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May 29th, 2000

From: Pamela Blockey-O'Brien

To: U.S. Nuclear Regulatory Commission
License Renewal Application Section
Chief of Rules and Directives,
Div. of Administrative Services,
Office of Administrator,
Mailstop T-6
D-59, U.S. N.R.C.,
Washington, D.C.

Re: License Renewal application by Southern Nuclear Operating Co. and others for Nuclear Plant Hatch I and II, Georgia. Supplemental statement and Testimony to my May 10th statement and Testimony, on behalf of F.O.R./I.F.O.R. AGAINST the License Renewal Application, to be attached to and made part of the May 10th document and considered by NRC.

First, a correction : page 5 of the May 10th paper, line 16, a zero was left off from the K-40 figure, it should read "K-40 was at 16,000 pCi/kg" NOT 1600.

Also, on page 4. at the end of line 8, it should have been stated that the contamination went to the wetlands and river, among other areas.

The May 10th, 2000 hearing was meant to focus on the environmental aspects in particular according to NRC. The Applicant(s) are being deceptive when they only consider the Altamaha as being the area of watershed that covers where the Altamaha is named "Altamaha". The Altamaha is one of the two most important river systems in Georgia. It is called the "MIGHTY Altamaha" for a reason, because it is formed by two huge rivers that have their heads far to the north, namely the Oconee and Ocmulgee, and the State of Georgia considers the Oconee-Ocmulgee-Altamaha system one of Georgias five river basin groups for River Basin Management Planning and are based on "river basin location, contributing drainage, physiographic features, and related water resource issues" according to the State. The Oconees reach extends to the Atlanta area. The Altamaha's floodplains are three miles to twelve miles wide. The tidal influence extends some 40 miles inland according to publication. Two thirds of the State's shad come from the river. It contains river islands and cypress swamps. Lewis Island, part of the vast State Waterfowl Management Area and areas of significant wildlife resources has a 300 acre stand of virgin cypress over 1,000 years old. The Big Hammock Wildlife Management Area near Hatch (and in the windpath) covers around 6,400 acres. The Big Hammock Natural Area is adjacent to it. On the other side of Hatch (again in one of the windpaths) is Bullard Creek Wildlife Management Area. The Big Hammock Natural Area stretches eleven miles along the river and Watermelon Creek. Nearby creeks that drain into the Altamaha (from all windpaths and rainfall deposition/radioactive contaminant deposition areas) include : Bells Mill Creek, Cobb Creek, an unnamed creek near English Eddy (village), Milligan Creek, Alligator Creek, Little Alligator Creek, Bullard Creek, Ten Mile Creek and Little Ten Mile Creek, also an un-named creek that enters wetlands/swamp near Hatch; plus there is a lake called Big Pond. All of these areas receive radioactive fallout from Plant Hatch's air/noble gas releases. Wildlife, birds (and people) will receive radioactive

Iodine, tritium and the decay products of Cesium-137 and Strontium-90 among others to their thyroid, muscle, bone etc. etc.

All the aforementioned surface waters will have this radioactive garbage dumped in them, in particular when it rains and deposition increases. The area receives massive rain systems. Speaking of which, Hatch's own FSAR under the section on floods, cites USGS data on a Jan. 22nd 1925 historical record flood at the plant site of 200,000 cubic feet a second PLUS there was a calculation of a peak discharge of 612,000 cubic feet a second corresponding to a stage at el 105 feet based on a 1916 storm. Why did Southern not include these figures in the application?

