natural gas trunk pipeline that passes along the southern perimeter of the facility. On Sept. 10, 2010 in San Bruno California, a gas pipeline just exploded in the street killing many people, injuring more, and caused destruction and a huge crater – if there were a similar occurrence regarding the natural gas pipeline near Indian Point, the impact could be cataclysmic.

Finally, this week an employee of Entergy filed a \$1.5+ lawsuit against the company, the details of which showed many of the inadequacies of the defense of the facility. A license extension would only keep Indian Point as a prime target of terrorists.

### **4. Natural Event**

When Indian Point was conceived, it was believed that the largest earthquake which could strike the area would measure 5.3 on the Richter Scale. In response, supposedly the plant was built to be able to withstand an earthquake of 6.1. Recently however, a study undertaken by the Lamont Dougherty Earth Observatory of Columbia University revealed that there are actually two faults very close to Indian Point, and that the potential for earthquake is now estimated at 7.0. Since each point on the Richter Scale equates to an earthquake ten times as strong, this means that it is possible to have an earthquake in the Indian Point facility nearly ten times stronger than was the facility was designed and built to withstand.

In the last few months, in the wake of Fukushima, the U.S. Nuclear Regulatory Commission (NRC) deemed Indian Point 3 as the facility most vulnerable to earthquakes in the entire country. It has now been calculated

that it is 10 times more likely that there will be an earthquake at Indian Point 3 than it is to win \$10,000 playing Powerball.

Keeping the facility open only endangers those around it for a longer time. Moreover, given the recent earthquake in Virginia and the way the tremors travel in the Eastern part of the U.S. the probability that an earthquake will ravage Indian Point is higher each day this plant is allowed to continue to function. Moreover, it should be noted that even a small earthquake could cause significant damage to an older nuclear facility, which might not be readily discoverable, and which could lead to on-going radioactive emissions into the air, the soil, or the Hudson River.

In addition to earthquakes, there are many other natural causes which could wreak havoc at Indian Point, including tornadoes, lightning, blizzards, ice storms, and hurricanes (just remember the kerfluffle with Irene, the storm that did not hit New York...what would happen to Indian Point if a Katrina-like storm hit this area?).

### **5. Damage to the Hudson River and the Cooling Towers**

Indian Point relies on the intake of huge volumes of water, which is used for cooling its plants, and discharges the water about 8 degrees hotter. The intake causes the death of about one billion organisms every year.

A best available cooling technology exists in the form of cooling towers, a system which would preserve the river wildlife. The New York State Department of Environmental Conservation (DEC) has mandated that Indian Point implement the new technology, but Entergy has thus far refused, and continues to try legal maneuvers to circumvent the mandate.

Further hearing and legal proceedings continue. So far, DEC has refused to give Entergy the Clean Water permit, which is required for continued operation and renewal of their license. Ultimately, if DEC prevails, Indian Point will have to comply or should be shut down.

### **6. Integrity of the 40-60 Year Old Plant**

The facility was originally built for a 40 year life. Metal corrodes...even concrete weakens, especially under the continual bombardment of radioactive materials. There is no reliable information concerning what would occur at a plant like Indian Point in years 40-60, because there is no precedent.

This situation can only be exacerbated by the possibilities of negative events impacting the facility as outlined above over a 20 year period (just look at what happened in the last few years with Katrina, Deep Water Horizon, and of course Fukushima).

### **7. Nuclear Waste**

When Indian Point was conceived, it was assumed that nuclear waste would be transported to the national nuclear waste depository at Yucca Mountain. The depository was never built, so the ever-growing amount of nuclear waste, now about 1500 tons, sits on-site virtually unprotected.

Because the waste is so vulnerable, there are those who believe that this nuclear waste is the greatest threat to public safety at Indian Point.

Another 20 years operation would only produce another 50% more nuclear waste

## **8. The Area Cannot Be Evacuated**

The NRC advocates a 10 mile radius as the recommended evacuation zone nationally, however, when the 10 mile plan was shown to be not viable for Indian Point, the NRC indicated a 2 mile radius with a 10 mile vector would be satisfactory (how the vector get determined during the midst of an emergency is still somewhat of a mystery). This is even more curious given the Administration's directive to distribute potassium iodide tablets over a 20 mile radius. Maybe because the four counties surrounding Indian Point have deemed the NRC Evacuation Plan unworkable, the NRC considered it futile to try to establish a larger area.

