

1 And the speaker after that will be Hardie  
2 Stulce. Is that right? Okay.

3 Then, Sandy and Hardie -- and we're going  
4 to ask that you limit your comments to five minutes to  
5 start until we've gotten through everyone. And if  
6 there's time left, we'll give you additional time after  
7 the last speaker.

8 So, Sandy, go ahead.

9 And again we want you to say your name and  
10 what organization you represent. And if your name is  
11 unusual or spelled in kind of an unusual way, please spell  
12 it. Thank you.

13 MS. KURTZ: Am I close enough? Okay. I am  
14 Sandy Kurtz; it's K-u-r-t-z. And I am an environmental  
15 education consultant, but I'm here as a volunteer for  
16 Bellefonte Efficiency and Sustainability Team and  
17 Mothers Against Tennessee River Radiation. And we are  
18 chapters of the Blue Ridge Environmental Defense League.  
19 And I serve on that board as well.

20 We have a long, long list of concerns and  
21 reasons why we think that this should not -- the  
22 relicensing should not happen. And so we certainly want  
23 these to be reviewed and considered during this  
24 Supplemental Environmental Impact Statement review, the  
25 scoping session here.

11-1-OR

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The original Environmental Impact Statement was done when the plant was first opened back in the 1980s and it seems like it's time to really start from scratch, not just say that there's been no significant environmental impact at this point because it's operating for all this time and, gosh, we haven't really had an accident yet. So we can just, we can just rely on that same Environmental Impact Statement and we can say that it's going to be the same way for the next 20 years, 20 years starting in 2020, because that's when the first license expires. I know there was one extension in between.

11-2-LR

So it's questionable to think that there's going to be no significant environmental impact in the future just because -- and I don't think it's even reasonable to say there's been no significant environmental impacts in the past 32 years. But still that's what NRC is saying. So I think that we need to really begin from scratch again on that.

Aging is a real issue here. We have an old, old, old, old plant. It's been operating with poor technology, outdated technology. Now the ice condenser design, which you all know is a bunch of ice baskets to cool off -- in case of an accident it's going to cool off the containment building of the reactor itself. And

11-3-OS

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that's old.  
And furthermore, there's also -- there's always concrete decay. There's pipes that have broken that are leaking. And I know TVA will say, well, we've been replacing these parts. And I know they just put in the new steam generator. But there are parts you can't get to. They are buried; they're buried in concrete. You don't know when they're going to leak. You don't know what's happening.

11-3-OS  
cont'd

And they are -- they're aging. And I think that's a very big concern to think that we are going to give a license to continue on for 20 years without worrying a lot about that aging situation.

There's concern over flooding. In the light of lessons learned from Fukushima and the fact that TVA has discovered with their own calculations that they are well -- they're too low. They need to put in flood protection in case the earthen dams upstream give way.

11-4-OS

And that certainly is an analysis that has to be done to assess the risk to a growing urban population. When Sequoyah was first built, it was pretty rural out here and now it isn't. And so we have a growing population.

11-5-OS

And I think we need to assess the risk should those dams upstream break or an earthquake occurs. Because we now also find out that we live in a possibly

11-6-OS

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1 seismically active area. We had the Knoxville  
 2 earthquake recently in and around Knoxville. And just  
 3 was today a lady here was telling me we have a little small  
 4 earthquake here in this area just today.

11-6-OS cont'd

5 So if -- I think we need to figure out if  
 6 the design for Sequoyah is strong enough to withstand a  
 7 heavy earthquake. And I understand that magnitude 5  
 8 would be a good number to shoot for for protecting.

9 It's also I'm especially concerned about water

11-7-SW

10 use. And we have climate disruption -- more storms, more  
 11 problems that way. And we also have growing industry,

11-8-CC

12 business people that use the water in addition to the  
 13 drinking water, most of which comes from the Tennessee  
 14 River for Chattanooga.

15 And a nuclear plant uses seven -- if it's  
 16 a 1,000 megawatt and Sequoyah is a little bigger than  
 17 seven thousand fourteen hundred -- 714,740 gallons per

18 minute. So I'm concerned about the use of that water,  
 19 two-thirds of which does not go back into the river after  
 20 it's used to cool. The rest of it is hot and so we worry

21 about the fish and the aquatic community there in that  
 22 whole ecosystem.

11-9-AE

23 Thank you.

24 MR. HAGAR: Sandra, do you have more to say?

25 MS. KURTZ: Yes.

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1 MR. HAGAR: Then I'll add your name to the  
2 last of the list and you'll have another opportunity.

3 The next speaker will be Hardie Stulce.  
4 Did I say that right?

5 MR. STULCE: Stulce.

6 MR. HAGAR: And the speaker after that will  
7 be Don Safer.

8 MR. STULCE: My name is Hardie Stulce,  
9 S-t-u-l-c-e. Employed by the city of Soddy-Daisy at  
10 present. I have been associated with the city either  
11 through the volunteer fire department since 1972 till the  
12 present. Have served on the City Council for four years,  
13 two years of which I was Mayor. The comments that I'm  
14 going to make are qualified to the point of from direct  
15 experience.

16 Sequoyah Nuclear Plant -- and this is  
17 unsolicited by anybody there. And I have a number of  
18 friends that work there as you would expect in any small  
19 community. Our town and this region has benefitted from  
20 this facility, not only from a financial standpoint as  
21 to a standard of living that it provides for the people  
22 who reside here.

16-1-SR

23 But as far as the valley as a whole or the  
24 Southeastern United States has directly benefitted from  
25 all of the endeavors of the Tennessee Valley Authority

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1 since the 1930s. And to that case in point, there are  
2 dams that were built in the 1930s that still don't have  
3 any problems today.

4 Everything at Sequoyah Nuclear Plant that  
5 I have been affiliated with as either a representative  
6 of the city as a fire fighter or through city government  
7 has been totally open, totally above board. There've  
8 never been any secrets. I was in the facility during its  
9 construction, flew over it in the late 1960s when they  
10 were digging the holes out in the rock underneath the  
11 ground cover. It's a magnificent facility.

16-2-SR

12 I have no concerns as far as the type of  
13 neighbor that Sequoyah Nuclear Plant has always been as  
14 far as safety. Yes, in any industry that is fairly new  
15 and the nuclear industry starting in the 1950s, yes, it's  
16 an old design. It's a well-proven design. I think I'm  
17 correct if I say that Sequoyah has broken the majority  
18 of the records in the United States for sustained power  
19 production and efficiency. Even though it is a branch  
20 of the federal government to that extent which is often  
21 identified with waste, it leads the industry in the  
22 reliability and sustainability of the power that it  
23 produces.

24 And I would like to go on record not only  
25 as a citizen of this area, a lifelong resident, but I

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1 speak, I think, for the entire City Council and the vast  
 2 majority of residents who reside in this area who would  
 3 be affected in a negative aspect were there a problem  
 4 there. We trust TVA. We trust their decisions and the  
 5 fact that they have always kept us in the loop in any  
 6 situation, whether it be good or bad. And that we  
 7 wholeheartedly support their request for a license  
 8 extension of the plant.

16-2-SR  
cont'd

9 Thank you.

10 MR. HAGAR: Thank you Hardie.

11 The next speaker is Don Safer. And after  
 12 that we'll have Kathleen Farris.

13 MR. SAFER: Thank you. I've already  
 14 introduced myself, but I'm Don Safer from Nashville with  
 15 the Tennessee Environmental Council and State Sierra  
 16 Club. I want to raise specific issues in the first five  
 17 minutes and I will want to speak again. Thank you.

18 The plant safety and security in the TVA  
 19 document that was sent out back in 2010 says that, "Severe  
 20 accidents are defined as accidents with substantial  
 21 damage to the reactor core and degradation of containment  
 22 systems. Because the probability of a severe accident  
 23 is very low, the NRC considers them too unlikely to  
 24 warrant normal design controls to prevent or mitigate the  
 25 consequences. Severe accident analyses consider both

17-1-PA

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1 the risk for the severe accident and the offsite  
2 consequences."

17-1-PA  
cont'd

3 What that means is that they just dismiss  
4 out of hand the possibility of a severe accident and don't  
5 consider it at all in the Environmental Impact Statement.

6 Now at Fukushima two years ago, they had a  
7 severe accident. It was an accident that -- and I was  
8 around the first time this plant was licensed. And we  
9 were promised that it wasn't possible to have that type  
10 of accident; that it was just impossible. And that was  
11 the words that were used on many occasions when those  
12 questions were raised.

13 Now at Fukushima 160,000 people have been  
14 permanently evacuated from their homes. The cost is  
15 going to be anywhere from fifty -- I've seen figures as  
16 high as 500 billion dollars of economic cost to Japan.  
17 I've seen figures that go up to around 11,000 square miles  
18 of land that is permanently contaminated for human use  
19 evacuated -- farms, homes, businesses. So  
20 that's the kind of thing that a severe accident actually  
21 has done two years ago. And that accident is ongoing.  
22 They've still not got it under control. And there are  
23 serious issues with the fuel that's -- the irradiated  
24 fuel that's in the fuel pools there.

25 And we have a lot of irradiated fuel at

17-2-PA

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Sequoyah. Every single bit of it that's been there since the -- that's been made there is still there, much of it in fuel pools.

17-2-PA  
cont'd

At Chernobyl 200,000 people were evacuated and the amount of deaths are anywhere from 4,000 to a million, depending on who you ask. And the million is actually quite well documented by Ukrainian doctors. The tremendous -- the people, I'm sorry, that are the most

likely to know. They evacuated permanently a 19-mile circle with Chernobyl in the center.

17-3-OS

So just imagine. Take a 19-mile circle from Sequoyah and that's what's possible in the event of a severe accident. And that is not even being considered in this process. And I ask the NRC in going through this in a post-Fukushima time to take that into account in the decision to relicense or not. How much time

do I have?

MR. HAGAR: You have five minutes now.

MR. SAFER: The other issue I think that is important that I'll get into right now -- if I can find my note -- is this issue about the life expectancy. I have an AP article that was just written in the last year. I remember when these -- as I said, these plants were first licensed. They said 40 years was it. The engineers that designed these things designed them for

17-4-OS

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1 40 years. Adding another 20 years is really suspect.  
2 And it's largely an economic decision. So this article  
3 says they're rewriting history saying that these things  
4 can go easily another 20 years. The metal imbrittlement  
5 is a question.

17-4-OS  
cont'd

6 Just the design, I think later I'll get into  
7 the design of the ice condenser units which are  
8 remarkable except they're really wacky. I mean you've  
9 got a lot of ice in there. But the ice condenser design  
10 just briefly was identified after Three Mile Island as  
11 being the most likely of all the United States reactors  
12 for the containment to fail in a serious accident in a  
13 loss of -- a coolant water accident where the fuel rods  
14 are exposed. You get hydrogen buildup. They had to go  
15 back and retrofit hydrogen igniters.

17-5-OS

16 But this design was done in the æ60s.  
17 There's a reason why only nine of these were built, 10  
18 if you count Watts Bar 2. There's a reason why they're  
19 less than 10 percent of the United States reactor fleet  
20 and why not a single new one has been built. TVA did  
21 finish the ones at Watts Bar that they had started.

22 But thank you. And for the record, I don't  
23 see why we can't go on a little longer first. But thank  
24 you. And I'd like to speak again.

25 MR. HAGAR: Understand, Don, you want

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1 another opportunity. So you'll have that.

2 Kathleen Ferris. And then following  
3 Kathleen will be Gretel Johnson.

4 MS. FERRIS: Good afternoon. My name is  
5 Kathleen Ferris. I'm from Murfreesboro, Tennessee.  
6 Cofounder of the organization called Citizens to End  
7 Nuclear Dumping in Tennessee. I am speaking today  
8 primarily, however, as a mother and a grandmother.

9 I gather that most of the people that I'm  
10 speaking to here who are scientists are in the field of  
11 physics or chemistry. And what I would like to ask you  
12 to do today is to consider these issues in terms of the  
13 biological perspective as opposed to the more -- I don't  
14 know what the word would be for that. But the other  
15 branches of science.

16 For many decades we have been warned by  
17 physicians and public health officials, people like  
18 Helen Caldecott and Dr. John Gofman and Rosalie Bertell  
19 have told us the dangers of ionizing radiation to human  
20 health. We have been told that it damages DNA and causes  
21 mutations and that it is carcinogenic and especially to  
22 children. Now there's no debating the issue that  
23 nuclear reactors do emit radiation. There are routine  
24 emissions; there are spills; there are accidents, some  
25 more serious than others.

18-1-HH

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However, TVA and the NRC, I have yet to see a report that does not say, "No risk to the public," after one of these things occurs. These reactors pollute the environment, the water, the air. The rain rains down radionuclides onto the grass, gets into our plants, into our food chain.

There are many studies that have been done mostly abroad that show that people, especially children, who live near nuclear reactors have a higher incidence of cancer than the national averages or than people who live at a greater distance. Back in the 1980s there was one by at Sellafield in England that found clusters of leukemia and cancer. In Germany around the year 2010 was a government sponsored study that showed that the reactors tested there was almost double the rate of leukemia -- well, over double the rate of leukemia and double the amount of other cancers in children. Another study at Chepstow, Wales, a very recent one, shows that three and a half times the risk of cancer to children than the national average.

18-1-HH  
cont'd

Now just this past week another study came out from Sacramento. It was done at Sacramento County, California, where there are approximately 1.4 million people living. Rancho Seco is a reactor that has been closed for 23, over 23 years. This study shows -- by

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going through all the cancer records of the state of California, they have shown that there is a drop of cancer incidents in the 20 years since the closing. A very precise number, 4,319 fewer cases over that 20 year period. And many of these are women, Hispanics, and children. Again children are some of the worst victims of radiation poisoning.

18-1-HH  
cont'd

National Academy of Sciences is currently carrying on a study of reactors in this country to see whether the cancer incidence is indeed higher or not. The NRC is sponsoring that study and it's not yet completed. Yet the NRC is going ahead with relicensing before knowing all the facts regarding human health in the vicinity of these plants.

18-2-HH

Now Hamilton County contains 134,000 people. I'm sure there are many, many more; I'm not sure of the exact number within a 50-mile radius. I urge you not to put these people at further risk by approving a plant that's already -- reapproving, relicensing a plant that's 40 years old that has a poor record of operations with repeated scrams and that has a design that has been called faulty, maybe not by the NRC or local people.

18-3-OR

We have all seen the horrors of somebody dying of cancer. I know I have. And it's even much worse if it happens to be a child. And I ask you, please,

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1 to focus on not just -- our society needs to focus not  
2 just on cures for cancer but on prevention of cancer.  
3 And this is one way that you can help do it.

4 Thank you.

5 MR. HAGAR: Thank you, Kathleen.

6 Gretel.

7 And after that, Sandy Kurtz, you'll have  
8 another opportunity.

9 MS. JOHNSTON: I'd like to this into the  
10 record. This is my comments and supporting documents.

11 MR. HAGAR: I understand you want this into  
12 the record.

13 MS. JOHNSTON: Yes, sir.

14 MR. HAGAR: I'll turn it over to Dave. I'm  
15 sure he'll make that happen.

16 MS. JOHNSTON: Okay, thank you.

17 Hi, my name is Gretel Johnston. That's  
18 G-r-e-t-e-l. And I'm with a group called Mothers  
19 Against Tennessee River Radiation and we're part of  
20 Bellefonte Efficiency and Sustainability Team and the  
21 Blue Ridge Environmental Defense League.

22 I come here today, first of all, I'd like  
23 to challenge a basic assumption that's in this  
24 Environmental Report. And that is that the only  
25 alternative to extending this license is either to do

10-1-AL

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1 nothing and decommission, which I would recommend, or  
2 to -- the other option is called, in your own words, as  
3 the "reasonable alternative energy sources" as an  
4 option. But the only options that are given in this  
5 study are nuclear and gas powered power plants.

10-1-AL  
cont'd

6 And many, many studies -- and I've included  
7 them in the literature -- have addressed the issue of how  
8 to replace -- as we retire coal plants and nuclear plants,  
9 how we replace dirty energy with clean energy. And the  
10 first and foremost choice that we advocate is energy  
11 efficiency.

12 Energy efficiency cannot only replace all  
13 the power that's being generated by Sequoyah at this time  
14 and quickly. It does not come on line slowly; it comes  
15 on line quickly and creates a lot of jobs and it's less  
16 expensive by far than nuclear. But it also will improve  
17 the homes of the people of the Tennessee Valley. It will  
18 improve your lives by giving you smaller electric bills  
19 every month and as well as creating jobs and not fouling  
20 our nest and putting dangerous radioactive poisons into  
21 our ecosystem or fossil fuels either.

22 So our first line we recommend is that this  
23 basic assumption that the only alternatives are dirty  
24 fuels being looked at carefully and examined and that  
25 that assumption be renegotiated for the power plant.

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1 That, if in fact another option is taken, that that could  
 2 be renewable energy or the first line we would recommend  
 3 is energy efficiency.

10-1-AL  
cont'd

4 In a study by Georgia Tech and Duke  
 5 University a couple of years ago asserted that energy  
 6 efficiency programs in one decade in the South alone  
 7 could create 380,000 new jobs. That's between 2010 and  
 8 2020, 380,000 new jobs. It would lower electricity  
 9 bills by 41 billion dollars. And all while eliminating  
 10 the need for new power plants for two decades and saving  
 11 8.6 billion gallons of fresh water. Now that's a major  
 12 environmental concern. And if this truly is an  
 13 environmental study, I think that this has to be taken  
 14 into consideration and considered as a viable modern  
 15 alternative.

16 As David Freeman says about the nuclear  
 17 technology and TVA, he says, "TVA is building yesterday's  
 18 technology tomorrow." And I have to agree  
 19 wholeheartedly with him on that. And I want to see us  
 20 looking towards the future and especially the future of  
 21 our children and grandchildren by providing them with a  
 22 clean and healthy environment to live and grow in.