Southern has basically refused to discuss all the so-called Class I issues. This is really an outrage, and done a toss-out of SAMAS. They have said the population is sparse and it's mainly forested or agricultural. This is a prime farming area. Vidalia Onions are a major crop not too far away - they are considered the best type of onions in the world by chefs and sell all over, yet they are in Hatch's windpath also. This is a disgrace.. Class one issues should cover effects to pollinators, including effects on their reproduction pollinators like bees and butterflies. Herman Müller won the Nobel Prize in 1943 for his work on the genetic effects of radiation, and showed through his work on *Drosophila*, a fruit fly, that ionizing radiation affects not only the biological organism exposed but the seed within the body from which future generations are formed, and one of the effects is of course sterility. Bees are particularly vulnerable to effects of pesticides and radiation - in "Silent Spring" by Rachel Carson so many years ago, she pointed out the synergistic effects of Strontium-90 combined with toxic chemicals/pesticides. There is a crisis with pollinators. Bees are literally being physically brought in in hives, by truck, back and forth across farming areas in the entire South, with hives set up for some days to co-incide with blossoms for pollination. It is an insane situation that threatens the nation's food supply. Biologist Carson was ridiculed and vilified by the industry who produced the pesticides etc. - of course she was right, and is now on a postage stamp. NRC simply cannot allow Plant Hatch to continue to operate in an area vital to agriculture. Between Soperton and Vidalia there is a sizable goat farm. The milk (or perhaps cheese) they produce should be tested also, as well as the grass. In one of Hatch's Annual Reports the months they listed that they did the garden census on, were actually going into winter when everything would be dead or dying off. Typical. The bioaccumulation factors up the food chain are of great importance. The area is generally a low income area. Many people hunt, fish and have gardens - it's all a matter of survival. When all pathways are considered together the effects are serious. Shutdown of Hatch would eliminate a large portion of the air discharges and dumping to the Altamaha. The radioactive spent fuel pool issue and need for recirculating water for it etc. would of course remain. With the reactors shutdown, the danger of the cracked core shroud and braces blowing would also be more or less taken care of. The fuel in the core should be immediately removed to the pool. The outdoor radioactive spent-fuel-storage must NOT HAPPEN. IT IS A MAJOR ENVIRONMENTAL ISSUE and as the pool is almost full the relicensing is interwoven with the storage of the spent fuel. It cannot be ignored or shoved under the rug. To pretend that sticking the DEATH of the Earth outside in an untested cask - even a tested

one - is not a major environmental issue and is not part and parcel of the relicensing is obscene. The workers are at grave risk as well. Both Southern and Private Fuel Storage are "HOG's", i.e. HOLTEC OWNERS GROUP members. HOLTEC makes the cask to be used. Private Fuel Storage is trying to set up the site in Utah that many of the Goshute Indians do not want on their land. The State of Utah doesn't want the stuff in Utah either. The cumulative consequences of the incredible amount of gamma radiation streaming off those casks (and a few neutrons) to workers, the surrounding population, the environment etc. will be terrible. The slab they sit on becomes radioactive as NRC knows, the water from rainstorms running over them will also be radioactive and will enter groundwater and/or the Altamaha. Southern has been putting out PR on the casks saying ridiculous things like What will the casks look like, instead of telling the public they contain death, and the explosion of such a cask would have horrendous consequences. A high level radioactive waste dump is being created outside next to the Altamaha and that community is going to get stuck with it, along with the existing indoor one, and neither NRC nor Southern is telling that community that it'll be a cold day in hell when that all gets moved out of there. To add insult to injury NRC doesn't want to include the issue nor does Southern. Well, we demand it be included. This is an environmental and an economic justice issue and so is the entire relicensing. Southern does not want to address the environmental and economic justice issues, although it is a low income community. Of course they don't, that's why that poor, rural community got stuck with this monster to begin with. Why it wasn't put next to the Governors Mansion. It's a classic case - the Applicants own documents show that there is a disproportionate number of low income households in the 50 mile radius. Appling County itself has 22.35 % of its households below the poverty level Other counties have even higher numbers in many instances. As stated earlier, many people rely on the land to help them survive, some also supplement their diet that way even though they may not technically fall into the poverty level classification. They will be disproportionately affected from a health perspective. Two Appling Co. census tracts have a higher percentage of households below the poverty level namely 29.1 % and 26.2% Adjacent Toombs co. has two census tracts with over 32% of households in poverty. Compare that to the given Georgia total of 14.85%. The continued operation of Hatch has environmental consequences due to its discharges on the environment on which the poor also depend in order to sustain themselves, this affects their health. It is a major issue. Looks like the boasted tax revenues from Hatch didn't do much for the poor...makes one wonder who benefitted. Another key issue is the fact that many large prisons are located in the area, including the massive State prison at Reidsville IN THE WIND PATH across the river. Is Southern going to get that evacuated at seven ft. a second during a meltdown? In particular if it's visiting day? Is NRC aware that countless families travel hundreds of miles in some cases down to those prisons, and the State prison in particular, to visit the incarcerated relatives. Anyone who thinks they could evacuate that sort of scenario in a hurry has lost touch with reality.