Given the NRC position on Indian Point the NRC edict that all Americans should stay at least 50 miles away from Fukushima after the tragedy there makes the NRC position on the Indian Point Evacuation Plan even more unfathomable. The larger radius advocated by the NRC is even more querulous via-a-vis Indian Point when one realizes that the Japanese government had issued evacuations for an area mainly less than 25 miles away from the stricken area.

Shortly after the NRC's pronouncement, a bill was introduced into the Westchester County Legislature to institute a 50 mile evacuation radius around Indian Point.

In March 2012, a highly esteemed panel including a former Chair of the NRC gave their report in the wake of the Fukushima tragedy, and concluded that the 10 mile radius was arbitrary, that the radius should comport with existing conditions, and that the radius should be periodically revisited to reflect new realities.

Where does that leave the Indian Point Evacuation Plan? There is a rumor afloat that the NRC is now considering 'evacuation in place', whatever that means.

## **9. The New York Region Could be Irrevocably Ruined by a Nuclear Incident**

The most obvious problem is the potential of contracting radiation sickness, followed by the cancer, and a premature death. This is exacerbated by the possibility that radiation can be in the air, the soil, or even on one's clothing if there is a nuclear incident.

In Fukushima, recently workers removed 2 inches of soil from a property, and then were confronted with the dilemma of how to dispose of the 60 tons of soil, to say nothing of the possibility that the cleaned-up area could be re-contaminated by the next windstorm or rain. So, property values in contaminated zones, even if the government says it's safe to return, may only be worth a small fraction of what they were before the radioactive emission, because many people, even previous residents, do not want to live there. Also, many Japanese are fearful that the tea they drink or the rice they eat may have come from contaminated sources.

The same would probably be true if a major incident occurred at Indian Point. Many people would be dislocated, lose their jobs, and their children could not continue in the same school. Property values would plummet, and Entergy would be virtually judgment-proof because of Federal laws protecting nuclear power plants.

Where would these millions of people go? Who would take care of them? What would it do to the local and national economy?

## **10. Entergy Power is not Needed**

In autumn of 2011, results of a study by Synapse Energy Economics group, a reputed energy think-tank, was made public. The study showed that the New York/Westchester area does not need the power, and probably would not need the power produced by Indian Point until at least 2020. Not only are there sufficient energy resources now without Indian Point (which is why there is not even a flinch when Indian Point has an unexpected shutdown), but the energy situation will be ameliorated by four salient factors: 1) Conservation measures, 2) Renewable sources of energy, 3) Better transmission lines, and (4) vastly increased efficiency by retrofitting existing natural gas power stations.

Both California about a decade ago and Japan over the last year, responded to emergency situations by saving a far greater percentage of power than Indian Point supplies to the New York area. With proper planning, the transition away from Indian Point could be made without any additional costs, and perhaps even a savings to the consumer.

### **Conclusion**

“A catastrophe waiting to happen” is how New York State the Attorney General (now Governor) Andrew Cuomo described the Indian Point nuclear facility, when he submitted a 313 page Petition to the Nuclear Regulatory Commission opposing the re-licensing of Indian Point. In fact, Cuomo went further when he said: “I believe Indian Point should be closed and should be closed now”.

Regardless of whether one adopts the simplistic ‘Murphy’s Law’, which states that ‘given a sufficient amount of time, anything that can go wrong will’, or the more sophisticated Wall Street Guru, Nassim Nicholas Tabib, who espouses a similar theme in his seminal work: “The Black Swan - The Impact of the Highly Improbable”, the message is the same, namely, that one can anticipate that the unexpected disaster will occur, even though it may be difficult to predict how or when it will occur.

Put most simply, the risk of an untoward incident at Indian Point is just not worth the risk, especially when the energy is not even needed.