23 And allowing radionuclides into our  
 24 environment not only affects the food chain, but it  
 25 affects our very DNA. It changes the structure of our

10-2-HH

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1 genetic makeup. That's a long range issue, you know,  
 2 just one of these radionuclides -- the power plant  
 3 creates 200. When the uranium goes in, it creates 200  
 4 poisons that don't exist in nature.

10-2-HH  
 cont'd

5 Our body doesn't know what to do with them,  
 6 so they try and find the things that they most closely  
 7 resemble, whether it be iodine or potassium or calcium.  
 8 It tries to find that and it takes it up that way in the  
 9 bones, in the thyroid, and different parts of the body.  
 10 That's what it does with these radionuclides.

11 And they last for a very long time; some of  
 12 them are short lived. But we're talking about 200. And  
 13 some of them are extremely long lived.

14 What is it? The iodine 129 lasts  
 15 for -- what is it, 570,000,000 years is the half life?  
 16 That's 570,000,000 years, you know, that it's dangerous.

17 We can't even begin to absorb what that means. But it's  
 18 just not fair to the future of our planet, to future  
 19 generations, to living beings to impose this upon them.

20 So we call first of all for energy  
 21 efficiency.

10-1-AL  
 cont'd

22 Thank you.

23 MR. HAGAR: Well, at this point all of the  
 24 speakers who signed up to speak have had the opportunity  
 25 to speak and so now we'll give the speakers who wanted

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1 to say more a second opportunity.

2 And, Sandy, Kurtz, you were the first.

3 And if it's all right with everybody for the  
4 second go around, we'll expand the time available to 10  
5 minutes per speaker. And perhaps that will give the  
6 speakers an opportunity to finish.

7 Is that okay with you?

8 MS. KURTZ: Sure.

9 MR. HAGAR: Okay, 10 minutes.

10 MS. KURTZ: Where was I? I was talking to  
11 you earlier about the water usage and how much water comes  
12 out of the river, every minute, 714,740 gallons per  
13 minute when the plant is operating. And two thirds of  
14 that goes up into the air through the cooling towers that  
15 we're all so familiar with.

11-10-SW

16 And the rest goes back into the river and  
17 is hot. There are regulations about how hot it can be,  
18 but it is hot and it goes back into the river and affects  
19 the fish. Although as I've been told, fish can swim  
20 around the hot parts. But there are other macro  
21 invertebrates and small critters in the water that are  
22 called the drift community and they cannot swim around.  
23 They are subject to whatever they run into. So that's  
24 a problem.

11-11-AE

25 And in fact, it's water that's going to be

11-12-SW

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the constraining resource in the future. We cannot have nuclear plants using all that water that could be used for other uses. And it's just evaporating into the air for the most and that is -- that also causes climate

11-12-SW  
cont'd

change, climate disruptions as well. So I think we need to -- I think that we are going to have continued drought conditions in between storms if the predictions are correct about that.

11-13-CC

And we are also going to have hotter water and that has caused some shutdowns of nuclear plants already here in the Tennessee Valley. I know that Sequoyah and Watts Bar have both shut down because the water in the river was too hot to take the hot water that the nuclear plants were putting into it. So those shut-downs that are caused by climate should be a significant environmental impact and should be considered as one of the possible things to analyze as to how that's going to work.

Further shut-downs -- every time there's a shut-down, that is really, really expensive. That costs a lot for TVA to be operating shut-down and they have planned shut-downs. But every time there's a scam -- that's an emergency shut-down. And by the way, Sequoyah has been cited by NRC for having too many of these emergency shut-downs in a year. I think that

11-14-OS

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1 happened last year. So that is a problem.

11-14-OS  
cont'd

2 The other thing that I wanted to talk about  
3 a little bit was the extension of the license.

4 Apparently TVA -- well, I know TVA has already entered  
5 into an agreement with the Department of Energy to  
6 produce tritium until 2035. And tritium is a  
7 radioactive form of hydrogen that becomes a radioactive  
8 form of water. If it's ingested, inhaled, or absorbed  
9 through the skin, tritium can permeate living cells and  
10 cause damage at the cellular level.

11-15-OS

11 So in both 2003 and in 2011, tritium was  
12 found in the ground water at Sequoyah. It's also leaking

11-16-GW

13 from the Watts Bar 1, where they're making it, cause  
14 the -- absorbed with the rod cladding. It's being  
15 absorbed into the rod cladding and then it's leaking into  
16 the river. So since we get our drinking water primarily  
17 from the Tennessee downstream from Watts Bar and  
18 Sequoyah, we've been exposed to that for these now,  
19 these, what will be 40 years when the license expires.

20 And I don't think we need another 20 years  
21 of that just so the Department of Energy can have tritium  
22 made in a commercial -- supposedly a commercial nuclear  
23 plant. And they're using it for military use because,  
24 as you all know surely, tritium is used to boost military  
25 bombs, making of bombs. And it's used for that purpose

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1 and so the Department of Energy wants those. But I don't  
2 think we should be supporting the making of bombs while  
3 we're poisoning our water.

11-15-OS  
cont'd

4 The other issue, too, is about radioactive  
5 mixed oxide fuel. That's another thing the Department  
6 of Energy wants TVA to be using here. It's experimental  
7 in commercial nuclear plants, never been used in the  
8 United States in a commercial nuclear plant and Sequoyah  
9 is not designed for it. So to say that TVA -- TVA to agree  
10 to that, to using that mixed oxide fuel that's so  
11 radioactive, more so than plain old uranium, I don't  
12 think we should think about that. And that too, of  
13 course, would be a significant environmental impact if  
14 that leaks, gets loose, or we have an accident.

11-17-OS

15 Spent fuel storage, you know, spent fuel is  
16 radioactive fuel that uranium that has been used in the  
17 reactor and then it becomes actually more radioactive and  
18 it is taken out of the reactor and put into this fuel pool.  
19 And the rods that where the uranium fuel is -- this is  
20 highly radioactive rods -- are put into the fuel pool.  
21 And what's happening is it's getting more and more  
22 crowded because they don't know what to do with the waste.

11-18-RW

23 Where shall we put the radioactive waste  
24 since there's no place to ship it to? There's no setup  
25 for that. And besides why have two places that are

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1 radioactive when you can just leave it on site here at  
2 Sequoyah? But how much more should we be making? So the  
3 crowding of the rods is a problem.

11-18-RW  
cont'd

4 And when they take the rod density, there's  
5 more opportunity for accidents when the rods are so much  
6 closer together and fission can happen. So where do we  
7 put it? These are the things that I think that the  
8 scoping should include. Where are we going to put those  
9 rods and keep the crowding smaller? And is  
10 the Watts Bar radioactive waste also going to be  
11 supported to Sequoyah, which has -- I think is true.

12 And has the proposed independent spent fuel  
13 storage building been put in place and is it secure  
14 enough?

15 Further, are there plans to put things into  
16 hardened cask storage so that they are safer than they  
17 are in the fuel pool?

18 I know that Gretel had just spoken about the  
19 decommissioning plans and the fact that there are only  
20 two alternatives mentioned, both of which either say  
21 decommission -- and we would recommend that -- or and  
22 build a new -- but the alternative also says if you want  
23 a new 40-year licensed nuclear plant. But you can't do  
24 it on the Sequoyah nuclear site. It's already poisoned  
25 actually. So that doesn't sound like a good plan. We

11-19-AL

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wouldn't recommend any more nuclear plants.

The other is the gas fired generators to replace Sequoyah Nuclear Plant, but again not on the Sequoyah Nuclear Plant site because it's sort of no man's land when you get a nuclear plant. People can't go there again. It's kind of like a land grab, it seems to me, kind of giving away your land which can never be entered again because it always -- even in decommissioning, because it always has to be protected from the radiation. So you're giving away to land to think about having nuclear plants. But if they're going to be decommissioned, it has to be certainly safe, too.

11-19-AL  
cont'd

There are alternatives and I, too, would suggest that NRC consider other alternatives besides just those two.

I want to talk about radiation doses and you have -- NRC has radiation doses. They have established standards and those standards for radiation tell all the nuclear plants what level of dosages are okay, in their opinion, okay for you to receive. Some small amount that they consider absolutely safe and below that there's no problem. And that's how they figure out what the dosage is going to be and how they say there's no public risk. But we all know that there is no safe dose of radiation because it's cumulative.

11-20-HH

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I'll do the rest at the evening meeting or maybe another time here.

MR. HAGAR: All right. Thank you, Sandy.

Don Safer, did you have some more to say?

MR. SAFER: Yes, sir.

MR. HAGAR: Ten minutes, please.

MS. SAFER: Once again thanks for the

opportunity. Before I get started, I'd like to recommend to everybody, especially the young people working on the NRC on this project. It's called Tritium on Ice. It gives a great history of the NRC, not totally, but in regard to the ice condenser design and the tritium question. And this man worked at the Sandia Lab for 25 years. He was highly respected until the truth finally got to him, especially on this particular issue.

17-6-OS

And in here he says that there are serious grounds for worry that ice condenser plants could undergo catastrophic accidents exposing nearby populations to fatal doses of radioactivity. And he goes on to say -- this is a dispassionate outside observer -- "The fact that the operator of the plants is the Tennessee Valley Authority, a federal agency with a long history of compromising nuclear safety, exacerbates the potential danger."

Now the history of TVA and nuclear is long

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1 and it's not so pretty. And we've been very lucky that  
2 we haven't had a major accident. Browns Ferry almost  
3 went up because of the famous candle fire in 1974. And  
4 if you don't know about it, you should look it up because  
5 it's pretty scary.

17-6-OS  
cont'd

6 There have been improvements, but his main  
7 point in here is that the ice condenser design is  
8 fundamentally flawed from the get-go. It was originally  
9 designed as a way to put -- make the containment vessel  
10 less robust, not as thick, not as strong, not as big. So  
11 it costs less. This is nuclear power on the cheap.  
12 That's not the kind of nuclear power that we really want.  
13 We don't want any nuclear power, but on the cheap is the  
14 worst. That's why he says it's more likely to fail.

15 The description of the ice condenser system  
16 is very well done by Dave Lochbaum in his book. And the  
17 ice condenser is a large vault-like structure which  
18 encircles the base of the reactor containment building.  
19 The ice condenser is subdivided into 24 bays. Each bay  
20 has two hinged doors at the bottom of the wall between  
21 the reactor containment building and the ice condenser.  
22 Each bay contains 81 large 45-foot-tall baskets filled  
23 with ice. Those doors, in a major accident those doors  
24 are supposed to open. The ice is supposed to absorb the  
25 heat.

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It's supposed to be chipped ice. And I would like to ask the Resident Inspector of the NRC maybe privately or maybe publicly to establish whether that ice stays chipped or whether it becomes solid blocks of ice and they dealt with the subsidence issue. But not on my 10 minutes here, please.

17-6-OS  
cont'd

The other major issue it's been mentioned about the children. In doing research on this in a Reuter's article from March 15th, 2011, it quoted, it said between 12,000 and 83,000 children were born with congenital deformities according to the German physicians group IPPNW, between 12,000 and 83,000 children born with deformities. Some of the deformities of these children, if you have the stomach for it, they're horrible. They're hardly human.

17-7-HH

Chernobyl?

MR. SAFER: At Chernobyl, I'm sorry, Chernobyl. What did I say? At Chernobyl, anyway at Chernobyl. And so that's going back there.

The other thing that I would like -- next thing I'd like the NRC to consider in this application is the need for the power from this risky type of power. Last year alone in 2012, according to the USA Today there was over 13,000 megawatts of wind power installed in the United States. That's 13 reactors like Sequoyah. In

17-8-AL

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1 one year without hearings like this, without the need to  
2 go through these types of procedures, without the risk  
3 to the public, without the evacuation plans, without the

17-8-AL  
cont'd

4 radioactive waste. At Sequoyah there's currently  
5 1,174 metric tons of this high level radioactive waste.  
6 It's easily one to three million times more radioactive  
7 than when the fuel went into the reactors. This is not  
8 just spent fuel; this stuff is a nightmare.

17-9-RW

9 At Fukushima Unit 4, which is teetering and  
10 if it falls there are concerns by scientists that it will  
11 be a global environmental catastrophe if that Unit 4 if  
12 all the cesium in there spills and is spread. Well, the  
13 amount of cesium -- amount of fuel rods in that pool is  
14 far less than the 796 metric tons in the pools at Sequoyah  
15 right now. There's also 378 metric tons in casks there.

17-10-PA

16 So back to the need for it, the wind  
17 potential, the solar potential in the valley, at this  
18 point TVA is putting a restriction on the amount of solar  
19 that can be installed. There's so much more potential  
20 to install solar and it won't even cost TVA anything but  
21 the feed-in tariff. People are willing to spend their  
22 own money, put these solar panels on their roofs. And  
23 TVA is putting a limit on how much solar power can go on  
24 people's roofs.

17-11-AL

25 I think it's to justify continuing to build

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1 Watts Bar 2, continuing to operate Sequoyah, doing the  
2 small modular reactors. They're doing everything they  
3 can to slow down the renewables.

4 And there are credible sources. The  
5 National Renewal Energy Lab in Colorado, it's a  
6 Department of Energy funded think tank on renewable  
7 energy. It says we can get all of our power in a reliable  
8 grid by 2040 -- or 80 percent of our power in a reliable  
9 grid by 2040 from all renewable sources. And that's not  
10 with -- that's without even evolving the renewable  
11 technology like it's going to evolve.

17-12-AL

12 We don't need this plant. We need to get  
13 away from it. They're doing it in Germany. After  
14 Fukushima, the Germans decided to shut down all of their  
15 nuclear plants. They're going to do it by 2020, when  
16 this license is set to extend the life another 20 years.  
17 Certainly we can make plans and get rid of it. In Japan  
18 after Fukushima, they had maybe one reactor operating.  
19 They had to go cold turkey off of nuclear because the  
20 people won't accept it anymore after they've seen the  
21 cost.

17-13-OR

22 So we should have a phase-out at least. And  
23 the beginning of the phase-out is to stop licensing,  
24 relicensing these old plants that have a much higher  
25 likelihood of problems, especially these ice condenser

17-14-OS

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17-14-OS cont'd

1 designs. The idea of putting MOX in this reactor which  
2 is under consideration -- TVA is the only utility that's  
3 thinking about using it -- is phenomenally ridiculous.

17-15-OS

4 And this was tried in two ice condensers that Duke Power  
5 owns. And those experiments failed, and Duke Power ran  
6 away from it screaming. They won't touch the stuff.  
7 And TVA now is the only utility that's even considering  
8 it.

9 So the waste confidence, the waste, it was  
10 supposed to already be somewhere else. In the very  
11 beginning, they said, "Oh, don't worry about the waste."  
12 And there've been oh so many different ways to deal with  
13 it theoretically. But the reality is it's an almost  
14 insoluble problem that nowhere in the world have they  
15 really answered.

17-16-OS

16 Reprocessing is an environmental  
17 nightmare. Ask the people in West Valley, New York where  
18 they tried reprocessing. And this was years and years  
19 ago -- 20 or 30 years ago. And they're still cleaning  
20 up the mess. The DOE is still cleaning up the mess.  
21 And there's a plume of radioactive water that's headed  
22 to the Great Lakes underground. And it's an  
23 environmental nightmare for the people.

24 So this licensing procedure can't even be  
25 finished until the NRC figures out what to do with the

17-17-OS

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1 waste. They did something called waste confidence.  
2 They said, "Trust us. We have confidence we'll figure  
3 out what to do with the waste."

17-17-OS  
cont'd

4 Some of the independent environmental groups took  
5 the NRC to court and actually won. And the court said  
6 you got to have a plan. And that process is going on  
7 concurrently with this process.

8 I think the feeling is that the NRC, oh,  
9 we'll get the waste confidence thing done and we'll get  
10 the Sequoyah thing done. And they'll all go together.  
11 But they can't relicense this plant until that waste is  
12 adequately addressed and there are a lot of plans to do  
13 that. But some of the best minds in the world have been  
14 trying to figure that out for 50 years and have not  
15 figured it out.

16 It's a nightmare stew of toxic substances  
17 that absolutely have to be protected from the biosphere.  
18 And we are not doing a good job of that. And that's why  
19 the background radiation levels are increasing.

17-18-HH

20 If you want to find out more about the ice  
21 condenser design again for the NRC, please read New Reg  
22 1150. That was something that was developed in the 1980s  
23 after Three Mile Island when there was a very serious

24 attempt at the NRC to study the reactors. And that's  
25 where the ice condensers came out as the very most likely

17-19-OS

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1 to fail. And that again was a study conducted by the NRC.

17-19-OS  
cont'd

2 And it needs to be part of the debate about  
3 whether this reactor should continue. It should have  
4 been part of the debate about Watts Bar 2 and the  
5 licensing there.

6 But I believe that there's a renewed  
7 interest by the people of the country and also at the NRC  
8 in safety because of the tragedy at Fukushima. And I  
9 trust that that spirit will infuse this process.

10 It is a fact that not one of these renewal  
11 applications has been denied. And I have people who have  
12 called it rubber stamped. I hope that the rubber  
13 stamping stops and this will be a very serious  
14 consideration.

17-20-LR

15 And thank you.

16 MR. HAGAR: Okay, I need to address an  
17 administrative detail. One of the speakers has picked  
18 up my clipboard off of this lectern. Oh, never mind, the  
19 NRC speaker got it.

20 All right, we have all of the speakers who  
21 signed up to speak have spoken, some twice. Is there  
22 anyone else like to speak twice? Gretel?

23 Okay, Gretel. And you have 10 minutes,  
24 please.

25 MS. JOHNSTON: Thanks, okay. A lot of

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1 issues have come up. Let me see. First, I'll just  
2 address some of the ways that -- oops, uh-oh -- before  
3 I address anything, I need to make sure that's not going  
4 to -- can you all hear me all right? Good, okay.