The area prisons were not addressed. They should be. Regarding the sewage being dumped to the Altamaha after some treatment: because contamination is also rinsed off in showers and workers can have contaminated excreta, it will be radioactive. In E.Coli, radiation induces an error-prone DNA repair system which leads to mutations that would otherwise occur only rarely according to the National Academy of Science someone swimming in the Altamaha downstream, unaware of sewage discharges, could ingest

could ingest water contaminated with E.Coli if the system is not functioning as it should, and this E.Coli could be a mutated version. This could have serious consequences, including cancer in the infected individual perhaps, at the very least a form of E.coli infection that is hard to treat. - The Applicant mentions that pathogenic microorganisms are ubiquitous in nature occurring in the digestive tracts of wild mammals and birds and thus in natural waters, but are usually only a problem when the host is immunologically compromised. Radiation is a powerful suppressor of the immune system response. Women and children are more vulnerable to its effects as NRC well knows (or should), the continuous low level radiation exposure to the surrounding populations in an at least fifty mile to 100 mile radius will have compromised the immune systems of the most vulnerable in particular to some extent, this will make them more vulnerable to infection if they drink water containing pathogenic microorganisms.

There are enough species on or adjacent to Hatch that are listed as Endangered or Threatened or Rare/Unusual, such as the Wood Stork Bald Eagle, American Alligator and Shortnose Sturgeon to warrant permanent shutdown on that issue alone. Cashing woodstorks in the wetlands east of the "cooling towers" with noble gases while they forage in radioactive leftovers from the spent fuel pool spill makes a sorry picture. The listing could shift to "extinct".

It is imperative that NRC read every single DETAILED inspection report and all the violations, indeed the entire Docket since start-up, that way the environmental and other impacts can be better assessed. That way NRC gets to see things like the fission particulate monitor and noble gas monitor being inoperable. The reason what has happened over the years is important is that it shows a pattern of serious problems and events, in some cases repetitive, which will recur or become worse due to aging etc. In the May 10th Testimony, I spoke of the pine needles and contamination. In the past, pine needles at the Baxley Health Dept. contained 220 pCi/kg Cesium-137, 730 pCi/kg Cerium-144 and 4300 pCi/kg of Beryllium-7 (no, it comes from the plant, not the cosmic ray song and dance gone through ad nauseum) Spanish moss at the Roadside Park contained 460 pCi/kg of Cesium-137, 500 pCi/kg Ce-144 and corn husks west at 0.75 miles Cesium-137 at 56 pCi/kg. Grass yo-yo'd up to 1500 pCi/gg for Cs-137. The City of Baxley's groundwater showed alpha at 7 ± 4 . How much pCi/l

higher is all this now? Its hard to tell from published reports, not only because experience showed data was being left out, but locations get changed etc. however, as one example, in 1999 Beta radiation in groundwater was 7 pCi/l 1.6 miles NNW and Beta at 5 pCi/l at the roadside park in groundwater in 1997. Isn't Beta meant to be separated out above 4 under EPA? Beta deposition in rain was 253 pCi per square meter, at 0.5 miles west south west, and 222 pCi/M2 at 1.8 miles north east near the river in 1997, so Hatch is spreading its radioactive poisons around nicely-aren't the local people lucky? Radioactive rain, pitty patting down on their children, crops and those Endangered and Threatened Species - but hey, why should Southern and Georgia Power care - money is rolling in. Any company that is as environmentally unconscious as to spray herbicides in wetland areas (p C-37) and under transmission lines

