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TO: The United States
Nuclear Regulatory Commission
and
All parties with an interest in the
the development of additional nuclear reactors

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Comments and questions on the environmental impact of the expansion of the
North Anna Nuclear Power Station, Mineral VA

First – comments:

At the meeting last night, I heard the term private property rights. Since Dominion Resources / VAPower “built” the lake, and own the cooling lagoons, they therefore have some superior rights to others who now or in the future may own property that abuts the lake or the cooling lagoons or be in the downstream of any effluent (including but not limited to waste heat) produced by the station. At one time this may have been true – the plan was to have 4 reactors (remember the former CEO’s comment “too cheap to meter”. When units the original units 3 & 4 were abandoned and finally removed these rights ceased. Also please remember the lake was created through the use of “eminent domain” of the state over the individual rights of the former property owners. Both the main reservoir and the cooling lagoons are now populated and substantial individual investment has been made by property owners. On the cooling lagoons most of these individual investments were made after the abandonment of units 3 & 4. Dominion Resources / Virginia Power cannot now turn back the clock and deny access or otherwise render the cooling lagoons unusable for recreational purposes. I think the colloquialism “you can’t put the toothpaste back in the tube” is appropriate here.

Water usage, I heard the comment from one of your engineers, that the cooling water evaporates (yes, we locals understand evaporative cooling) and then it rains. True, but that rain will not always be falling upstream refilling the reservoirs. Evaporative cooling towers will siphon off an enormous amount of water, continuously. Certainly this is not a problem during periods of abundant rainfall or snowmelt upstream. Unfortunately, the weather is not a constant. The withdrawal of huge amounts of water from these relatively small reservoirs fed by a relatively small watershed will most certainly adversely affect the local environment especially the waterfront. During periods of low rainfall, drought, reservoir levels have dramatically lowered reducing the existing surface acreage for “natural” evaporative cooling and at least one point in time impinging the performance of the station due to the limitations of the pumping systems to deliver raw water to the condensers. There is no reason to believe that the watershed feeding these reservoirs will deliver more water in the future, or that we can count on plentiful consistent rainfall up stream.

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Questions

First, if known, how much water (measured in cft) is delivered into the reservoirs by the watershed?

This information would be most useful if provided on a monthly (or weekly) basis for the previous 10 years or so.

If this information is not known – it should be developed and either way be made public information.

Second, if known, how much water (in cft) is currently evaporated from the surface waters of each reservoir, separately, using the same time basis, monthly or weekly? And if this information is not known – it should be developed and either way made public information.

The above questions should be relatively simple to answer – as the outflow is controlled and I would assume measured as there is (or was) a small water turbine at the dam.

Is there consistently enough inflow to meet the demands of additional evaporative cooling? Without adversely affecting the reservoirs levels and temperatures beyond that which would occur now.

Another comment;

We need a local environmentally neutral (read upstream here) baseline body of water with which to compare the effects of the station. Right now – we measure or postulate the stations effects on these reservoirs as though this were an environmental microcosm. Dominion Resources / Virginia Power gave up the right to fence off, or cause either of the reservoirs to become recreationally unusable short of a nuclear disaster. In fact Dominion Resources / Virginia Power encouraged the use of the reservoirs for recreation liberally allowing access, and individual investment and construction of marinas, homes, docks, boathouses etc both on the main lake and the cooling lagoons.

Dominion Resources / Virginia Power is and has been well rewarded in the utilities marketplace for its investment here. It's investment has paid off handsomely. Should it choose to make additional investment here, I hope that it should be successful as well. But I will not sit idle, hoping that their additional investment adversely affects my investment or my enjoyment of the lakes.

So I ask for a binding individual contract, and I suspect that virtually all of my neighbors would, too.

The contract should address, in comparison with the baseline body of water previously described, water quality, water temperature, water level. There should be no restriction as to forming a class action by the parties, there should be a limit of liability 5% of the wholesale value of station output during defined environmental infractions. The individual contracts should be offered to all abutters (including private access abutters) and run with the land as would a deed covenant. The reason for this is simple – it introduces an economic incentive for Dominion Resources / Virginia Power to live up to its environmental commitments locally, and directly reimburse abutters for station operational indiscretions. Please do not discard this suggestion as unwieldy – it is not.

Frivolous legal action by individuals would be quickly dismissed, but genuine infractions would be addressed, Dominion Resources / Virginia Power would face a powerful incentive to correct the infraction or develop and incorporate the necessary technology to mitigate the damages. All of it with local public scrutiny and appreciation when there are no infractions. (how to divide up infraction payments to an individual, easy – add up the individual property owners tax value and divide, pretty much the way a mutual fund works). When there is a powerful economic incentive to be a corporate good citizen that corporate citizen will be a good neighbor. The government is not a substitute for a neighborhood. Corporate citizens that are assessed (and agree to) disincentive payments by government usually do so without admitting culpability. Often the injured parties are left empty handed and without options for redress as the government and corporate information which led to the “settlement” are sealed. The reasons for this can be the injured parties cannot be identified – or the group is so large that individual restitution is impossible or impractical as the individual amounts are miniscule. This is not the case here. We are easily identified, homogenous, and have a direct stake in the health of the reservoirs. Particularly those of us around the cooling lagoons are vulnerable.

You may say this is like someone building their home under an airport glide path and then complaining about the noise. That is not the case here, most of us purchased and or built after the original units 3 & 4 were dismantled, many years ago. During this time our complaints were limited pretty much to those times when the cooling lagoons were dangerously hot, and generally made among ourselves. We knew and accepted the conditions as they existed.

The application by Dominion Resources / Virginia Power to build 2 reactors, to use ever more water, through evaporative cooling, and to substantially raise and lower water levels as it sees fit substantially changes the conditions here. The technology currently exists to mitigate the adverse conditions using dry cooling, albeit not quite as economically rewarding as a proposed cooling tower. Additionally dry cooling can be used regardless of lake levels, if we suffer an extended draught with water levels falling 10 or more feet at least the 2 new dry cooled units could continue to operate safely.

Finally, in 2007, a number of “hedging” agreements regarding the wholesale price of electricity generated by Dominion Resources / Virginia Power will expire. There has not been a rate increase for a long time, and yet Dominion Resources / Virginia Power has prospered. The construction cost per megawatt hour for nuclear will be considerable but will be recovered over a long life and fuel costs lower than from any other source of energy. Nuclear holds the promise of being relatively safe and benign environmentally. It is a shared (10cfr21 and 50b, best practices, etc.) proven technology with enormous upside potential. And it is time to use it – here, just indemnify the local stakeholders, through the use of reliable technology and binding individual contractual obligations.

God help us all if there is a major catastrophic failure / radioactive release, but that is not the issue here. The operators of nuclear stations and the NRC has done an excellent job through preventative maintenance and rigorous engineering standard development and enforcement. Now for this next generation of nuclear power construction require

to the extent feasible, fail safe standards of engineering design and environmental neutrality.

Thank you in advance for a reply,


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