5 I would like to talk about a number of issues  
6 I have concerns about that are specific to Sequoyah.  
7 Some of them apply to other nuclear power plants as well.

8 One of them that is specific to Sequoyah is what I  
9 consider, our group considers, a compromised integrity  
10 of the containment and that we consider it beyond the  
11 design basis of this nuclear power plant.

10-3-OS

12 That the TVA sawed through the containment,  
13 the concrete and the metal secondary containment, of the  
14 building the reactor is in and  
15 took out a broken generator and replaced it with a giant  
16 crane. And this was not designed to be done. This power  
17 plant was not designed for this. So this is a beyond  
18 design basis issue.

19 And I hope that the evaluators will consider  
20 that in the light of the integrity of the unit itself,  
21 but also in the light of what it means in terms of TVA's  
22 willingness to cut into the containment structure,  
23 thereby compromising it in order to cut costs to continue  
24 the program. We think this is an unacceptable lack of  
25 quality control at the very least and it shows little

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concern for the safety and health of the citizens in this area.

10-3-OS  
cont'd

Which by the way someone was wondering about that. Within a 50-mile radius of Sequoyah, there are over a million people, thanks to Pam Sann (phonetic) I know that, and that is a major concern.

Another deliberately fabricated beyond design basis ongoing event that has been mentioned earlier is this extended use of cooling pools to store the irradiated, spent -- it's called spent fuel, but it's actually much more toxic than the uranium that goes into the reactors because it has been enriched in the process, creating these radionuclides I talked about earlier.

10-4-PA

In that the Homeland Security and Congress asked the National Academy of Sciences to do a study on this to decide whether it was dangerous, this overloading of the cooling pools, and they recommended that all of the fuel going into these cooling pools be removed after five years and put into dry cask storage which is considerably safer for all of us.

The ones in Fukushima, that's a lesson of Fukushima, the dry cask storage, came out unscathed. The cooling pools we still don't know. That's what they were dropping water from the helicopters to try and prevent a fire at the cooling pools.

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1 According to a very well respected Robert  
2 Alvarez at the -- I'm sorry, I've forgotten where he  
3 is -- the Policy Institute of some sort. Anyway he wrote  
4 a study in 2012 and he quoted something that I think is  
5 worth re quoting, "A severe pool fire," -- they  
6 said -- first let me preface it that they had known for  
7 decades that severe accidents can occur in cooling pools.  
8 They've known that for decades. And he said, "A severe  
9 pool fire could render about 188 square miles around the  
10 nuclear reactor uninhabitable. Could cause as many as  
11 28,000 cancer fatalities and cause 59 billion dollars in  
12 damage according to a 1997 report for the NRC by  
13 Brookhaven National Laboratory." Sequoyah has  
14 well over 1,000 metric tons of this higher irradiated  
15 radioactive trash and it's very, very dangerous stuff.  
16 And it's stored in these cooling pools. In fact, 75  
17 percent has been piling up in these cooling pools for 30  
18 years now. They've only moved a quarter of it into dry  
19 cask storage. Now that's a better rate than Watts Bar,  
20 which is 100 percent in the cooling pools and Browns  
21 Ferry, which is 88 percent in the cooling pools.

22 But basically they're just saving a buck by  
23 keeping it in the pools and not putting it in the safer  
24 dry cask storage. Okay, that's beyond the potential for  
25 these concerns. They're potential non-deliberate beyond

10-5-PA

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1 design basis events such as floods or tornadoes.

2 The TVA dams are aging and they were not  
3 built to withstand earthquakes in the way that big power  
4 plants were. They don't have -- they're not up to those  
5 standards and they are aging. And there have been many,  
6 many failures of dams in America and TVA has suffered some  
7 as well. And we're concerned that there could be a dam  
8 failure that could trigger a domino effect above Sequoyah  
9 and that numerous dams could break. And the integrity  
10 of the cooling systems could be compromised no matter how  
11 much planning we do. As we found at Fukushima, we cannot  
12 foresee everything; we are human.

10-6-OS

13 Okay, another issue is maintenance. TVA's  
14 record -- and I found out when the tornadoes came in 2001  
15 and we had the outbreak of tornadoes in April, there were  
16 two of the eight backup generators that were inoperable  
17 at Browns Ferry that day. One of those EF-5 tornadoes,  
18 the strongest tornadoes known to man, touched down very  
19 close to Browns Ferry within visual distance. And it was  
20 a very close call because those are different kinds of  
21 cooling pools. They're raised up in the air and all they  
22 have is overhead containment or sheet metal roofs.

10-7-OS

23 It's the same as Fukushima. That's what  
24 built up and you saw those roofs blow off in Fukushima.  
25 It's the same design.

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Okay, so two of those were inoperable on that day. The next day another one had to be shut down. That's three of eight; that's a 40 percent failure rate in the backup emergency systems.

10-7-OS  
con't

And the irony of nuclear power plants is that you have to have incoming power from another source to keep them from being -- (Noise in background)

Is that me?

THE REPORTER: That's not you.

MS. JOHNSTON: Okay, I'm glad. So you have to have a backup power system for you power system and that's a sad reality with nuclear power.

And, okay, I want to show you something here. I notice in the ACRS that tornadoes were mentioned and they talked about their study. Basically they did their statistical work around two major periods. One was a 37-year period from 1950 to 1986 and there were 31 tornadoes during that period in a 34-mile radius. And then the next period was the next 15 years up to 2002 and there were 23 tornadoes during that period. That is nearly doubling the rate in that period time. And this only goes up to 2002. Okay, well, in 2011, as you can see, this is NOAA track of the tornadoes that came through the Tennessee Valley on April 27th, 2011. And those circles are the 50-mile radius of our nuclear power

10-8-PA

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plant in this valley. And Sequoyah had around 15 of them, it looks like here. Someone else may count it differently, but that's what it looked like to me.

And I noticed in your report that you did mention that and that TVA reported that three of them touched down within 10 miles of Sequoyah. Your statisticians predict unlikely odds of a direct hit on Sequoyah. But I tell you, I'm not real confident with gambling on this. There's a lot of people whose lives are involved in this and I think we need to take it seriously.

10-8-PA  
cont'd

And I think what it's going to take is us demanding that the dollar not be counted above our health and safety. And I, of course, call for the decommissioning of Sequoyah.

10-9-OR

Thank you very much.

MR. HAGAR: Thank you, Gretel.

Now is there anyone who wants another opportunity to speak that's already spoken?

And is there anyone in the audience that has not yet spoken who wants to?

(Background comment)

MR. HAGAR: Okay, I understand we'll hear from you later then.

I would remind everyone that we're going to

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1 microphone over to the next person.

2 And let me suggest, though, if you're going  
3 to quote from a document, if you're going to come up and  
4 quote from a document, rather than quote from the  
5 document, just identify the document. Because I know  
6 from experience the NRC staff will pull that document and  
7 validate those quotes. So don't spend a lot of time  
8 quoting from a document, just give the document. Just  
9 a hint to you.

10 All right, Jimmy Green will be the first  
11 speaker. And then Garry Morgan will follow that.

12 And Jimmy, you'll have -- what did we say,  
13 six minutes?

14 MR. GREEN: Hello, I am Jimmy Green. I am  
15 the Energy Policy Manager at the Southern Alliance for  
16 Clean Energy in Knoxville, Tennessee. We are a regional  
17 non-profit conservation and energy consumer  
18 organization with members in Tennessee and throughout  
19 the Southeast. We focus on energy policy, including  
20 nuclear issues since 1985. I'd like to thank you for  
21 holding these public hearings today.

22 The main point I want to make is we wanted  
23 to make sure that the NRC is aware that TVA is beginning  
24 to enter into the process of developing an updated,  
25 integrated resource plan. Probably at the end of this

19-1-AL

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1 year they're going to get started seriously on that.  
 2 This will inform the question of whether or not the power  
 3 generated by this plant is needed.

19-1-AL  
cont'd

4 And so we would recommend that you closely  
 5 follow the IRP process of TVA to see how that calculation  
 6 plays out. Clearly not using this energy is going to be  
 7 the most efficient way to go and the least environmental  
 8 impact. And that's the thing we're always recommending,  
 9 energy efficiency and renewable energy as a clean and

10 preferred alternative. There's some other  
 11 environmental issues I just wanted to mention that are  
 12 tied specifically to the Sequoyah Plant. One is the  
 13 water requirements. That's been a big issue recently,  
 14 the amount of water that these plants take in and the  
 15 temperature rise. I'm sure you're looking at that.

19-2-SW

16 Vulnerability to flooding obviously has  
 17 been in the news recently and still seems to be an issue  
 18 that hasn't been resolved. Well, I guess technically it  
 19 has been resolved but not in your favor.

19-3-OS

20 So the ice condenser design is a problem.

19-4-OS

21 And the fact that I'm not sure how this is  
 22 going to play into it, but the Sequoyah Plant has been  
 23 mentioned as a possible producer of tritium and it has  
 24 also been mentioned as a possible plant -- the  
 25 possibility to use the Sequoyah Plant to burn MOX fuel,

19-5a-OS

19-5b-OS

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1 the mixed oxide fuel. I think Browns Ferry was the first  
 2 choice, but Sequoyah was mentioned on that, too. So when  
 3 you go into this Environmental Impact thing, I think  
 4 that's something you really have to take into account,  
 5 the possible use of MOX fuel in this thing.

19-5b-OS  
cont'd

6 And that's about all I have. Thank you.

7 MR. HAGAR: All right, thank you. Garry  
 8 Morgan will be next and then Tim Anderson will follow  
 9 Gary.

10 MR. MORGAN: My name is Garry Morgan. I am  
 11 from Scottsboro, Alabama. I'm here representing the  
 12 Blue Ridge Environmental Defense League. You might say,  
 13 well, what's this guy down river a hundred miles  
 14 concerned about up here at Sequoyah?

15 Well, the one factor other than the air we  
 16 breathe and maybe the relatives that we may have that  
 17 connects us all is the river back over here. What  
 18 happens up river affects the folks down river, whether  
 19 it be a nuclear power plant or a coal fired facility or  
 20 dumping in that river.

21 I want to talk to you a little bit today,  
 22 not necessarily about the river, but about emergency  
 23 planning and evacuation zones. One of the lessons from  
 24 Fukushima was the discovery that, "Hey, radiation just  
 25 does not stay within -- when there is a catastrophic

20-1-OS

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1 failure of a system such as occurred at Fukushima, which  
 2 has occurred at Three Mile Island, which occurred at  
 3 Chernobyl, and the many near misses which has occurred  
 4 within the United States. And that radiation gets out  
 5 of that containment, it doesn't say, "Oh, lookie here.  
 6 Here's that 10-mile zone." No, it don't do that. It  
 7 goes where the wind blows it.

20-1-OS  
cont'd

8 And in Fukushima we learned that may be a  
 9 120 miles downwind. It may be 160 miles downwind. That  
 10 is a concern. And this is the reason one of the lessons  
 11 of Fukushima was consider the EPZs, the Emergency  
 12 Planning Zones, the Emergency Evacuation Zones.

13 Currently the TVA sends out and NRC approves  
 14 these Emergency Evacuation Zones. And this is critical.  
 15 There is nothing more critical in the environment than  
 16 us, the people. We are the most critical. We are.

17 I have a background in the military in  
 18 nuclear assurity and personal liability. We talk about  
 19 nuclear assurity and personal liability, we always talk  
 20 about a pyramid. And the bottom of that pyramid and all  
 21 things nuclear is the people. This community and the  
 22 surrounding communities, at Sequoyah or any nuclear  
 23 plant is the people that support that pyramid.

24 You got Resident Inspectors here. And I'm  
 25 sure they do not want to see TVA employees, NRC employees

20-1-OS  
cont'd

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1 that work here, plus the citizens, the good police that's  
2 here, the mayor, the City Council, everybody, the  
3 citizens of the community. Nobody wants to see a serious  
4 accident. But Lord forbid if that accident does occur,  
5 you want to be ready for it. And one of the  
6 lessons of Fukushima has come out and has been very  
7 latently (sic) we are not ready. And I'm talking about  
8 we as Americans. And the regulator, the power  
9 providers, we're not ready to deal with that unexpected  
10 accident. Because in our emergency planning, we tell  
11 them radionuclides, "Oh, you can't go out of this 10-mile  
12 zone." Well, ladies and gentlemen, I'm here to tell you  
13 it just don't work that way.

20-1-OS  
cont'd

14 I am asking the NRC before they go forward  
15 with any relicensing, whether it be Sequoyah or anybody  
16 else, you better make improvements. I highly suggest  
17 you make improvements on your emergency planning and your  
18 emergency evacuation zones. It is required. And this  
19 is being considered in the various tiers of the Nuclear  
20 Regulatory Commission. Please include is as a high  
21 priority at Sequoyah.

22 We don't like to think about the  
23 unthinkable. And we know that everybody does the best  
24 job that they can to ensure that that nuclear reactor over  
25 across the ridge over there next to the river is very

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1 safe. But if that unthinkable does happen, you want to  
2 be prepared. You want to be ready for it.

3 The emergency planning zones, the emergency  
4 evacuation zones, 10 miles is not sufficient. Fukushima  
5 has shown this. Other accidents have shown this. The  
6 NRC's own planning has shown this. The weather shows it.  
7 And climate change is very important factor.

20-1-OS  
cont'd

8 Extend the 10 miles zones out to 25, the food  
9 intake zone which is currently 50 needs to be extended  
10 out to a 100 miles. You need to train. You need to plan  
11 and be ready for that unforeseen accident. Defense in  
12 depth, good program. The other programs that the NRC  
13 ensures that the power providers implement, good  
14 program.

15 But if you're not ready for that unforeseen  
16 accident, that which you cannot fathom in your minds,  
17 then you're going to kill people. And nobody in this  
18 room wants to see that happen. Be prepared, think  
19 about -- NRC, please, think about extending the Emergency  
20 Planning Zones and the Emergency Preparedness Zones in  
21 this community.

22 And that includes, of course, I was reading  
23 in documents where the NRC passes out the potassium  
24 iodine. Down in Chattanooga, NRC passed potassium  
25 iodine since you're 15 miles away. No, you only think

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about that 10 mile zone. Think about outside that zone.

I mean if you think about where you're going to get help right here? The local police and local fire are going to be very busy. That's where they're going to get help is through their neighbors. Because I know that all communities in the Tennessee Valley have reciprocity agreements where they can call in for extra help. But if you don't plan, if you don't bring in Chattanooga, if you don't bring in the other areas over to the west into this area, then you're failing in your planning. That is something I have noticed.

Many years in the military has shown me, has demonstrated that one of the greatest -- and Fukushima showed that one of the greatest failures is the failure to plan adequately for emergency. I ask you to pay specific attention to the EPZ and Emergency Preparedness.

Thank you.

20-1-OS  
cont'd

MR HAGAR: Tim Anderson is our next speaker and Sandy Kurtz will follow Tim.

TIM ANDERSON: Hello, my name is Tim Anderson. I'm from Chattanooga, Tennessee. I'm here today for Docket ID NRC-2013-0037. The citizens of the United States have a right under the National Environmental Protection Act of 1969 to request that the

9-1-LR

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1 Generic Environmental Impact Statement be thrown out and  
2 a third party comprehensive risk analysis that takes all  
3 elements at such risks to the community, to our commerce,  
4 to the environment into account. A report that truly  
5 defines the human health effects of low dose exposures  
6 and mental stress to the population for living under such  
7 risks.

9-1-LR  
cont'd

8 What are the true effects of cancer causing  
9 agents reaching into our environment?

10 What are the true impacts of increased  
11 permanent storage or production of high level nuclear  
12 waste? Due to the permanent storage issue this proposed  
13 action should be considered a major federal action and,  
14 therefore, require a new Environmental Impact Statement  
15 under Section 102 42 USC 4332.

16 NEPA, the Environmental Quality  
17 Improvement Act of 1970, has amended Section 42 USC 4371  
18 and Section 309 of the Clean Air Act as amended under 42  
19 USC 7609, and we hereby request the study.

20 Also any study under these rules should also  
21 include a comprehensive study to determine if there is  
22 this speculative energy demand and whether it could be  
23 met through other sources that are now viable, including  
24 renewable energy.

25 And the answer to that is, yes, we can, and,

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no, we don't have a true need to build more reactors and can certainly phase out these 25 mile evac zones over the next decade.

9-1-LR  
cont'd

Maybe the decision needs to be postponed for five years to reassess the needs and the dangers based upon real time, up-to-date health studies. In any event, I'm sure it's the goal of the Agency to move forward.

9-2-HH

We would ask that any study include the long-term health effects of low, mid, and high level radiation on the surrounding community and the health effects on humans, born and unborn, and the effects on human and the environment now and in the future.

9-1-LR  
cont'd

In addition, any action by the federal agency requiring a large burden on the area of water supply should provide a comprehensive study as to the effects of the massive water usage, including the effects to marine and human life associated with scheduled releases of various radioactive isotopes and proposed average water temperature increases on the surrounding water supplies and how that relates back to human consumption, rights, and long-term environment impacts.

We also ask that the Commission include the following internationally recognized study as a basis for any comprehensive human health impact studies.

9-3-HH

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1 These reports show a positive link between increased  
2 cancer rates and the release of low, mid, and high level  
3 releases.

4 There are many studies regarding the fallout of Chernobyl  
5 and the true effects to the population that are not being  
6 considered. These reports even by the most conservative  
7 estimates state that over one million additional cancer  
8 cases have been attributed to that disaster.

9 And the studies that should be included are  
10 the American Academy of Sciences 2008 Biological Effects  
11 of Ionizing Radiation reports there's no safe level of  
12 radiation.

9-3-HH  
cont'd

13 European Committee on Radiation Risk argues  
14 that the existing risk model used by the NRC does not take  
15 internal exposure into account. High rates of internal  
16 exposure will mean a dramatic increase in cancer risks  
17 for Fukushima residents with as many as 400,000  
18 additional cases predicted by this model by 2061.