and thinks they are helping the flatwoods salamander , and spews radioactive gases into the air etc. as well should be ~~waxing~~ distributing bumper stickers to their stockholders saying " The Environment ? Who cares ? We don't." Glyphosate (in Accord) IS toxic and IS an irritant (EPA) . They should hire extra people (for the price of the herbicides is not cheap) instead to remove unwanted vegetation - vegetation that of course may support other species - after warning the people about the electromagnetic radiation off the transmission lines and breathing in Hatch's radioactive noble gases.....

To get some idea of how things go at Hatch, both the public and the NRC should review Inspection Report Nos: 50-321/95-01 and 50-366/95-01 (Public can get this from NRC Washington Public Document Room Tel 1800- 397-4209 access the PDR by pressing "0" - it will cost under five dollars,ask the PDR for cost.) this is not even one of the worst reports, just a report. Then remember one of Hatch's recent events , the Loss of Coolant Accident, could ultimately have led to a meltdown and that one of the systems, the High Pressure Core Injection (HPCI) kept messing up, just as it has done since years and no one knows the cause (its kind of an important issue since its part of the Emergency Core Cooling Systems)and then add to that, that Hatch has a cute little gizmo called the DIRECT TORUS ~~XXXXXX~~ VENT SYSTEM - in plain English, what this does in the event of a certain set of accident criteria, is that in order to gain time and avoid core melt somewhat, and assuming that either all core cooling sprays keep the core doused with water and there is no Loss of Coolant Accident, or, in event of a LOCA they can avoid the drywell blowing one way or another -while its melting down - they intend to VENT THE RADIOACTIVE BUILDUP, BYPASSING THE STANDBY GAS TREATMENT SYTEM, OUT THE STACK OVER THE POPULATION OF SOUTH GEORGIA BIGTIME. THIS WOULD BE AN ATTEMPT TO RELEASE THE PRESSURE. Under normal conditions, the Standby Gas Treatment System filters particulates and radioactive iodines in order to REDUCE - NOT ELIMINATE, REDUCE- the level of airborne radiation contamination released to the environs via the main stack and can filter (again it cannot eliminate everything) exhaust air from the drywell and the torus/pressure suppression pool. They hope stack filters may trap some particulates (which assumes that operates, in the past documents it is not clear whether or not they actually have an in stack filter, that needs ascertaining, also whether they have the Post Accident Sampling System in the stack or if they got out of having that -(did they ?) - since they kept getting extensions on PASS.. Furthermore, if and when they decide to radioactively gas south Georgia with the stuff going out under high pressure, the entire gaseous piping system could be massively degraded due to aging, pitting, corrosion, from radioactive decay heat/steam etc. and its anyones guess what the consequences could be ,yet for some reason it does not appear that is not going to be considered, and it should all be examined, etc.

NRC better understand that radioactively gassing South Georgia is NOT an option. Neither is continuing to allow the operation of this disaster waiting to happen NRC's own staff said was in need of being banned (the Mark I, which Hatch is)..

Samuel W. Janson, Former Chief Administrative Law Judge, U.S. Atomic Energy Commission, said in his foreward to "Meltdown - the Secret Papers of the Atomic Energy Commission" : As citizens you will also have to decide what to do about the one hundred nuclear

plants that are now operating- WITHOUT BENEFIT OF THE IMPARTIAL SAFETY REVIEW REQUIRED BY LAW - around the United States."

And further :

" For what was the Joint Committee (Congressional Joint Committee) on Atomic Energy doing as the Atomic Energy Commission and the Nuclear Regulatory Commission hid data about potential nuclear plant hazards ? And what has the White House been doing - except looking the other way - as official bodies, such as the President's Commission on Three Mile Island Accident, warned of the gross mismanagement that has occurred in the commercial nuclear power program ?"