**It is incumbent upon the NRC to deny the re-licensing of Indian Point for another 20 years.**

DOCKETED  
USNRC

September 17, 2012 (8:30 a.m.)

OFFICE OF SECRETARY  
RULEMAKINGS AND  
ADJUDICATIONS STAFF

## **The Entergy Application to Operate Indian Point for Another 20 Years Should Be Denied**

Ten reasons why Entergy should not be allowed to Operate Indian Point follow below:

### **1. Failure to Comport with Existing Safety Standards at the Facility**

Indian Point 2 &3 have a long history of more leaks, outages, shutdowns, and other types of failures than the vast majority of other nuclear plants in the country, yet they are closest to the country's largest metropolitan area. One might think that the Indian Point owners, Entergy Corp., would be especially vigilant in keeping the facility safe and protecting the plant and surrounding area, given its close proximity to the New York metropolitan area, but often the opposite is true. In response to a long-standing radioactive leak into the Hudson River ultimately attributed to a corroded pipe, an Indian Point spokesman explained: "It's eight feet underground, so there's no way of knowing when you have to replace it."

When looking at practically all major accidents in recent U.S. history, such as the Deepwater Horizon, one finds at the core that a major energy company, has not instituted proper safety procedures and/or they were not properly followed, coupled with inadequate federal governmental enforcement. Of course, no prior disaster would have the long-standing impact that a serious incident at Indian Point would have, because of the lethal nature of radioactivity and its concomitant long-lasting effects.

Since some of the blame for the Fukushima disaster being is placed on the owner/operator, one would think that Entergy would at least correct the violations and bring all exemptions to safety requirements up to the current standards, but there is no overt evidence that they are making any special effort to comply with current minimum safety standards. For example, electric cable which is in the plants for cooling pumps which are essential for keeping a nuclear power plant under control, has a rating of 24 minutes, whereas the requirement is for one hour, 250% higher.

Clearly, Entergy does not believe that the safety of the plant and those who live around it are of paramount importance.

### **2. Governmental Oversight**

We are supposed to take solace that the US Nuclear Regulatory Commission (NRC) is there to protect us, the public. This at best is a myth. As stated above, the NRC does not enforce its own standards for safety, but rather, perhaps to allay our worst fears, just tells us the plants are safe. Indeed, the NRC carries on 'business as usual'. In fact, in its entire 37 year old history, it has never disapproved an application for a license or re-license of a nuclear facility. When it gets an application for re-licensing, say for Indian Point, it does even permit evidence about such critical matters as 9/11 or new seismological data or Fukushima; it only uses antiquated information and criteria for relicensing, making the process a farce.

Moreover, the Commission is supposed to protect the general public, but it does not do so adequately. It does not insist that the minimal safety requirements are met, and it does not address problems needing quick resolution.

For instance, the NRC says Indian Point 3 is the nuclear facility most vulnerable to earthquake damage; yet, what meaningful steps have been instituted to address the issue? Why then should the public be subjected to another 20 years of vulnerability?

The NRC which should provide the solution is part of the problem, and those who live around Indian Point believe that the response of the NRC is weak and not timely.

### **3. Terrorism**

As horrific as 9/11 was, a successful attack on the Indian Point nuclear facility would probably be far more devastating. The main reason is that attacks such as 9/11 are singular events with discreet consequences, whereas an attack on Indian Point could unleash radiation for centuries to come.

It is well known that Indian Point has been a choice target of terrorists, which was again confirmed when a search was made of the compound after Osama Bin Laden was killed and evidence of a planned attack on Indian Point was found. Moreover, a terrorist incident could emanate domestically, such as the Oklahoma City attack, or even from within the facility, such as was suspected with Bhopal.

Also, there are a plethora of possibilities to reach Indian Point which make the facility even more vulnerable, by water, by rail, by road and by air. Still another potential mode for disaster comes from the major natural gas trunk pipeline that passes along the southern perimeter of the facility. On Sept. 10, 2010 in San Bruno California, a gas pipeline just exploded in the street killing many people, injuring more, and caused destruction and a huge crater – if there were a similar occurrence regarding the natural gas pipeline near Indian Point, the impact could be cataclysmic.