19 The Office of Science and Financial  
20 Assistance Program Notice 9914, Low Dose Radiation,  
21 says, "Each unit of radiation, no matter how small, can  
22 cause cancer."

23 The German Federal Office of Radiation  
24 Protection titled Epidemiology Study of Childhood Cancer  
25 in the Vicinity of Nuclear Power Plants shows a causative

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link to young children developing cancer more frequently when they live near nuclear power plants.

9-3-HH  
cont'd

The American Cancer Society states that ionizing radiation is a proven human carcinogen. And they go on to say that people living near or down-wind of a plant are known as down-winders.

Any EIS should include a comprehensive study as to the effects on the citizens and the commerce and the environment of having onsite storage, above ground storage of high level nuclear waste. Specifically the dangers of such storage and the fact that the storage site is already three times its designed capacity.

TVA also does not have adequate insurance to cover a major event. Nor is there a public procedure in place on how local and regional business will be compensated for loss of business related income, relocation of businesses, residents, loss of personal items, homes, and cost of relocation.

9-4-OS

How does TVA propose to relocate an entire city in the event of a major event? How do they plan on paying for a complete economic shutdown of the evac zone?

These are the risks we as citizens in the effected region have to burden so that the TVA can continue to generate energy through nuclear reactors.

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The world thinks -- we don't have these risks with solar energy or other viable renewable energy forms.

Where do I go when I can't go home? Where do I go when my bank is closed? Who notifies the elderly and disabled that they need to get out of the area? Where's your plan and where's your money?

9-4-OS  
cont'd

The World Bank projects that the evacuation of the 19 mile radius implemented by the Japanese government cost 225 billion dollars.

Please take these into consideration.  
Thanks.

MR. HAGAR: Sandy Kurtz, you're up and following Sandy will be Don Safer.

MS. KURTZ: Hi, everyone. I spoke earlier today and I just want to summarize some of those statements that I made so for those who weren't at the earlier session might hear all of our concerns -- a very long list of people.

By the way, I'm with Bellefonte Efficiency and Sustainability Team and Mothers Against Tennessee River Radiation. We have a table outside, so if you want to pick up some information after this, feel free to stop by there.

We -- I talked about -- you've heard

11-21-OS

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1 something about the flooding, the flooding concerns, the  
2 flooding mitigation concerns, possibility of an

11-21-OS  
cont'd

3 earthquake, climate disruption patterns which should be  
4 updated. We were concerned about that.

11-22-CC

5 The idea that tritium is being made because  
6 of the Department of Energy's request so they can take  
7 that tritium to boost the making of their bombs in a  
8 commercial nuclear facility. Which the line between  
9 military and commercial nuclear facilities is getting  
10 really, really fuzzy. The radioactive mix oxide fuel  
11 use, also experimental, that's a problem.

11-23-OS

12 And the crowding of the radioactive fuel  
13 rods and the so called spent fuel pool which is actually  
14 a higher end radiation than when it started out in the  
15 reactor -- when the rod started out in the reactor. That  
16 is a concern and we would advocate for moving those, the  
17 used fuel rods, after they cool and it takes about five  
18 years for them to cool. To remove those and put them in  
19 hardened cask waste cask storage. This radioactive  
20 trash doesn't need to be in the pools where it actually  
21 has more chance of exploding.

11-24-PA

22 I talked about the alternatives that were  
23 offered by TVA's draft EIS here. Application talking  
24 about two alternatives, none of which mentioned the  
25 alternative of just shutting it down. That would be an

11-25-OR

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11-25-OR cont'd

1 alternative that would be -- we think would be good. And  
2 the idea that we don't need to replace that energy or that  
3 it could be replaced with solar alternative or other  
4 alternative energies.

11-26-AL

5 I wanted to talk a little bit here though  
6 about radiation doses. Apparently it seems that the  
7 statement that the public will continue at current levels  
8 associated with normal operations and that these doses  
9 also for the occupational doses to employees are going  
10 to remain the same when the license is renewed. So we  
11 don't need to worry about that, but these doses are all  
12 well below the regulatory limits, they say. And so we  
13 don't need to worry.

11-27-HH

14 Another 20 years of this is not good because  
15 in fact no dose of radiation is safe and it's cumulative.  
16 So the additional time there is going to continue to  
17 expose us citizens in a growing population, urban  
18 population, with more and more of this radiation that is  
19 emitted on a daily basis from a nuclear power plant.

20 The thing that happens is those daily  
21 radiation doses levels that they recommend seem to go up  
22 if there is more in the air and then they call it  
23 background radiation. But at Fukushima that's what  
24 happened. When the accident happened, suddenly the  
25 people that were supposedly not supposed to receive a

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1 dose at a certain level, suddenly it was okay for those  
2 people to receive a higher level and that was the standard  
3 that they set.

4 So the radiation standard seemed to change  
5 depending on how much is actually in the air. And our  
6 radiation background -- so called background level -- has  
7 been rising over these years. So it is cumulative.  
8 There is cancer risks even without the accident.

11-27-HH  
cont'd

9 And I think the other thing is that the  
10 radiation standard -- and maybe NRC can look at this in  
11 overall -- the standard for how much dosage you could get  
12 is based on a what they call, the Reference Man. And the  
13 Reference Man is a German white male, about five foot nine  
14 and -- five foot four and 150, 170 pounds, something like  
15 that.

16 Anybody qualify here?

17 The truth is that the studies now show that  
18 it is women and infants and fetuses that are more subject  
19 to radiation dose and cancer events.

20 So the problem is that the standard  
21 themselves are not right. And I think that really needs  
22 to be looked at.

23 The other thing that I wanted to emphasize  
24 here was that with the numerous accidents, scrams,  
25 shutdowns, leaks, dishonesty, and equipment monitoring,

11-28-OS

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1 lack of proper reports filed, ignoring safety  
2 procedures, poor nuclear employee education as Browns  
3 Ferry fire thing, and the installation of non-certified  
4 equipment parts, we learned of just the other day, does  
5 not assure the public that TVA can properly run their  
6 nuclear plants.

11-28-OS  
cont'd

7 And that and ice condenser technology, we  
8 should not renew the license.

9 MR. HAGAR: Thank you.

10 Don Safer. And Kathleen Ferris will follow  
11 Don.

12 MR. SAFER: I spoke at length on the record  
13 this afternoon, but I appreciate the opportunity to speak  
14 again.

15 I'm from Nashville. And so I'll briefly go over some  
16 things for the benefit of those that were not here this  
17 afternoon, recognizing it will be repetitive for this  
18 process.

19 The plant safety issues do not take into the  
20 effects -- take into account the effects of serious  
21 accidents that's beyond design basic accidents. And  
22 they just reject considering those out of hand in all of  
23 the Environmental Impact Statements. So it never gets  
24 considered what the possibility is in terms of a massive  
25 release of radiation. That's not part of this process.

17-21-PA

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It's specifically excluded because it's said to be so unlikely as to happen, but we've already seen it happen

17-21-PA  
cont'd

twice in our lifetimes. The lack of need, just this last year 2012, over 13,000 megawatts of wind power was put in place in the United States. It required no scoping hearings about massive releases of radiation. That's 13 nuclear power plants the size of Sequoyah that have gone online in the U.S.

17-22-AL

TVA has a proposal in front of them today for 3,500 megawatts of wind power to be brought in from Oklahoma by a private company on a direct current line through Arkansas and put into the TVA grid in Memphis to be used. That's 3,500 megawatts. That's both Sequoyah Plant and the Gallatin Steam Plant. That's just scratching the surface of what wind can do.

Solar energy is -- TVA is putting the brakes on solar every way that it can in every possible situation. Just look it up. There's a budding solar energy industry in the Valley. A lot of jobs, a lot of installers, it's jobs that can't be exported. It's jobs that will continue. And the people who have put solar on their roofs have guaranteed what their cost is going to be for 30 years. TVA needs to encourage that instead of this license renewal.

The age factors, when these plants were

17-23-OS

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1 built and designed, they were designed for a 30 year life  
2 and then they went to 40 and now it's 60. It's rewriting  
3 history to say these can go safely on and on and on.

17-23-OS  
cont'd

4 The decommissioning hasn't been talked  
5 about. There's a plant in Illinois that's going to cost  
6 a billion dollars at least to decommission, the Zion  
7 Nuclear Plant in Illinois.

17-24-OS

8 TVA has about a billion or less in its  
9 decommissioning fund, but they have six reactors to be  
10 decommissioned at this point. There's not money for  
11 decommissioning.

12 I would submit to the people of this  
13 Soddy-Daisy area that you should get in line first and  
14 start the decommissioning process while there is still  
15 money in that fund because once that first billion is  
16 spent I don't know where the money is going to come from.  
17 And we've all seen the problems that the federal  
18 government has with funding, sequestration, everything  
19 else. So if you have confidence in 2040 that there's  
20 going to be money to decommission, then you're living in  
21 a different world than the one I see.

22 Flooding -- I'm from Nashville. Two years  
23 ago we had a flood. I think it was two years ago, or maybe  
24 now it's three, I'm sorry. We had a flood, 500 or 1,000  
25 year flood. It was simply unbelievable. We had 17

17-25-OS

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1 inches of rain over a two-day period. Little bitty  
2 streams were flooding people out of their homes, washing  
3 homes off their foundations. The Corp of Engineers lost  
4 vehicles next to the dam they operate in Cheatham County,  
5 the Cheatham Dam below Nashville and the Cumberland  
6 River.

7 The Old Hickory Dam, which is the one  
8 directly above Nashville on the Cumberland River, had to  
9 be opened wide open and that's why downtown Nashville  
10 flooded because that dam was in danger of being  
11 overtopped. Had it been overtopped, the dam would have  
12 been washed away. It was not designed to be overtopped.

13 If that type of rain event had happened  
14 here, I believe Sequoyah would be in great danger. There  
15 is nobody that dreamt that much rain was possible in that  
16 short of a time.

17-25-OS  
cont'd

17 I encourage you all at the NRC to take into  
18 account some of the types of floods we've had like that.  
19 That Nashville flood is not the only one that has  
20 happened. These rain storms come in and they sit in one  
21 area and they just dump and dump and dump.

22 Please, take into account not just dam  
23 failure but a rain event of 17 or more inches in a 24 or  
24 48 hour period. It simply will overwhelm and that's the  
25 type of thing -- you can't have a tsunami here, but you

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could sure have a flood of that sort.

17-25-OS  
cont'd

And believe me, the first responders in this community are going to be hard-pressed getting people out of their homes and rescuing people from the highways. We even had one policeman that was washed downstream, who was trying to stop people from going on a flooded street, West End Avenue, one of the major streets in Nashville in Belle Meade, a high-class neighborhood. So flooding is not to be taken lightly in this day and age.

I think I'll save the rest of my time to those who have not spoken before, but I thank you for the opportunity.

MR. HAGAR: Okay, Kathleen Ferris, you're next and then Brian Paddock will be the next speaker.

KATHLEEN FERRIS: My name is Kathleen Ferris and I'm from Murfreesboro, Tennessee. I'm cofounder of a group called Citizens to End Nuclear Dumping in Tennessee. But I speak here today as a mother and as a grandmother.

I'm asking those of you who are scientists -- mostly physics and chemistry I suppose are your fields of expertise -- to consider this renewal, license renewal, in terms of biological perspective.

For decades the public has been warned by physicians and public health officials of the dangers of

18-4-HH

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1 ionizing radiation. And people like Doctor Helen  
2 Caldecott and Doctor Samuel Epstein are continuing to  
3 warn us of the dangers.

18-4-HH  
cont'd

4 We know that it causes changes in DNA that  
5 cause mutations. We know that it is carcinogenic and  
6 especially for children. And I suppose as a  
7 grandmother, the children are one of my main concerns.  
8 I've got two little daughters who live near Philadelphia,  
9 Pennsylvania and they are surrounded by nuclear  
10 reactors. So the things I've learned about cancer  
11 really are close to my heart.

12 It doesn't take a major accident for  
13 reactors to emit radiation. There are routine emissions  
14 that are required just to operate them safely, safer,  
15 more safely. There are spills. There are accidents and  
16 every time there are these -- not catastrophic, but  
17 sometimes very close to catastrophic -- events, TVA and  
18 NRC reassure the public there's no danger. There's no  
19 risk to the public. I don't know how many times I've read  
20 that on the NRC website.

21 What these reactors are doing is polluting  
22 the environment. They pollute the water. They pollute  
23 the air. When rain falls through polluted air, the  
24 radiation is washed down into the ground. The plants  
25 become radioactive. The cows eat the plants. The

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1 radioactive iodine goes into the cows' milk. The  
2 children drink the milk. It is not safe. This  
3 radiation is getting into our food chain. And since we  
4 eat lots of meat at the top of the food chain, we're  
5 getting a lot of radiation just without the catastrophic  
6 event.

18-4-HH  
cont'd

7 Now there are several studies, as Mr.  
8 Anderson pointed out. There was one back in the 1980's  
9 in Sellafield, England that showed that clusters of  
10 cancers and leukemia. More recently around 2010, the  
11 Germany government sponsored a study of the reactors in  
12 Germany and they found for children under five years old  
13 they had more than doubled the incidents of leukemia and  
14 almost double for other types of cancer. Another study  
15 more recent from that is from Chepstow in Wales. They  
16 found that children were at three and one-half times the  
17 risk if they lived close to a nuclear reactor as the  
18 national average.

19 Now these are instances of cancers close to  
20 the nuclear reactors, but there's another study that came  
21 out; just last week it was released. It's from  
22 California, Sacramento County, which has a population of  
23 1.4 million.

24 Rancho Seco Reactor closed over 23 years ago and some  
25 scientists have been going through the cancer registry

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1 for California trying to determine what has happened to  
 2 the cancer rate. They used the last two months of the  
 3 reactor's operation and then they've been studying  
 4 what's been happening in the intervening 20 years.

18-4-HH  
cont'd

5 And what they found is that a very  
 6 considerable drop in the cancer incidents since that  
 7 time. They have found 4,319 fewer cancer cases over a  
 8 20 year period. That's more people than died in the Twin  
 9 Towers. And of the people who are most effected are  
 10 women, Hispanics, and children.

11 An NAC study -- there is a National Academy  
 12 of Science study being sponsored by the NRC right now to  
 13 try to determine what the cancer incidence is around  
 14 nuclear reactors. And of that study which is continuing  
 15 now -- I'm sorry, I've lost my train of thought -- okay,  
 16 that study is not yet completed. And it probably won't  
 17 be for several years.

18-5-HH

18 So in addition to other questions asked  
 19 about the timing for this relicensing, my question is why  
 20 not wait until that study is in to determine whether we  
 21 should be relicensing aging reactors.

22 There are 134,000 people who live only in  
 23 Hamilton County and probably approximately a million in  
 24 a five-mile radius -- 50-mile radius. I would urge you  
 25 for the sake of those children not to renew this license

18-6-OR

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1 and to protect the people who live here.

18-6-OR  
cont'd

2 Thank you.

3 MR. HAGAR: Brian Paddock. And following  
4 Brian will be Ann Harris.

5 Is that right? Ann Harris?

6 MS. HARRIS: Yes.

7 MR. HAGAR: Okay, good.

8 MS. JOHNSTON: Bob, I would like to offer  
9 my time to Brian and Ann. They were not here for the  
10 earlier session to speak.

11 MR. HAGAR: Well, there's three more  
12 speakers to speak.

13 Gretel, you're the last person that signed  
14 up?

15 MS. JOHNSTON: Yes.

16 MR. HAGAR: All right, I think we can do  
17 that.

18 MR. PADDOCK: I'll take an extra minute.

19 MR. HAGAR: You'll each have nine minutes  
20 a piece.

21 MS. FERRIS: Thank you, Bob.

22 MR. HAGAR: You're welcome.

23 MR. PADDOCK: And I feel so blessed not to  
24 have to follow Ann, which is a very hard act to follow.

25 My name is Brian Paddock. I'm an attorney.

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1 I happen to also be the Tennessee Local Counsel for a  
2 Challenge to the Environmental Impact Statement for the  
3 Watch Bar 2 Unit, which is still under construction and  
4 for which there are still legal contentions pending as  
5 to the impact on water temperature and aquatic resources.

6 I suggest that the NRC staff take a close  
7 look at this because all of the aquatic impacts  
8 heretofore in the licensing of these reactors was done,  
9 based on modeling and not based on any real world  
10 measurements. Since then TVA has gone back and done a  
11 considerable amount of real world biological assessment  
12 and quite frankly, they have done a pretty good job of  
13 it.

8-1-AE

14 And you might look at what they've done in  
15 terms of dealing with the Watts Bar 2 litigation contest  
16 and see if you don't think they need to do the same thing  
17 with respect to the impacts of the cooling water and  
18 resulting hot water from the plants under consideration  
19 here.

20 I cheer the legal committee for the  
21 Tennessee Chapter of the Sierra Club. I was a Sierra  
22 Club representative to the last integrated resource  
23 plan, stake holder group. I've spent more than 14 full  
24 days in meetings with TVA staff, with many other stake  
25 holders, including industrial users and so on. So I'm

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1 fairly familiar with TVA's pattern of generation  
2 activities.

3 I've also attended many NRC hearings, in  
4 particular those where the NRC comes down and talks to  
5 TVA about things, including whether it's ever going to  
6 be able to finish the Watts Bar 2 Plant and what went wrong  
7 there.

8 I have a very direct personal interest  
9 because while I'm now living in Jackson County, I do own  
10 a condominium on Manufacturers Road south of here. And  
11 that's where my wife and I intend to retire. I'm not sure  
12 what that means; it probably means a continuation of not  
13 getting paid. And also having my grandchildren visit me  
14 there.