("Meltdown - the secret papers of the Atomic Energy Commission," 1986 by Daniel Ford, former Executive Director of the Union of Concerned Scientists, is based on tens of thousands of pages of US A.E.C. internal documents he acquired using the Freedom of Information Act and Ford began his research in 1971 according to Ford.)

One example of how little things have changed, is that it was found out that in many turbine situations for nuclear power plants, one was oriented rotating towards the reactor, the other away. If the turbine shaft snapped, the one oriented towards the reactor would go barrelling towards it. This is the case at Plant Hatch, Plant Farley and at Plant Vogtle built AFTER this issue was known and it still was allowed. Degradation of Hatch's turbine shaft (or blades)

due to aging etc. is a very real possibility, and if this is not included in the review (I may have missed it, but I couldn't find it) there should be a Rule to include it as well as anything else left out. The consequences of a huge turbine rotating on the loose would be horrible, the environmental (and human) damage would be profound.

Last, but most important, on the map Altamaha School is near Hatch. Children, with their developing bodies, bones, brain, reproductive organs etc. are more vulnerable than adult males to the medical and biological consequences of radiation exposure. For the school children to be subjected to breathing in the radioactive noble gases emitted up the road is a disgrace. 1) In event of a meltdown/explosion/air release catastrophic accident these children may well die of radiation sickness or be damaged for life, with shortened lifespans and myriad health problems. 2) Because such an event can happen so quickly with reactors of the Hatch type, according to NUREG-1079, and they have no containment DOME over the reactor, fast evacuation would be impossible. 3) First responders are local. Appling County Emergency Rescue and the local fire dept. are totally ill-equipped to deal with such an emergency and evacuation and it is outrageous to expect them to. 4) the recent LOCA is an example of the beginning of what could occur as documented in the AIT report and should serve as a warning. 5) The July 20th 1999 NRC Special Team Inspection Report conducted June 16 to June 25th, 1999 is further proof of the potential for catastrophe on the horizon if the RSIVally had continued to fail, the RCIC system had not even operated manually and the recirculation pumps continued to fail etc. etc. and of course an AHRBW vent line cracked and leaked eight hours. 6) Because gassing the

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the children and surrounding population via the DIVE, bypassing the SGTs, trying to avoid overpressurization of the pathetic, inadequate existing form of so-called containment trying to avoid early meltdown is a) outrageous b) doesn't solve the meltdown problem .7) because NRC's own staff wanted to ban pressure suppression "containments" like at Hatch, plus said there was a 90% probability of that containment failing, and 8) because neither Southern, Georgia Power, GE, the NRC can prove beyond a shadow of a doubt that an accident resulting in meltdown and/or major radioactive release to the air and/or water will not happen at this aged dump of a reactor nor can they prove beyond a shadow of doubt or even reasonable doubt that children at the school, as well as Appling County and surrounding county children will not die or be damaged due to radiation exposure, and children in utero likewise (no matter how low the dose, or high the dose) and the risk to the children is simply too great to allow continued operation, I THEREFORE SUBMIT THIS LAST PARAGRAPH AS A FORMAL REQUEST UNDER SECTION 2.206 OF 10 CFR Ch. 20 FOR PERMANENT SHUTDOWN OF PLANT HATCH UNITS I and II, AND PERMANENT LICENSE REVOCATION, THE BASES BEING THE ENTIRE PARAGRAPH AND POINTS ONE THROUGH EIGHT, Considering the children whose lives are at risk and the health damage and the bases, denial of this 2.206 would constitute MALFEASANCE AND NEGLIGENCE in particular in event of serious accident.

Pamela Blockey-O'Brien

Copy to : The Executive Director, US NRC, Washington, D.C.

(i.e. Executive Director for Operations, U.S. NRC, Wash. DC 20555)

Ms. Rita Kilpatrick, Executive Director, CPG, Atlanta, GA.