Finally, this week an employee of Entergy filed a \$1.5+ lawsuit against the company, the details of which showed many of the inadequacies of the defense of the facility. A license extension would only keep Indian Point as a prime target of terrorists.

### **4. Natural Event**

When Indian Point was conceived, it was believed that the largest earthquake which could strike the area would measure 5.3 on the Richter Scale. In response, supposedly the plant was built to be able to withstand an earthquake of 6.1. Recently however, a study undertaken by the Lamont Dougherty Earth Observatory of Columbia University revealed that there are actually two faults very close to Indian Point, and that the potential for earthquake is now estimated at 7.0. Since each point on the Richter Scale equates to an earthquake ten times as strong, this means that it is

possible to have an earthquake in the Indian Point facility nearly ten times stronger than was the facility was designed and built to withstand.

In the last few months, in the wake of Fukushima, the U.S. Nuclear Regulatory Commission (NRC) deemed Indian Point 3 as the facility most vulnerable to earthquakes in the entire country. It has now been calculated that it is 10 times more likely that there will be an earthquake at Indian Point 3 than it is to win \$10,000 playing Powerball.

Keeping the facility open only endangers those around it for a longer time. Moreover, given the recent earthquake in Virginia and the way the tremors travel in the Eastern part of the U.S. the probability that an earthquake will ravage Indian Point is higher each day this plant is allowed to continue to function. Moreover, it should be noted that even a small earthquake could cause significant damage to an older nuclear facility, which might not be readily discoverable, and which could lead to on-going radioactive emissions into the air, the soil, or the Hudson River.

In addition to earthquakes, there are many other natural causes which could wreak havoc at Indian Point, including tornadoes, lightning, blizzards, ice storms, and hurricanes (just remember the kerfluffle with Irene, the storm that did not hit New York...what would happen to Indian Point if a Katrina-like storm hit this area?).

#### **5. Damage to the Hudson River and the Cooling Towers**

Indian Point relies on the intake of huge volumes of water, which is used for cooling its plants, and discharges the water about 8 degrees hotter. The intake causes the death of about one billion organisms every year.

A best available cooling technology exists in the form of cooling towers, a system which would preserve the river wildlife. The New York State Department of Environmental Conservation (DEC) has mandated that Indian Point implement the new technology, but Entergy has thus far refused, and continues to try legal maneuvers to circumvent the mandate.

Further hearing and legal proceedings continue. So far, DEC has refused to give Entergy the Clean Water permit, which is required for continued operation and renewal of their license. Ultimately, if DEC prevails, Indian Point will have to comply or should be shut down.

#### **6. Integrity of the 40-60 Year Old Plant**

The facility was originally built for a 40 year life. Metal corrodes...even concrete weakens, especially under the continual bombardment of radioactive materials. There is no reliable information concerning what would occur at a plant like Indian Point in years 40-60, because there is no precedent.



This situation can only be exacerbated by the possibilities of negative events impacting the facility as outlined above over a 20 year period (just look at what happened in the last few years with Katrina, Deep Water Horizon, and of course Fukushima).

## **7. Nuclear Waste**

When Indian Point was conceived, it was assumed that nuclear waste would be transported to the national nuclear waste depository at Yucca Mountain. The depository was never built, so the ever-growing amount of nuclear waste, now about 1500 tons, sits on-site virtually unprotected.

Because the waste is so vulnerable, there are those who believe that this nuclear waste is the greatest threat to public safety at Indian Point.

Another 20 years operation would only produce another 50% more nuclear waste

## **8. The Area Cannot Be Evacuated**

The NRC advocates a 10 mile radius as the recommended evacuation zone nationally, however, when the 10 mile plan was shown to be not viable for Indian Point, the NRC indicated a 2 mile radius with a 10 mile vector would be satisfactory (how the vector get determined during the midst of an emergency is still somewhat of a mystery). This is even more curious given the Administration's directive to distribute potassium iodide tablets over a 20 mile radius. Maybe because the four counties surrounding Indian Point have deemed the NRC Evacuation Plan unworkable, the NRC considered it futile to try to establish a larger area.