15 First, I would call to your attention -- and  
16 I think this has was raised in the questions. We  
17 seriously challenge that the assumptions in the Generic  
18 EIS are still valid. I think many of them are out of date  
19 and I was glad to hear that the GEIS is being revisited.  
20 It's not clear to me how that fits in and how well that  
21 will be done to provide, in fact, an adequate foundation  
22 for the SEIS. And if the GEIS is still in ferment or is  
23 out of date, building an SEIS on a site specific basis  
24 on top of it, it seems to me, is legally questionable  
25 under the National Environmental Policy Act.

8-2-LR

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1                   And quite frankly, we have to express some  
2                   discomfort with confidence in the NRC. For example,  
3                   recently there was a discussion of the venting that  
4                   needed to be available in post Fukushima circumstances.  
5                   And the Commissioners voted to say, yes, the staff should  
6                   go ahead and prepare a regulation to require vents, but  
7                   it would not require the filtration of radioactive  
8                   materials through those vents.

8-3-OS

9                   In other words, the vents will be -- if the  
10                  regulation is finally adopted and if the operators  
11                  finally install those vents, the current policy posture  
12                  of the Commissioners is that they will not be required  
13                  to filter radioactives out of that, and thus, you are  
14                  going to permit -- obviously, in very unusual  
15                  circumstances, the release of radiation. So you might  
16                  look which way the wind is blowing where you live from  
17                  this plant.

18                  NEPA requires a hard look and that's a very  
19                  interesting test for a lawyer. What's a hard look?

20                  And I've read hundreds of NEPA cases and it  
21                  varies, but it does not appear here that there has been  
22                  or so far an active consideration of what would be called  
23                  the no action option which would be not to issue a license  
24                  extension and to put the plant into a posture where it  
25                  would be decommissioned at the termination of the

8-4-AL

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1 existing license period.

8-4-AL  
cont'd

2 That would be very interesting when this  
3 SEIS comes out. I would just -- and I mean this  
4 respectfully -- remind the NRC and TVA that any federal  
5 litigation challenging the SEIS will probably be tried  
6 in Chattanooga. The judge will live downwind of this  
7 plant. He may be very interested in the quality of the  
8 environmental assessment that is done with respect to  
9 this license extension.

10 Now the first issue, that bridge that needs  
11 to be crossed has to be the need for electricity. As a  
12 matter of fact, TVA sold fewer kilowatt hours in 2011 than  
13 it did in 2010. And then it sold fewer kilowatt hours  
14 in 2012 than it did in 2011. And the projection for 2013  
15 is that it may decline again.

8-5-OS

16 People are, in fact, adopting efficiency  
17 and despite TVA's extremely lame attempts to push energy  
18 efficiency. With respect to energy efficiency, I would  
19 offer for the record two items. One is TVA's Commission  
20 by Contract Energy Partner Study, which shows it's doing  
21 about a third of the one percent year-over-year reduction  
22 in energy usage that it could accomplish.

23 I've sat on stake holder groups. We've  
24 been promised for two years running we would see new,  
25 better, and different energy efficiency programs out of

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1 TVA and that's all been frozen. And it's been frozen  
 2 partly for a lack of revenue and partly because they don't  
 3 know how to do anything but sell kilowatts.

4 And secondly, the GAO did a similar study,  
 5 full consideration of energy efficiency and better  
 6 capital expense for planning. GAO, when they say we  
 7 don't think that TVA has really looked at the realistic  
 8 potential for energy efficiency. So those are yet  
 9 unoffered.

8-6-AL

10 One other factor you should look at is that  
 11 the USEC, the United States Enrichment Corporation,  
 12 which is a shuck and a boondoggle and has been for years,  
 13 to create nuclear fuel, has announced that it is closing  
 14 this year. That represents five percent of the entire  
 15 load and production of electricity. So we're going to  
 16 have a five percent decline this year apart from any other  
 17 energy efficiency.

18 On the 40 year design life, I offer you a  
 19 copy of the AP Report as it was summarized in our local  
 20 paper in Chattanooga saying historically everyone  
 21 thought the plants were designed at best to last 40 years.  
 22 So the basic theory that the aging hardware is the only  
 23 thing that we really should be looking at and control is  
 24 far too narrow.

8-7-OS

25 We will also be offering for the written

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1 comments and we would point to the problems of TVA's  
2 nuclear management much of which has been mentioned in  
3 these comments up to this point.

4 I would just point to a personal experience  
5 where I went to the hearing on the Browns Ferry 1 Red  
6 Status and the Chief Inspector for NRC came. And I have  
7 never seen a plant Chief Inspector, and I've been to a  
8 lot of hearings, stand there and for an hour list what  
9 was wrong in the plant. And essentially say that TVA had  
10 shown that it was very good at making lists of things that  
11 needed to be fixed, of safety problems that needed to be  
12 addressed, of equipment that was not operating properly,  
13 but all it did was make lists.  
14 It could never seem to get any of the  
15 significant including safety related equipment and  
16 problems addressed and that's why now they've been in a  
17 Red Status for so long. And this is TVA's nuclear  
18 management's typical situation. They can do one thing  
19 right at a time, maybe.

8-8-OS

20 They managed to install the new steam  
21 generators in the plant at issue here, but while they were  
22 at it they fell behind in trying to get rid of the red  
23 tag on Brown's Ferry, for example.

24 I would associate the club's comments with  
25 also the comments made by the Southern Alliance for Clear

8-9-OS

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Energy and those that have been made earlier on the ice  
condenser problem.

8-9-OS  
cont'd

Thank you.

MR. HAGAR: Ann Harris, you're up.

MS. HARRIS: I brought my documents with  
me. They're all NRC documents, so I don't expect them  
to be disputed.

My name is Ann Harris and I live in Rockwood,  
Tennessee.

MR. HAGAR: Ann, could you move the  
microphone a little closer to you.

MS. HARRIS: The feedback knocks me down.  
Surely you all can hear me. Trust me, you're getting  
what I say.

NRC, I request that you identify and  
evaluate the following items for potential environmental  
impacts prior to any extension of the Sequoyah Nuclear  
Plant license request for another 20 years. Substandard  
parts in the area of parts associated with the Watts Bar  
parts issue. There is evidence of shared parts. This  
is a longstanding issue that's been on the books since  
Unit 1. I was instrumental in putting this on Region  
II's list in the mid-1980s.

21-1-OS

And I'm going to go through these pretty  
fast, so if you've got questions, you'll have to hit me

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1 up at home next week.

2 Tritium issues for weapons for DOE and DOD  
3 are beyond the design basis not only of Sequoyah but for  
4 Watts Bar. Sequoyah was not designed for the t-bars and  
5 the numbers that are needed to produce the amount of  
6 tritium needed to fulfill the DOE contract.

21-2-OS

7 And why should we have a fight with Iran and North  
8 Korea for doing the same thing that we're doing here at  
9 Watts Bar and Sequoyah?

10 The number of scrams being so bad you  
11 identified them in an Inspection Report tells me that the  
12 stress on hardware has to be terrible.

21-3-OS

13 What happens to those items that crumbles  
14 and no one is looking or there is not a pre-announced  
15 happening? What about the concrete? What about the  
16 floors? What about the sirens? What about the Control  
17 Room?

18 The ice condenser story knows no bounds.  
19 The buckling floors, the sublimation, the hardware, the  
20 basket, the screws, nobody knows because nobody is  
21 minding the store around the ice condenser. And we  
22 certainly know that the ice condenser was not designed  
23 to fit another 20 years. It's not going to make it  
24 another 20, so everybody needs to start getting to higher  
25 ground.

21-4-OS

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The earthen dams, now, NRC, you're going to tell me that this only concerns Watts Bar. Watts Bar and Sequoyah both are on the same reservoir. Both of them will go down if that dam at Watts Bar goes down.

21-5-OS

That allegation of a problem with -- of earthen dam being a problem has been on the books since the late 1980s because I was the one that put it on the books as a concern because I lived in that community. And for you to extend from the 1980s to 1998, 2004 or 2005, and now here in your current Inspection Report, of which I'm carrying here which is about an inch thick, here it is. It comes to my house on a regular basis from you guys.

You give them another five years to fix the problem which in effect makes NRC a party to the dangers to the hardware at both Watts Bar and Sequoyah because both emergency diesel generators there won't be an issue. They won't even work.

21-6-OS

So what are you going to do about backup electricity whenever those things go down because there was a flood in this town -- in the city of Chattanooga -- in the mid-80s that put underwater massive amounts of this end of the state of Tennessee. Go back and look. You can look through your history books. Go down to the local library and you'll find pictures of it

21-7-OS

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1 because it was a major disaster. Things that had never  
 2 been underwater since TVA had built their first dam was  
 3 automatically underwater due to those rains.

21-7-OS  
cont'd

4 Decommissioning funds -- this is kind of  
 5 like reading Bugs Bunny. "Decommissioning funds, a  
 6 hundred million dollars disappeared from the  
 7 decommissioning funds in 2012." This is reported in the  
 8 report to the SEC, so it's not my opinion. I'm still  
 9 quoting from you all's documents. At that rate in  
 10 another five years there won't be any funds to exist  
 11 because if everybody keeps pulling out a hundred million  
 12 dollars and this is their slush fund that they're using  
 13 which they've done it before, there won't be anything  
 14 here to decommission anything regardless accident or no  
 15 accident.

21-8-OS

16 And remember that all of these issues have  
 17 safety implications and must be in the SER, the Safety  
 18 Evaluation Report. All of these items must be  
 19 identified and evaluated prior to you giving a license  
 20 extension because, if they're not, that makes you, NRC,  
 21 culpable in whatever happens.

21-9-OS

22 Delay in this extension will serve to show  
 23 that the NRC has thrown away their rubber stamp.

21-10-LR

24 Now for those of you people that live in this  
 25 community and around these nuclear plants, TVA does not

21-11-OS

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1 have any insurance to take care of your problems if there  
2 is a nuclear incident. They call -- only if a reactor  
3 blows up, do they call it an accident. Look for the words  
4 "unplanned event" and "unexpected." That's called  
5 nuke's speak.

21-11-OS  
cont'd

6 Now the only compensation from any  
7 accidents will come from the U.S. taxpayer. You're  
8 going to pay now and maybe get it later.

9 Homeowner policies do not cover any nuclear  
10 issues. Do not cover any nuclear issues. Go home and  
11 read your homeowner's policy because it explicitly says,  
12 "This is exempt from any nuclear accident or issues  
13 surrounding them."

14 One of the things that was a discussion here  
15 just a few minutes ago and whenever this gentleman here  
16 whenever we had the discussion about the fire, if he would  
17 look at the February 13th Inspection Report on Sequoyah,  
18 he would find on page -- it's in the summary of Findings,  
19 Enclosure 2, on Page 1 and 2 and 3.

21-12-OS

20 It says, "They were issued a violation for  
21 failure to implement procedures required for fire  
22 protection program implementations. And Inspectors  
23 found multiple examples of where fire watches were not  
24 conducted in accordance with NRC standards. A failure  
25 to establish adequate procedures required for fire

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1 protection program implementation caused compensatory  
2 measures. The program implementation caused  
3 compensatory measures, fire watches, to not be  
4 adequately completed and could have potentially  
5 compromised the ability to safely shutdown the plant in  
6 the event of a fire in any of the fire zones where the  
7 fire watches were required."

21-12-OS  
cont'd

8 Maybe you, Region II, maybe you ought to  
9 give this up to these boys up in D.C. They probably  
10 would appreciate it since this has to be something that  
11 is not on their radar screen.

12 And my comments will be in writing and I will  
13 send them in to the appropriate place.

14 Thank you.

15 MR. HAGAR: Thank you, Ann.

16 Well, at this point everyone who told us  
17 they wanted to speak has had an opportunity to speak. So  
18 let me ask again. Is there anyone in the audience who  
19 wants to say something that has not yet had a chance to  
20 do so?

21 Well, then let me thank everyone. Thanks  
22 to everyone who prepared a presentation, delivered it.  
23 Thanks to everyone who made statements on their own. And  
24 thanks to everyone who asked a clarifying question  
25 because good exchange of information is what this meeting

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**Docket:** NRC-2013-0037

Receipt and Availability of Application for Renewal of Sequoyah Nuclear Plant

**Comment On:** NRC-2013-0037-0003

License Renewal Application for Sequoyah Nuclear Plant, Units 1 and 2, Tennessee Valley Authority

**Document:** NRC-2013-0037-DRAFT-0001

Comment on FR Doc # 2013-05491

*3/08/2013*  
*78 FR 15055* (1)

## Submitter Information

**Name:** Jaak Saame

**Address:**

10950 Minnesota Avenue  
Penngrove, CA, 94951

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2013 MAR 26 AM 9:48

RULES AND DIRECTIVES  
BRANCH  
USNRC

## General Comment

1-1-OS

NRC needs to inform TVA that to grant a 20 year operating license renewal they must commit to comply with all NRC's Fukushima Daiichi Lessons Learned.

I am concerned about:

1-2-OS

1. Station Blackout capability for much more than the current 4 to 8 hours of the Class 1E batteries.

1-3-OS

2. Containment venting with filtration to essentially eliminate fission products releases after a core melt accident.

1-4-OS

3. New seismic evaluation of the entire nuclear island based on the new geological information developed in the last few years.

**SUNSI Review Complete**  
**Template = ADM - 013**  
**E-RIDS= ADM -03**  
**Add= E. Saame (ECS4)**

# PUBLIC SUBMISSION

<b>As of:</b> April 08, 2013
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<b>Tracking No.:</b> ljsx-8415-fca2
<b>Comments Due:</b> May 03, 2013
<b>Submission Type:</b> Web

**Docket:** NRC-2013-0037

Receipt and Availability of Application for Renewal of Sequoyah Nuclear Plant

**Comment On:** NRC-2013-0037-0003

License Renewal Application for Sequoyah Nuclear Plant, Units 1 and 2, Tennessee Valley Authority

**Document:** NRC-2013-0037-DRAFT-0002

Comment on FR Doc # 2013-05491

3/08/2013

78 FR 15055

2

## Submitter Information

**Name:** David Lochbaum**Address:**

PO Box 15316

Chattanooga, TN, 37415-1271

**Submitter's Representative:** David Lochbaum**Organization:** Union of Concerned Scientists

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2013 APR --8 PM 2:48

RULES AND DIRECTIVES  
BRANCH  
USNRC

## General Comment

Environmental Report Section 4.21 addresses Severe Accident Mitigation Alternatives. As stated in Section 4.21.3, a SAMA analysis is required for license renewal unless one has previously been performed for other reasons. The Limerick nuclear plant in Pennsylvania did a SAMA analysis as part of its initial licensing process. When its owner applied for license renewal, it did not submit another SAMA analysis.

Page 4-65 explains TVA reviewed 309 SAMA candidates. 262 candidates were screened out as either not being applicable to Sequoyah.

47 SAMA candidates underwent further analysis and TVA identified 9 potentially cost-beneficial SAMAs for Unit 1 and 8 on Unit 2. As explained on page 4-66, because none of these potentially cost-beneficial safety upgrades is related to aging management - the focus of license renewal - none are required in TVA's view.

Page 4-67 reports that TVA's analysis of SAMAs 286 and 288 for both units concluded that the "total averted cost risk from the sensitivity analyses is greater than the implementation cost..."

But Section 4.21.6 concludes that "None of the SAMAs are related to adequately managing the effects of aging during the period of extended operation. Therefore, they do not need to be implemented as part of license renewal pursuant to 10 CFR Part 54."

2-1-PA

**SUNSI Review Complete**

Template = ADM - 013

E-RIDS= ADM -03

Add= E. Saylor (ECSH)

As demonstrated by the Limerick case, SAMA analyses are not required for license renewal unless a SAMA analysis has not yet been done. Thus, the SAMA analysis is not linked solely to aging management during a license renewal period.

2-1-PA  
cont'd

The SAMA analysis is done for the environmental report. The environmental report considers alternatives to the proposed activity; namely, operating these reactors for 20 more years.

The environmental report's evaluation shows that operating these reactors without these safety upgrades for 20 years is the wrong thing to do from a legal and moral perspective. The Sequoyah licenses should not be renewed without these safety upgrades.

<sup>-111-</sup>  
3/8/2013

78 FR 15055

3

# PUBLIC SUBMISSION

As of: April 24, 2013  
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**Docket:** NRC-2013-0037

Receipt and Availability of Application for Renewal of Sequoyah Nuclear Plant

**Comment On:** NRC-2013-0037-0003

License Renewal Application for Sequoyah Nuclear Plant, Units 1 and 2, Tennessee Valley Authority

**Document:** NRC-2013-0037-DRAFT-0003

Comment on FR Doc # 2013-05491

## Submitter Information

**Name:** Adelle Wood

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4641 Villa Green Drive  
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2013 APR 24 AM 9:06

RULES AND DIRECTIVES  
BRANCH  
USNRC

## General Comment

Please enter the following in opposition to the renewal of the relicensing of the Sequoyah Nuclear Plant.

As you are well aware, there are important safety issues, especially considering the advanced age of the Sequoyah Plant. 3-1-OS

Risks include flooding from the potential failure of dams upstream from the plant; earthquake risk; and a plant design that is inherently dangerous. There are important cost considerations as well. 3-2-OS

I do not believe that a nuclear plant that has received 6 NRC safety citations related to possible flooding is a good bet for future compliance. We certainly need to bear in mind the frightening results of the Fukushima incident, especially considering that flooding at Sequoyah has the potential to rise 2.4 feet above that which the plant can handle and could cost more than a billion dollars in modifications if such damage is to be avoided. 3-3-OS

Earthquake risk is also an issue because of Sequoyah's location in the Eastern Tennessee Seismic Zone, which has experienced large quakes within recent years. An earthquake of a feasible magnitude would cause severe damage and possible catastrophic results. 3-4-OS

Certainly foremost in the public's mind is the fear of harmful radiation exposure to the public; while the containment of an ice condenser reactor such as Sequoyah's would surely fail in an accident that involved hydrogen ignition. As noted by the Blue Ridge Environmental Defense League, ice condenser plants are exceptionally vulnerable, up to a factor of one hundred times or more. 3-5-HH  
3-6-OS

Other concerns include safety of drinking water, evacuation plans for a growing population in the area, and TVA's history of poor management practices. 3-7-GW  
3-8-OS

The Sequoyah Nuclear Plant should not be relicensed based on the very real threats to public safety that have existed in the past and would continue to exist if relicensing were to be approved. 3-9-OR

SUNSI Review Complete

Template = ADM - 013

E-RIDS= ADM -03

Add= E. Salazar (EC54)

3/8/2013

78 FR 15055

# PUBLIC SUBMISSION

#

<b>As of:</b> April 24, 2013
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**Docket:** NRC-2013-0037

Receipt and Availability of Application for Renewal of Sequoyah Nuclear Plant

**Comment On:** NRC-2013-0037-0003

License Renewal Application for Sequoyah Nuclear Plant, Units 1 and 2, Tennessee Valley Authority

**Document:** NRC-2013-0037-DRAFT-0004

Comment on FR Doc # 2013-05491

## Submitter Information

**Name:** Jeannie Hacker-Cerulean

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**Submitter's Representative:** Charles Fleischman

**Organization:** UTC

**Government Agency Type:** State

**Government Agency:** University of Tennessee at Chattanooga..professor

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2013 APR 24 AM 9:0

RULES AND DIRECTIVES  
BRANCH  
USNRC

## General Comment

SEND YOUR COMMENTS BY MAY 3, 2013

- ONLINE: <http://www.regulations.gov> and search for Docket ID NRC-2013-0037. Click "Comment Now" to enter your comments.
- MAIL comments to: Cindy Bladey, Chief, Rules, Announcements, and Directives Branch (RADB), Office of Administration, Mail Stop: TWB-05-B01M, U.S. Nuclear Regulatory Commission, Washington, DC 20555 0001.
- FAX comments: RADB at 301-492-3446

Nuclear Regulatory Commission:

It is important that TVA retire the permits on Sequoyah 1 & 2. The permits are already 10 years past their original (recommended) termination dates. We require that all nuclear material be interred in casks and left on site. Monies must be used to develop safer means of energy harvesting. Ice Condenser Reactors are out of date and dangerous. By no means will MOX fuel be made at these Tennessee Plants that are so close to Chattanooga. We look forward to a decline in Leukemia rates after all the spent fuel is in casks.

4-1-LR

4-2-RW

4-3-OS

4-5-OS

4-6-HH

SUNSI Review Complete

Template = ADM -013

E-RIDS= ADM -03

Add= E. Sayoc (ecst)

Thank you for retiring the permits,

Sign here:

Print Name:

Address:

Contact:

P.S. TVA will be required by the citizens of Tennessee to redirect the funds being taken from our electric bills into developing cleaner technology: sun come up solar, passive solar, insulation, smart grid, small wind, slow rivers. There are better ways to turn the wheel of energy generation. This generation will have it their way!

3/08/2013<sup>-y14-</sup>  
78FR15055

# PUBLIC SUBMISSION

5

As of: April 24, 2013  
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**Docket:** NRC-2013-0037

Receipt and Availability of Application for Renewal of Sequoyah Nuclear Plant

**Comment On:** NRC-2013-0037-0003

License Renewal Application for Sequoyah Nuclear Plant, Units 1 and 2, Tennessee Valley Authority

**Document:** NRC-2013-0037-DRAFT-0005

Comment on FR Doc # 2013-05491

## Submitter Information

**Name:** Sylvia D Aldrich

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8221 Fallen Maple Drive  
Chattanooga, TN, 37421-1243

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2013 APR 24 AM 9:07

RULES AND DIRECTIVES  
BRANCH  
US/FR

## General Comment

Nuclear Regulatory Commission:

5-1-LR

It is important that TVA retire the permits on Sequoyah 1 & 2. The permits are already 10 years past their original (recommended) termination dates. We require that all nuclear material be interred in casks and left on site. Monies must be used to develop safer means of energy harvesting.

5-2-RW

5-3-OS

Ice Condenser Reactors are out of date and dangerous. By no means will MOX fuel be made at these

5-5-OS

Tennessee Plants that are so close to Chattanooga. We look forward to a decline in Leukemia rates after all the spent fuel is in casks.

5-6-HH

Thank you for retiring the permits,

Sylvia Aldrich  
8221 Fallen Maple Drive  
Chattanooga, TN 37421  
615.604.1160

SUNSI Review Complete

Template = ADM - 013

E-RIDS= ADM -03

Add= F. Saxoc (ecsf)



3/10 8/16/2013  
78 FR 15255

6

# PUBLIC SUBMISSION

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Submission Type: Web

**Docket:** NRC-2013-0037

Receipt and Availability of Application for Renewal of Sequoyah Nuclear Plant

**Comment On:** NRC-2013-0037-0003

License Renewal Application for Sequoyah Nuclear Plant, Units 1 and 2, Tennessee Valley Authority

**Document:** NRC-2013-0037-DRAFT-0006

Comment on FR Doc # 2013-05491

## Submitter Information

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Lebanon, TN, 37090

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2013 APR 24 AM 9:07

RULES AND DIRECTIVES  
BRANCH  
USNRC

## General Comment

Please do not renew the permits for this nuclear plant. It has been operating longer than it was intended to, and as these plants get older, problems and meltdowns become more likely.

6-1-OR

SUNSI Review Complete  
Template = ADM - 013  
E-RIDS= ADM -03

Add= F. Bayoc (east)

3/08/2013  
78 FR 15055

As of: April 24, 2013  
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Submission Type: Web

# PUBLIC SUBMISSION

7

**Docket:** NRC-2013-0037

Receipt and Availability of Application for Renewal of Sequoyah Nuclear Plant

**Comment On:** NRC-2013-0037-0003

License Renewal Application for Sequoyah Nuclear Plant, Units 1 and 2, Tennessee Valley Authority

**Document:** NRC-2013-0037-DRAFT-0007

Comment on FR Doc # 2013-05491

## Submitter Information

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2013 APR 24 AM 9:07

RULES AND DIRECTIVES  
BRANCH  
USNRC

## General Comment

Based on the age of the SEQUOYAH NUCLEAR PLANT plant and critical safety factors including flooding, earthquake and plant design Sequoyah's license should not be extended. TVA's Sequoyah is at risk from flooding which could result from the failure of upstream dams. The Eastern Tennessee Seismic Zone, which extends from southwest Virginia to northeast Alabama, is considered to be one of the most active seismic areas east of the Rocky Mountains. It has the potential to produce large magnitude earthquakes. Recent large earthquakes include a magnitude 4.6 that occurred in 1973 near Knoxville and the Fort Payne Earthquake, also a magnitude 4.6, that occurred in 2003 near Scottsboro, Alabama. The containment buildings of nuclear reactors must do two things without fail: contain radioactive emissions during an accident and prevent intrusion from outside forces such as wind driven objects and man-made missiles. Sequoyah's nuclear reactors utilize "ice condenser" containment structures. Ice condenser nuclear reactors utilize baskets office to reduce heat and pressure in the event of an accident, preventing damage to the containment and leaks of radioactive steam. Typical nuclear power plants have concrete containment several feet thick, but ice condenser reactors substitute a steel shell of smaller volume and less ability to withstand pressure. Ice condenser reactors economize on concrete and are less robust because of this construction method.

7-1a-OS

7-1b-OS

SUNSI Review Complete  
Template = ADM - 013  
E-RIDS= ADM -03  
Add= E. Bayoc (ECSA)

**Sequoyah License Renewal  
Comment  
NRC-2013-0037**

From:  
Brian Paddock  
Paddock & Mastin

*3/08/2013*  
*78 FR 15055*

*8*

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2013 APR 25 AM 9:54

RULES AND DIRECTIVES  
BRANCH  
USNRC

Articles to be considered in the environmental review

- 1) NRC, Industry say reactor life longer than 40 years. 8-10-OS
- 2) GAO Report GAO-12-107 – Tennessee Valley Authority, Full Consideration of Energy Efficiency and Better Capital Expenditures Planning Are Needed. 8-11-AL
- 3) Global Energy Partners' Study Identifies Significant Energy Savings Potential for TVA Customers.

SUNSI Review Complete  
Template = ADM – 013  
E-RIDS= ADM -03  
Add= *E. Sayoc (last)*

**Sequoyah License Renewal  
Comment  
NRC-2013-0037**

From:  
Tim Anderson  
Chattanooga, TN

Articles to be considered in the environmental review

- 1) The preparation of a plant specific supplement to the NRC's Generic Environmental Impact Statement
- 2) Any EIS Study should consider the findings of the following internationally recognized studies
- 3) Any study should include the impact of the more than thirty documented spills of radioactive material into the water and food supply that have already occurred in the Tennessee Valley by this operator
- 4) Storage of nuclear material and waste on site
- 5) Effects of waste dumps

Tim Anderson

Nuclear Regulatory Commission – Docket ID NRC-2013-0037  
April 3, 2013

Re: The preparation of a plant specific supplement to the NRC's Generic Environmental Impact statement – comments Tim Anderson of Chattanooga, Tn

The citizens of the United States, have a right under the National Environmental Protection Act of 1969 – to request that the “generic Environmental Impact Statement be thrown out and a third party comprehensive risk analysis that takes all of the elements of such risk to the community to our commerce, to the environment into account, a report that truly defines the human health effects of low dose exposures and the mental stress to the population for living under such risk, what are the true effects of cancer causing agents leaching into our environment. What are the true impacts of Increase permanent storage or production of high level nuclear waste; due to the the permanent storage issue this proposed action is considered a major federal action, and therefore requires a new environmental impact statement under Section 102 [42 USC § 4332]. Authority: NEPA, the Environmental Quality Improvement Act of 1970, as amended (42 U.S.C. 4371 et seq.), sec. 309 of the Clean Air Act, as amended (42 U.S.C. 7609) And we hereby request a new study Any study under these rules should also include a comprehensive study done to determine if this “speculative energy demand” could be met by other sources including the now viable renewable energy market, this is a critical part of any EIS provided, can we produce this energy without the constant risk of exposures to citizens within the 25 mile evac areas., the answer is yes we can, and no we don't have to have a true need to build more reactors and can certainly phase out these 25 mile evac zone “risk” over the next decades. Maybe the decision needs to be postponed for five years to re assess the needs and the dangers based upon real time up to date health studies. In any event, Im sure it's the goal and the plan of these agencies' to move forward at all cost with minimal concern of future generations. In that case -

9-1-LR  
also found in evening transcript

9-2-HH  
also found in evening transcript

We demand that Any EIS Studies will include – the long term health effects of low, mid and high level radiation on the surrounding community and the health effects on humans, born and unborn, and the effects to humans on the environment now and in the future – in addition, any action by a federal agency requiring a large burden on the area water supply should provide a comprehensive study as the effects of this massive water usage, including the effects to the marine and human life associated with the “scheduled releases” of various radioactive isotopes, and proposed average water temperature increases on the surrounding water supplies and how that relates back to human consumption, rights and the long term environmental impacts.

9-1-LR  
cont'd

We demand that the commission include the following internationally recognized studies as a basis for any comprehensive human health impact studies, these reports show a positive link between increased cancer rates and the release of low mid and high level releases – there are hundreds of studies regarding the fallout of Chernobyl and the TRUE effects to the population, that are not being considered, these reports even by the most conservative estimates state that over 1,000,000 additional cancer cases can be attributed to that disaster – FOR YOU EIS TO SHOW NO HARMFUL EFFECTS can't even be true due to the fact that even your own reports define an acceptable risk margin, to the population of one in 500 people therefore the fact is there are additional cancer rates that your report uses as a baseline and thus marginalizes. We just want the public to know the truth.

9-3-HH  
also found in evening transcript



**Any EIS Study should consider the findings of the following internationally recognized studies:**

9-3-HH cont'd

Any study cannot and will not be considered comprehensive unless it includes the results and processes of these studies among others -

The **American Academy of Sciences 2008** "Biological Effects of Ionizing Radiation" report claims that there is no safe level of radiation exposure.

The **European Committee on Radiation Risk** argues that existing risk models used by the NRC do not take internal exposure into account. High rates of internal exposure will mean a dramatic increase in cancer risk for Fukushima residents, with as many as 400,000 cases predicted by 2061.

The **Office of Science Financial Assistance Program Notice 99-14; Low Dose Radiation Research Program** states, "each unit of radiation, no matter how small, can cause cancer and most of the projected radiation exposures associated with human activity over the next 100 years will be low dose and low dose-rate radiation from medical tests, waste clean-up, and environmental isolation of materials associated with nuclear weapons and nuclear power production."

A study commissioned by the **German Federal Office for Radiation Protection** titled "Epidemiological Study of Childhood Cancer in the Vicinity of Nuclear Power Plants" proves that young children develop cancer more frequently when they live near nuclear power plants.

The American Cancer society states "**ionizing radiation**" is a proven human carcinogen (cancer causing agent). The evidence for this comes from many different sources, including studies of atomic bomb survivors in Japan, people exposed during the Chernobyl nuclear accident, people treated with high doses of radiation for cancer and other conditions, and people exposed to radiation at work, such as uranium miners and nuclear plant workers. "They go on to say, "people living near or downwind (also known as down winders) of nuclear facilities may also be exposed to radioactive byproducts. Levels of radiation are likely to be higher near these sites, but some radioactive particles enter the atmosphere and travel great distances, landing thousands of miles away from the facility."

9-5-HH

In addition to a comprehensive study of the effects of these reactors to the public health, commerce and environment, I call for a comprehensive action plan to be presented to the public covering risk, and instructions on how to keep our families safe, how to manage our food supply and what we can do in the event of an event - all residents within the 25 Mile Evac Zone should be included in this education process – through all forms of media and psa's

9-6-LR

We also request an evaluation process as to whether this “proposed” increase in demand for energy could not be met with any other form of energy, such as solar or hydro, an energy source that doesn’t carry the threat of a 25 mile dead zone for hundreds of years.

9-7-AL

ANY EIS should include a comprehensive study as to the effects on the citizens, commerce and the environment of having on-site storage “above ground” storage of high level nuclear waste, specifically the dangers of such storage and the fact that the storage at the site is already three

9-3-HH  
also in  
evening  
transcript

times the design capacity. The TVA does not have adequate insurance to cover a major event, nor is there a public procedure on how local and regional business will be compensated for loss of business related income, relocation of business, residents, loss of personal items, homes and cost of relocation. How does TVA propose to relocate an entire city, in the event of a major event, how do they plan on paying for a complete economic shutdown of a 50 mile EVAC zone. These are the risk we as citizens in the effected region have to burden so that the TVA can continue to generate energy through nuclear reactors – we don’t have these risk with solar energy or other viable renewable forms of energy - Where do I go when I can’t go home, where do I go when my bank is closed, and who notifies the elderly and disabled that they need to get out of the area? Where is your plan? Where is your money?

9-4-OS  
also in  
evening  
transcript

The World Bank Projects the evacuation of the 19 Mile radius implemented by the Japanese Government and the subsequent cost of decontamination, medical cost and cost to relocate its citizens will cost **\$225 Billion dollars**. Do you have 225 Billion is reserve for each plant that you operate?

We need a **real time public access monitoring systems**, surrounding the plant in a concentric grid, showing the actual real time readings of radiation in the area, this needs to be done via the internet, through local government agencies and concerned citizens, in this manner we will not rely on the board or brass of TVA to let us know when there is an event or a release. There should be billboard size signs place on major thoroughfares that shows real time radiation levels for that sign location, so that daily commuters can become aware as to what’s the background levels and when there are unsafe levels in the area.

9-8-HH

While we’re on the subject of notification, we would like the TVA and the NRC to provide an org chart and a process chart so that the citizens have full knowledge as to the process and the actually people at these agencies that have the authority to disclose or not disclose, release information to the public, also who makes the call to evacuate and how quickly is that decision made. We want to know who has that power over the citizens and have a right to know.

9-9-OS

In accordance with NEPA and Section 309 of the clean air act, we ask for an evaluation of alternative modes of facility operations, including answering the question, can a portion or even all of this “proposed” energy demand be met more cost effective with environmentally friendly renewable energy, and ask that you evaluate alternative technologies and mitigation measures, and the environmental impact of these alternatives.

9-10-AL

We need a detailed report as to the entrainment and impingement impacts on marine life; the impacts of the cooling water discharges and thermal backwash operations and fish return systems, we ask that you look at retrofitting the current open loop cooling systems to mitigate these impacts. We also

9-11-AE

request an impact statement from the United States Department of the Interior as and the department of justice as to the legitimacy of the generic impact study and we consider these actions a major event which would constitute and more through study under **Section 102 [42 USC § 4332]. Of NEPA.**

9-12-LR

**The NRC's environmental review process must calculate the environmental effects of not having a permanent storage facility; to properly examine future dangers and key consequences" of prolonged on-site nuclear waste storage.**

9-13-OS

At the end of the day the with the expiration of the operating license set to expire in 2020 and 2021, I feel these actions are premature, and are being aggressively pushed upon the citizens without adequate time for discussions, without time to study the health and impacts of Fukushima, and therefore again request additional public hearings on this issues as well as, something other than a generic impact study that hasn't been updated properly since like 1940

9-14-LR

**Any study should include the impact of the more than thirty documented spills of radioactive material into the water and food supply that have already occurred in the Tennessee Valley by this operator.**

9-15-GW

### **A local history of radioactive leaks into the groundwater and Tennessee River**

20100407 **Browns Ferry** Unit 3 Approximately 1,000 gallons of radioactively contaminated water leaked from Condensate Storage Tank No. 5 as workers were transferring water between condensate storage tanks. A worker conducting routine rounds observed water leaking from an open test valve near the top of CST No. 5.