Given the NRC position on Indian Point the NRC edict that all Americans should stay at least 50 miles away from Fukushima after the tragedy there makes the NRC position on the Indian Point Evacuation Plan even more unfathomable. The larger radius advocated by the NRC is even more querulous via-a-vis Indian Point when one realizes that the Japanese government had issued evacuations for an area mainly less than 25 miles away from the stricken area.

Shortly after the NRC's pronouncement, a bill was introduced into the Westchester County Legislature to institute a 50 mile evacuation radius around Indian Point.

In March 2012, a highly esteemed panel including a former Chair of the NRC gave their report in the wake of the Fukushima tragedy, and concluded that the 10 mile radius was arbitrary, that the radius should comport with existing conditions, and that the radius should be periodically revisited to reflect new realities.

Where does that leave the Indian Point Evacuation Plan? There is a rumor afloat that the NRC is now considering 'evacuation in place', whatever that means.

## **9. The New York Region Could be Irrevocably Ruined by a Nuclear Incident**

The most obvious problem is the potential of contracting radiation sickness, followed by the cancer, and a premature death. This is exacerbated by the possibility that radiation can be in the air, the soil, or even on one's clothing if there is a nuclear incident.

In Fukushima, recently workers removed 2 inches of soil from a property, and then were confronted with the dilemma of how to dispose of the 60 tons of soil, to say nothing of the possibility that the cleaned-up area could be re-contaminated by the next windstorm or rain. So, property values in contaminated zones, even if the government says it's safe to return, may only be worth a small fraction of what they were before the radioactive emission, because many people, even previous residents, do not want to live there. Also, many Japanese are fearful that the tea they drink or the rice they eat may have come from contaminated sources.

The same would probably be true if a major incident occurred at Indian Point. Many people would be dislocated, lose their jobs, and their children could not continue in the same school. Property values would plummet, and Entergy would be virtually judgment-proof because of Federal laws protecting nuclear power plants.

Where would these millions of people go? Who would take care of them? What would it do to the local and national economy?

#### **10. Entergy Power is not Needed**

In autumn of 2011, results of a study by Synapse Energy Economics group, a reputed energy think-tank, was made public. The study showed that the New York/Westchester area does not need the power, and probably would not need the power produced by Indian Point until at least 2020. Not only are there sufficient energy resources now without Indian Point (which is why there is not even a flinch when Indian Point has an unexpected shutdown), but the energy situation will be ameliorated by four salient factors: 1) Conservation measures, 2) Renewable sources of energy, 3) Better transmission lines, and (4) vastly increased efficiency by retrofitting existing natural gas power stations.

Both California about a decade ago and Japan over the last year, responded to emergency situations by saving a far greater percentage of power than Indian Point supplies to the New York area. With proper planning, the transition away from Indian Point could be made without any additional costs, and perhaps even a savings to the consumer.

#### **Conclusion**

“A catastrophe waiting to happen” is how New York State the Attorney General (now Governor) Andrew Cuomo described the Indian Point nuclear facility, when he submitted a 313 page Petition to the Nuclear Regulatory Commission opposing the re-licensing of Indian Point. In fact, Cuomo went further when he said: “I believe Indian Point should be closed and should be closed now”.

Regardless of whether one adopts the simplistic ‘Murphy’s Law’, which states that ‘given a sufficient amount of time, anything that can go wrong will’, or the more sophisticated Wall Street Guru, Nassim Nicholas Taleb, who espouses a similar theme in his seminal work: “The Black Swan - The Impact of the Highly Improbable”, the message is the same, namely, that one can anticipate that the unexpected disaster will occur, even though it may be difficult to predict how or when it will occur.

Put most simply, the risk of an untoward incident at Indian Point is just not worth the risk, especially when the energy is not even needed.

**It is incumbent upon the NRC to deny the re-licensing of Indian Point for another 20 years.**

DOCKETED  
USNRC

September 17, 2012 (8:30 a.m.)

OFFICE OF SECRETARY  
RULEMAKINGS AND  
ADJUDICATIONS STAFF