20080105 **Browns Ferry** Unit 3 The condensate storage tank overflowed due to failed tank level instrumentation. The spilled water flowed into the sump in the condensate piping tunnel, triggering a high level alarm that prompted workers to initiate the search that discovered the overflow condition. Some of the spilled water may have permeated through the pipe tunnel into the ground.

20060700 **Sequoyah** Unit 1 An investigation to identify sources of tritium in groundwater found detectable levels of tritium in the Unit 1 and Unit 2 refueling water storage tank moat water.

20060700 **Sequoyah** Unit 2 An investigation to identify sources of tritium in groundwater found detectable levels of tritium in the storage tank moat water.

20060200 **Browns Ferry** Unit 3 A soil sample taken from underneath the radwaste ball joint vault (located outside the radwaste doors) indicated trace levels of cobalt-60 and cesium-137.



20060200 **Browns Ferry** Unit 1 A soil sample taken from underneath the radwaste ball joint vault (located outside the radwaste doors) indicated trace levels of cobalt-60 and cesium-137.

20060200 **Browns Ferry** Unit 2 A soil sample taken from underneath the radwaste ball joint vault (located outside the radwaste doors) indicated trace levels of cobalt-60 and cesium-137.

20051100 **Browns Ferry** Unit 1 Tritium levels greater than baseline values were detected in an underground cable tunnel between the intake structure and the turbine building. Samples taken in January 2006 identified gamma emitters in addition to tritium (beta emitter).

20051100 **Browns Ferry** Unit 2 Tritium levels greater than baseline values were detected in an underground cable tunnel between the intake structure and the turbine building. Samples taken in January 2006 identified gamma emitters in addition to tritium (beta emitter).

20051100 **Browns Ferry** Unit 3 Tritium levels greater than baseline values were detected in an underground cable tunnel between the intake structure and the turbine building. Samples taken in January 2006 identified gamma emitters in addition to tritium (beta emitter).

9-15-GW

20050000 **Watts Bar** Unit 1 The radwaste line was discovered to be leaking.

20050300 **Browns Ferry** Unit 1 A leak in a pipe elbow on the east side of the cooling tower and an overflow of the cooling tower basin caused by malfunction of the system level indicators resulted in radioactive contamination of the concrete pad and ground around the tower.

20050300 **Browns Ferry** Unit 2 A leak in a pipe elbow on the east side of the cooling tower and an overflow of the cooling tower basin caused by malfunction of the system level indicators resulted in radioactive contamination of the concrete pad and ground around the tower.

20050300 **Browns Ferry** Unit 3 A leak in a pipe elbow on the east side of the cooling tower and an overflow of the cooling tower basin caused by malfunction of the system level indicators resulted in radioactive contamination of the concrete pad and ground around the tower.

20040000 **Watts Bar** Unit 1 The radwaste line was discovered to be leaking.

20030000 **Watts Bar** Unit 1 Beginning in 2003, tritium leaching into the ground from the plant has been found in site monitoring points.

20020400 **Sequoyah** Unit 1 Prior to excavation for the steam generator replacement crane foundation, sampling identified contaminated soil surrounding the Unit 1 refueling water storage tank moat drain.

20010100 **Browns Ferry** Unit 3 Tritium levels greater than baseline values were detected in an onsite monitoring well west of the Unit 3 condenser circulating water conduit in the radwaste loading area.

19981200 **Watts Bar** Unit 1 Radioactively contaminated soil was discovered beneath the concrete

radwaste pad. 19980100 **Sequoyah** Unit 2 Radioactively contaminated water overflowed the Unit 2 additional equipment building sump and out the doorway to the ground outside.

19970500 **Sequoyah** Unit 1 Approximately 3,000 gallons of radioactively contaminated water spilled from the modularized transfer demineralization system when a conductivity probe failed. An estimated 600 to 1,000 gallons flowed through the railroad bay door to the ground outside.

19970500 **Sequoyah** Unit 2 Approximately 3,000 gallons of radioactively contaminated water spilled from the modularized transfer demineralization system when a conductivity probe failed. An estimated 600 to 1,000 gallons flowed through the railroad bay door to the ground outside.

19950500 **Sequoyah** Unit 2 Workers identified contaminated soil at the outfall of the Unit 2 refueling water storage tank moat drain pipe.

19850000 **Sequoyah** Unit 1 Radioactively contaminated water leached through a concrete wall of the condensate demineralizer waste evaporator building into the ground.

19850000 **Sequoyah** Unit 2 Radioactively contaminated water leached through a concrete wall of the condensate demineralizer waste evaporator building into the ground.

19830116 **Browns Ferry** Unit 3 A leaking tube in a residual heat removal heat exchanger allowed radioactive water from the reactor coolant system to be released to the river at levels exceeding technical specification limits.

19780715 **Browns Ferry** Unit 1 After the unit was shut down for maintenance, the residual heat removal system was placed in operation to assist shut down cooling of the reactor vessel water. Workers determined that a residual heat removal heat exchanger had a tube leak and that radioactively contaminated water was being discharged to the Tennessee River "at a rate above permissible limits."

9-15-GW

19770104 **Browns Ferry** Unit 1 A leak in a residual heat removal heat exchanger allowed radioactive water to be released to the river at levels exceeding technical specification limits.

19731019 **Browns Ferry** Unit 1 About 1,400 gallons of liquid radwaste of unknown, unanalyzed concentration was inadvertently discharge to the river due to personnel error. The liquid radwaste tank was intended to be placed in recirculation mode but was mistakenly placed in discharge mode. *Source; Union of concerned scientist and NRC*

### **15-16 January 1983**

Nearly 208,000 gallons of water with low-level radioactive contamination was accidentally dumped into the Tennessee River at the Browns Ferry power plant.

### **August 1979**

Highly enriched uranium was released from a top-secret nuclear fuel plant near Erwin, Tennessee. About 1,000 people were contaminated with up to 5 times as much radiation as

would normally be received in a year. Between 1968 and 1983 the plant "lost" 234 pounds of highly enriched uranium, forcing the plant to be closed six times during that period.

### 1983

The Department of Energy confirmed that 1,200 tons of mercury had been released over the years from the Y-12 Nuclear Weapons Components Plant at Oak Ridge, Tennessee, the U.S.'s earliest nuclear weapons production plant. In 1987, the DOE also reported that PCBs, heavy metals, and radioactive substances were all present in the groundwater beneath Y-12. Y-12 and the nearby K-25 and X-10 plants were found to have contaminated the atmosphere, soil and streams in the area.

### December 1984

The Fernald Uranium Plant, a 1,050-acre uranium fuel production complex 20 miles northwest of Cincinnati, Ohio, was temporarily shut down after the Department of Energy disclosed that excessive amounts of radioactive materials had been released through ventilating systems. Subsequent reports revealed that 230 tons of radioactive material had leaked into the Greater Miami River valley during the previous thirty years, 39 tons of uranium dust had been released into the atmosphere, 83 tons had been discharged into surface water, and 5,500 tons of radioactive and other hazardous substances had been released into pits and swamps where they seeped into the groundwater. In addition, 337 tons of uranium hexafluoride was found to be missing, its whereabouts completely unknown. In 1988 nearby residents sued and were granted a \$73 million settlement by the government. The plant was not permanently shut down until 1989.

### July 2000

Wildfires in the vicinity of the Hanford facility hit the highly radioactive "B/C" waste disposal trenches, raising airborne plutonium radiation levels in the nearby cities of Pasco and Richland to 1,000 above normal. Wildfires also threatened the Los Alamos National Laboratory in New Mexico and the DOE's Idaho National Engineering and Environmental Laboratory. In the latter case, the fires closely approached large amounts of stored radioactive waste and forced the evacuation of 1,800 workers. [See also [1986](#) and [May 1997](#).]

**Any EIS study should include the effects of storing nuclear material and waste on a site that is well over its design capacity, it should include a study as to how much the "background" radiation of the area will be increased based upon the increase in waste material and what is the long term and short effects as for the air, drinking water and food supply. In addition the study should include the health risk of and security risk of transporting the materials to other locations.**

9-16-HH

*From 1946 to 1970 approximately 90,000 canisters of radioactive waste were jettisoned in 50 ocean dumps up and down the East and West coasts of the U.S., including prime fishing areas, as part of the early nuclear waste disposal program from the military's atomic weapons program. The waste also included contaminated tools, chemicals, and laboratory glassware from weapons laboratories, and commercial/medical facilities*

9-17-OS

(Any study should include the effects that these waste dumps have had on the water, air and food supply including any physiological changes to any human, mammal or sea faring creature.

9-17-OS  
cont'd

## How It Doesn't Work – Risks and Dangers of Nuclear Energy

- *Proliferation Risks*
  - Plutonium is a man-made waste product of nuclear fission, which can be used either for fuel in nuclear power plants or for bombs.
  - In the year 2000, an estimated 310 tons (620,000 pounds) of civilian, weapons-usable plutonium had been produced.
  - Less than 8 kilograms (about 18 pounds) of plutonium is enough for one Nagasaki-type bomb. Thus, in the year 2000 alone, enough plutonium was created to make more than 34,000 nuclear weapons.
  - The technology for producing nuclear energy that is shared among nations, particularly the process that turns raw uranium into lowly-enriched uranium, can also be used to produce highly-enriched, weapons-grade uranium.
  - The International Atomic Energy Agency (IAEA) is responsible for monitoring the world's nuclear facilities and for preventing weapons proliferation, but their safeguards have serious shortcomings. Though the IAEA is promoting additional safeguards agreements to increase the effectiveness of their inspections, the agency acknowledges that, due to measurement uncertainties, it cannot detect all possible diversions of nuclear material. (Nuclear Control Institute)
- *Risk of Accident*
  - On April 26, 1986 the No. 4 reactor at the Chernobyl power plant (in the former U.S.S.R., present-day Ukraine) exploded, causing the worst nuclear accident ever.
    - 30 people were killed instantly, including 28 from radiation exposure, and a further 209 on site were treated for acute radiation poisoning.
    - The World Health Organization found that the fallout from the explosion was incredibly far-reaching. For a time, radiation levels in Scotland, over 1400 miles (about 2300 km) away, were 10,000 times the norm.
    - Thousands of cancer deaths were a direct result of the accident.
    - The accident cost the former Soviet Union more than three times the economical benefits accrued from the operation of every other Soviet nuclear power plant operated between 1954 and 1990.
  - In March of 1979 equipment failures and human error contributed to an accident at the Three Mile Island nuclear reactor at Harrisburg, Pennsylvania, the worst such accident in U.S. history. Consequences of the incident include radiation contamination of surrounding areas, increased cases of thyroid cancer, and plant mutations.
  - According to the US House of Representatives, Subcommittee on Oversight & Investigations, "Calculation of Reactor Accident Consequences (CRAC2) for US Nuclear Power Plants" (1982, 1997), an accident at a US nuclear power plant could kill more people than were killed by the atomic bomb dropped on Nagasaki.
- *Environmental Degradation*
  - All the steps in the complex process of creating nuclear energy entail environmental hazards.
  - The mining of uranium, as well as its refining and enrichment, and the production of plutonium produce radioactive isotopes that contaminate the surrounding area, including the groundwater, air, land, plants, and equipment. As a result, humans and the entire ecosystem are adversely and profoundly affected.
- *Nuclear Waste*
  - A typical reactor will generate 20 to 30 tons of high-level nuclear waste annually. There is no known way to safely dispose of this waste, which remains dangerously radioactive until it naturally decays.
  - The rate of decay of a radioactive isotope is called its half-life, the time in which half the initial amount of atoms present takes to decay. The half-life of Plutonium-239, one particularly lethal component of nuclear waste, is 24,000 years.
  - The hazardous life of a radioactive element (the length of time that must elapse before the material is considered safe) is at least 10 half-lives. Therefore, Plutonium-239 will remain hazardous for at least 240,000 years.

3/18/2013

78 FR 15055

10

Sequoyah License Renewal  
Comment  
NRC-2013-0037

From:  
Gretel Johnson  
Bellefonte Efficiency & Sustainability Team  
Mothers Against Tennessee River Radiation

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Articles to be considered in the environmental review

1) Sequoyah License Extension, Docket ID NRC-2013-0037

10-10-AL

2) Executive Summary Energy Efficiency in the South

10-11-AL

also found in  
comment  
8-11-AL

3) GAO Report GAO-12-107 – Tennessee Valley Authority, Full Consideration of Energy Efficiency and Better Capital Expenditures Planning Are Needed.

4) Improving Spent-Fuel Storage at Nuclear Reactors

10-12-RW

5) Leaked Report Suggests Long-Known Flood Threat To Nuclear Plants, Safety Advocates Say

10-13-OS

6) Nuclear Tornadoes

SUNSI Review Complete  
Template = ADM – 013  
E-RIDS= ADM -03  
Add= *E. Gaynor (ecsa)*

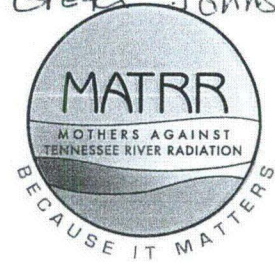
Ann Harris  
Cretel Johnston



**Bellefonte Efficiency & Sustainability Team**

B.E.S.T.

A local chapter of Blue Ridge Environmental Defense League



April 3, 2011

Cindy Bladey, Chief, Rules, Announcements, and Directives  
Branch (RADB), Office of Administration,  
Mail Stop: TWB-05-B01M,  
U.S. Nuclear Regulatory Commission,  
Washington, D.C. 20555-0001

re: Sequoyah License Extension, Docket ID NRC-2013-0037

Dear NRC Environmental Impact Analysts:

As a representative of Mothers Against Tennessee River Radiation (MATRR), I come to this scoping session to express our concerns about Tennessee Valley Authority's (TVA) requested 50% beyond-design-life-span license extension for their Sequoyah Nuclear Power Plant (SQN) and about the Environmental Impact Statement they have submitted for Nuclear Regulatory Commission (NRC) and National Environmental Protection Act (NEPA) review.

First, we think it is important to challenge the stated assumption that, "Possible alternatives to the proposed action (license renewal) include no action and reasonable alternative energy sources," given that only nuclear and gas power plants are considered as "reasonable alternative energy sources."<sup>1</sup> We assert that Energy Efficiency and Renewable Energy are "reasonable alternative energy sources" that need to be identified and evaluated in the Supplemental Environmental Impact Statement (SEIS). To support our claim, we enter into the record multiple studies showing that Energy Efficiency Programs are definitively more economically viable and environmentally "reasonable alternative energy sources" than nuclear or gas power plants.

10-14-AL

All of the power generated by Sequoyah can be replaced by energy efficiency alone and new power can be generated with renewable sources, such as wind or solar. In fact, Energy Efficiency Programs can readily replace the existing power and provide for future power needs – offering significantly more jobs, coming 'on-line' more quickly, and enhancing the quality of life of TVA rate-payers by improving the efficiency of our homes, reducing monthly electric bills, and improving our environment by not emitting toxic waste. According to a Georgia Tech and Duke University study, assertive energy efficiency programs in one decade in the south alone can create 380,000 new jobs and lower utility bills by \$41 billion, while eliminating the need for new power plants for two decades, and saving 8.6 billion gallons of fresh water.<sup>2</sup>

And if more energy does need to be generated, solar is now less expensive than nuclear, and a 2012 federal report on renewable energy states that Tennessee alone has the technical potential of generating well over 2 million GWh of utility scale solar power.<sup>3</sup>

10-14-AL  
cont'd

Rather than “reasonable alternative energy sources”, we believe this false assumption of limited options is biased toward environmentally unsound choices requiring the use of dirty nuclear and fossil fuels rather than the best replacement of existing power – which is first and foremost that of demand reduction through energy efficiency and heat recycling, and secondly through environmentally sustainable renewable energy such as wind and solar. That the SEIS has not included these options with its nuclear and gas generation alternatives indicates how behind-the-times TVA seems determined to remain, no matter what the cost to rate-payers or the environment.<sup>4</sup> The NRC should not accept this assessment of environmental impact without studying and reasonably adjusting these basic assumptions about viable alternatives.

Our next area of concern is the compromised integrity of reactor containment at Sequoyah. This is a basic line of defense for the environment against nuclear contamination, and the very fact that the reactor designers did not allow for replacement of the generators is cause for concern – along with the design fault issue of the ice-condensers being placed too near the reactors causing them to jam up in the baskets and not perform their designed cooling functions. TVA cut through the concrete and metal containment and lifted the top off the reactors secondary containment vessel in order to replace a generator that was not designed to be replaced. We consider this a “beyond-design-basis event” that was created, rather than mitigated, by the utility company. The fact that TVA was willing to cut into and compromise the nuclear containment, in order to cut costs for their nuclear program, shows an unacceptable lack of quality control and little concern for the safety and health of the environment for well over a million people in the area.

10-15-OS

Another deliberately fabricated “beyond-design-basis” ongoing event is the extended use of spent fuel cooling pools as storage tanks, rather than the <sup>temporary</sup> circulating cooling pools they were designed to be. As originally designed, and as recommended by a National Academy of Sciences study commissioned for Congress and Homeland Security in 2005, radioactive trash (or spent fuel) should be moved from the cooling pools into dry cask storage after 5 years, not continually packed into the vulnerable cooling pools. As Robert Alvarez states in the 2012 submitted article, “Improving Spent-Fuel Storage at Nuclear Reactors,” nuclear safety studies for decades have said severe accidents can occur at spent fuel pools and the consequences could be catastrophic. “A severe pool fire could render about 188 square miles around the nuclear reactor uninhabitable, cause as many as 28,000 cancer fatalities, and cause \$59 billion in damage, according to a 1997 report for the NRC by Brookhaven National Laboratory.”<sup>5</sup>

10-16-PA

Sequoyah has well over a thousand metric tons (about 2.5 million pounds) of highly radioactive waste with a history of improper storage.<sup>6</sup> In 2010, for example, about 75% of 30 years of spent fuel was being stored in cooling pools. While this is better than the 100% pool storage record at Watts Bar and the 88% record at Browns Ferry, this clearly indicates the lack of attention by the corporate culture of TVA to the maintenance and security warranted by a nuclear power utility, which indicates a potential threat to our environment. The concentration of fuel, transfer and storage plans, and scheduled implementation of those plans needs to be identified and evaluated in the Safety Evaluation Report.

Other concerns are potential non-deliberate “beyond-design-basis events,” such as floods and tornadoes. TVA's dams are aging and maintenance has been spotty at best. Many valley residents

10-17-OS

10-17-OS  
cont'd

are concerned over the possibility of a catastrophic flood being caused by one or more dam failures. Dams were not built to the same earthquake safety standards as the power plants and one dam failure could trigger a domino effect upstream of nuclear power plants, possibly overwhelming the planned backup systems should 'all hell break loose'.

Responsible maintenance is another issue of concern. When tornadoes took out power to Browns Ferry for several days in 2011, two of the eight backup power generators were inoperable when the tornado hit and a third generator was shut down the next day. That is a 40% failure rate. If TVA maintenance is not kept for nuclear power plants, where NRC oversight is physically in effect daily, one wonders about the quality of maintenance at the many aging TVA dams upstream from Sequoyah. Multiple dam failure scenarios need to be identified and evaluated for the Safety Evaluation Report.<sup>7</sup>

10-18-OS

We all know, from watching the Fukushima helicopters desperately dropping water on the reactors and cooling pools stranded without power backup generators, that nuclear power plants ironically must have a constant supply of power and of pumped water in order to prevent the environmental horror of reactor and/or cooling pool meltdowns.

Another lesson of Fukushima is the necessity of preparedness for multiple events or even compound disasters. In the Tennessee Valley, we have what many here call a tornado corridor. Please note the submission, for the record, of the map of TVA nuclear power plants 50 mile radii superimposed on the NOAA Tornado Track of the April 2011 outbreak in this area.<sup>8</sup> The Safety Evaluation Report for Sequoyah needs to identify and evaluate not only the dual dangers of floods and tornadoes, but also the potential consequences of combined and compound disasters on the environment of our valley.

10-19-OS

National Severe Storms Forecast Center reported 29-31 tornadoes within a 30 nautical mile radius of Sequoyah in the 37 year period between 1950 and 1986. Within the next fifteen year period ending in 2002, they reported 23 tornadoes in that same area<sup>9</sup> nearly doubling the incidence of tornadoes in the 30 nautical (34.5 U.S. mile) radius. This record was up to the year 2002, and does not appear to address the increased incidence, size, and ferocity of tornadoes associated with the ongoing problem of climate change.

According to the NOAA tornado track of the April 2011 outbreaks, here entered into the record, there appear to be about 15 tornadoes within that same radius,<sup>10</sup> and according to the SEIS, three tornadoes touched down within 10 miles of Sequoyah (according to Kenneth Wastrack, TVA, personal communication).<sup>11</sup> The increasing frequency, size, and severity of tornadoes due to climate change is a potential environmental hazard that needs to be identified and evaluated in the SEIS and Safety Evaluation Report.

Although your statisticians predict unlikely odds of a direct tornado hit on Sequoyah, we are not confident with TVA gambling on the odds of a nuclear tornado disaster any more than we are comfortable with predicted cancer mortality rates around each nuclear power plant. It appears that the TVA SEIS staff as well as the concerned citizen activists who have focused on this request for a renewal license can only address a percentage of the issues that need to be identified and evaluated for our safety. The very volume of issues necessary to mitigate the hazards and

10-20-LR



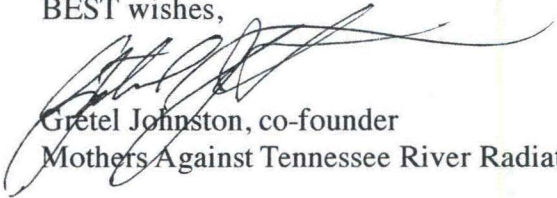
Environmental Impact of extending the Sequoyah Nuclear Power Plant operating license another 50% beyond its design-basis life span, indicates the number of potential and known problems with this inherently dangerous radioactive technology – and its potential and already known deleterious impacts on the human environment.

10-20-LR  
cont'd

We know that energy efficiency programs can 'supply' the energy we need at less cost for TVA and at greater benefit to the people of this valley. We also know that renewable electricity can be generated for less money and with significantly less risk to human habitat. What we do not know is why the NRC continually enables an industry that is willing to gamble with human lives and habitats, despite the “reasonable alternative energy sources” of energy efficiency and renewables. Thank you for your consideration of our concerns and for your service at the Nuclear Regulatory Commission.

10-21-AL

BEST wishes,



Gretel Johnston, co-founder  
Mothers Against Tennessee River Radiation

for BEST/MATRR  
Bellefonte Efficiency & Sustainability Team (BEST)  
Mothers Against Tennessee River Radiation (MATRR)

Encls:

1. <Executive Summary Energy Efficiency in the South.pdf>,
2. <NREL\_RenewablesByState\_7'12.png>, <Energy Savvy Alacorn vs. EE>
3. <GAO\_TVAnneedsEE&\$Plan\_'11.pdf>,
4. <Alvarez\_spentfuel\_'12.pdf>,  
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<\_TornadoMapFinal.pdf>

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3/08/2013  
78 FR 15055

11

Sequoyah License Renewal  
Comment  
NRC-2013-0037

From:  
Sandra Kurtz  
Chattanooga, TN

Comments to the Nuclear Regulatory Commission for Scoping regarding the Re-licensing for Sequoyah Nuclear Reactors 1 and 2

SUNSI Review Complete  
Template = ADM - 013  
E-RIDS= ADM -03  
Add= E. Boyce (EUSA)

## COMMENTS TO THE NUCLEAR REGULATORY COMMISSION FOR SCOPING REGARDING RECLICENSING FOR SEQUOYAH NUCLEAR REACTORS 1 AND 2

11-29-LR

The Supplemental Environmental Impact Statement should not be supplemental given that the original EIS goes back to the 1980s. I don't think that NRC and TVA can say that in that time there has been 'no significant environmental impact' and not really start from scratch. To say because it's been operating for 32 years without 'significant environmental impact' which is questionable in itself, is enough reason to give it a go-ahead for another 20 years is faulty reasoning.

11-30a-OS

- Sequoyah Nuclear Plant Reactors 1 and 2 opened respectively in 1981 and 1982. By the time relicensing for 20 more years of operation is granted they will be 40 years old. They were actually designed for only 30 years of life. Aging increases risk of leaks and accidents that cause costly shutdowns. This past year NRC issued a notice of violation for too many shutdowns in a year (SCRAMS) at Sequoyah.

11-30b-OS

- There is concern over flooding in the light of lessons learned from Fukushima and the TVA discovery that their own calculations on flood risk at both Watts Bar and Sequoyah were too low. Analysis must be done to assess the risk to the urban population in and around Chattanooga should dams upstream break or an earthquake occur. Flooding mitigation must be done and is bound to be costly.

11-31-OS

- It is not out of the question for an earthquake to occur that would impact Sequoyah should it be above a seismic level of 4.9. With new information and Fukushima recommendations, an updated analysis is needed rather than relying on the original EIS.

11-32-OS

11-33-SW

- In this age of climate disruption, water quality and quantity is of prime importance. Nuclear Plants use inordinate amounts of water each day when operating and about two-thirds is evaporated through the cooling towers and is not returned to the river. The Union of Concerned Scientists tells us that the typical 1,000 MW-electric nuclear power reactor can use up to a whopping 714,740 gallons per minute. This is water that could be used by other businesses, industries, and for drinking water. The water returned to the river is carrying heat that has impacts for the aquatic ecosystem. While fish can move to avoid heated water plumes, the aquatic drift community and certain macroinvertebrates upon which fish feed cannot. In a climate unstable world, water will be THE ultimate constraining resource. We have already seen TVA's nuclear plants shut down because of summer temperatures that prevented proper cooling. With temperatures rising scientists predict periods of excessive rain, severe drought conditions, and hotter temperatures in the summer here. Climate change must be addressed as an environmental impact for this SEIS.

11-34-AE

11-35-CC

- The SEIS document states that extending Sequoyah operations continues 'potential availability' to support TVA's agreement with Dept. of Energy to produce tritium until 2035. Tritium is a radioactive form of hydrogen that becomes a radioactive form of water. If ingested, inhaled, or absorbed through the skin, tritium can permeate living cells and cause damage at the cellular level. In both 2003 and in 2011, tritium was

11-36-OS

11-36a-OS  
cont'd

found in the groundwater at Sequoyah. Tritium is also made at Watts Bar 1 where it has been leaking through the absorber rod cladding and where it has also leaked into the river. Chattanooga drinking water derives primarily from the TN River downstream from Watts Bar and Sequoyah. We have been exposed for 40 years and don't need another 20 years to satisfy the Department of Energy's desire to make tritium in a supposedly commercial power plant in order to boost fission in nuclear bombs for military use. Then there is the possible use of radioactive mixed oxide fuel (MOX) being considered for use at the request of Dept. of Energy. It is experimental and never been used in a commercial nuclear plant and this one not designed for it.

11-36b-OS  
cont'd

- Spent fuel storage is inadequately protected as rod density in the fuel pool increases. This rod crowding is a serious safety concern. Why have 20 more years of radioactive spent fuel? There are many questions that should be adequately analyzed and answered: Where do we put it and how will it be monitored and managed? Is the Watts Bar radioactive waste going to be transported to SQN as well? Has the proposed Independent Spent Fuel Storage Building been put in place and is it secure enough?

11-37-RW

- The SEIS states that there are only two feasible alternatives to consider meeting the need for power in the future? Alternatives: 1. Decommission SQN and build a new nuclear plant replacement with a 40-year license somewhere besides the SQN site. 2. Construct new natural gas-fired generators and infrastructure in place of SQN, but not on the SQN site. Can it be that TVA and NRC cannot think of any other alternatives such as shutting SQN down and meeting power demand and even baseload with solar, wind, energy efficiency, demand-side management, and other now-viable energy alternatives to name some? These will be cheaper, healthier and safer. Consider other alternatives.

11-38-AL

- NRC found that radiation doses to the public will continue at current levels associated with normal operations and also for occupational doses to employees. We are told that the range of doses are all well below regulatory limits. Thus, it was concluded that since the range of dosages are well below regulatory limits, there is no significant additional impact if the license is renewed for another 20 years. The idea that we are all safe forever once one sets radiation exposure standards is not true. We know now that there is no safe dose of radiation and that those standards are likely to change as was done after Fukushima to protect the nuclear industry from public outrage. In fact, ionizing radiation is cumulative. There is cancer risk even without an accident. We have enough background radiation as is. A license to add human made radiation for another 20 years should not be granted.

11-39-HH

- Numerous accidents, incidents, SCRAMS, shutdowns, leaks, dishonesty in equipment monitoring, lack of proper reports filed, ignoring safety procedures, poor nuclear employee education, and the installation of non-certified equipment, does not assure the public that TVA can properly run their nuclear plants. Ice-condenser technology is old and more subject to hydrogen explosions and meltdowns than other designs. There can never be enough so-called failsafe measures to avoid human error. We can and should move on to other ways to produce electricity.

11-40-OS

3/28/2013  
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Comments Due: May 03, 2013  
Submission Type: Web

# PUBLIC SUBMISSION

12

**Docket:** NRC-2013-0037

Receipt and Availability of Application for Renewal of Sequoyah Nuclear Plant

**Comment On:** NRC-2013-0037-0003

License Renewal Application for Sequoyah Nuclear Plant, Units 1 and 2, Tennessee Valley Authority

**Document:** NRC-2013-0037-DRAFT-0008

Comment on FR Doc # 2013-05491

## Submitter Information

**Name:** C S

**Address:**

Talley Rd  
Chattanooga, TN, 37411

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## General Comment

It is important that TVA retire the permits on Sequoyah 1 & 2. The permits are already 10 years past their original (recommended) termination dates. We require that all nuclear material be interred in casks and left on site. Monies must be used to develop safer means of energy harvesting. Ice Condenser Reactors are out of date and dangerous. By no means will MOX fuel be made at these Tennessee Plants that are so close to Chattanooga. We look forward to a decline in Leukemia rates after all the spent fuel is in casks.

SUNSI Review Complete  
Template = ADM - 013  
E-RIDS= ADM-03  
Add= E. Sayoc (RCSH)

# PUBLIC SUBMISSION

3/8/2013  
78 FR 15055  
13

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<b>Received:</b> May 01, 2013
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**Docket:** NRC-2013-0037

Receipt and Availability of Application for Renewal of Sequoyah Nuclear Plant

**Comment On:** NRC-2013-0037-0003

License Renewal Application for Sequoyah Nuclear Plant, Units 1 and 2, Tennessee Valley Authority

**Document:** NRC-2013-0037-DRAFT-0010

Comment on FR Doc # 2013-05491

## Submitter Information

**Name:** Yolanda Moyer

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8 Pebblestone Drive  
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## General Comment

Lets put stipulations as to how long Nuclear Plants that are outdated are allowed to operate. Start investing in renewable energies such as solar on every new construction of homes and businesses including school.

13-1-OS

13-2-OS

SUNSI Review Complete

Template = ADM - 013

E-RIDS= ADM-03

Add= E. Sayoc (ccs4)

3/8/2013

48 FR 15055

<b>As of:</b> May 02, 2013
<b>Received:</b> April 30, 2013
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<b>Tracking No.</b> 1jx-852e-6088
<b>Comments Due:</b> May 03, 2013
<b>Submission Type:</b> Web

14

# PUBLIC SUBMISSION

**Docket:** NRC-2013-0037

Receipt and Availability of Application for Renewal of Sequoyah Nuclear Plant

**Comment On:** NRC-2013-0037-0003

License Renewal Application for Sequoyah Nuclear Plant, Units 1 and 2, Tennessee Valley Authority

**Document:** NRC-2013-0037-DRAFT-0009

Comment on FR Doc # 2013-05491

## Submitter Information

**Name:** Judith Canepa

**Address:**

716 East 11th Street #2P

New York, NY, 10009

**Organization:** New York Climate Action Group

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2013 MAY -2 AM 9: 12

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USNRC

## General Comment

The New York Climate Action Group strongly opposes the application by the Tennessee Valley Authority to renew the license for Sequoyah Nuclear Plant, Units 1 and 2, in light of the following grave concerns:

14-1-LR

1. The plant has aged ten years past its intended lifespan. An alarming number of parts that were replaced are considered non-compliant under your own standards.

14-2-OS

2. Your agency cited the company for failure to perform corrective actions for problems with their other reactors. Indeed, TVA has flagrantly ignored NRC standards for safety for decades. We cannot trust this company to ensure the safety of the surrounding communities.

14-3-OS

3. TVA has had to perform emergency shutdowns of other reactors a shockingly high number of times. We cannot assume that the Sequoyah plant is handled differently from their usual way of running operations. However, we must have access to information related to how many SCRAMs have taken place at this facility before being able to comment knowledgeably about this concern.

14-4-OS

4. As has been seen in other nuclear power plants, cutting a massive hole in the containment structure, already subjected to the high stressors of SCRAMS and simple aging, endangers the integrity of the structure itself and thus the ability of the ice-condenser system to keep the radiation out of the surrounding environment.

14-5-OS

Our recommendations are that the license renewal application be denied and that nuclear materials be interred

14-6-OR

SUNSI Review Complete  
Template - ADM-013

F-RIDS - ADM-03  
Add - F. SAYOC (LCSH)

on site. 14-6-OR cont'd

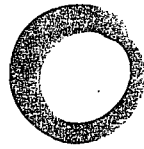
We support the swift transfer to renewable energy technologies. Such a transfer is not only possible, it is possible now, and absolutely essential for the sustainability of human life. If Germany, Denmark, and other countries can do it, so can the United States. See the work of Mark Z. Jacobson, professor at Stanford University:

Shifting the world to 100% clean, renewable energy by 2030

<http://news.stanford.edu/news/2009/october19/jacobson-energy-study-102009.html>

14-7-AL





-139- Friends of the Earth

RULES AND DIRECTIVES  
BRANCH  
USNRC

2013 MAY 21 AM 9:28

April 26, 2013

Chief, Rules, Announcements, and Directives Branch  
Division of Administrative Services  
Office of Administration  
Mailstop TWB-05-B01 M  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555

RECEIVED

3/8/2013  
78 FR 15055

15

Re: SCOPING COMMENT CONCERNING THE SEQUOYAH NUCLEAR PLANT, UNITS 1 AND 2,  
LICENSE RENEWAL APPLICATION REVIEW Docket Nos. 50-327 and 50-328

To whom it Concerns:

Attached you will find documentation that the Tennessee Valley Authority (TVA) is considering production of tritium for nuclear weapons in the Sequoyah reactors. As the Nuclear Regulatory Commission has already licensed this activity, this issue clearly must be involved in any relicensing considerations of the Sequoyah reactors.

15-1-OS

Likewise, TVA is actively considering use of plutonium fuel (MOX) made from weapons-grade plutonium in the Sequoyah reactors. While there is no NRC license request by TVA for MOX testing or use, the review of TVA concerning MOX must be taken into account during the review of the Sequoyah license extension.

15-2-OS

Thank you for including in the scoping document that an analysis of all aspects tritium production and MOX testing and use must be included in license renewal documents.

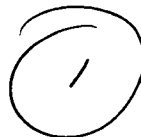
Please add me to any distribution list you prepare on the scoping and/or license renewal; tomclements329@cs.com.

Sincerely,

Tom Clements  
Southeastern Nuclear Campaign Coordinator

SUNSI Review Complete  
Template = ADM - 013  
E-RIDS = ADM-03  
Add = E. Sayoc (ecs4)

3/5/2013  
78 FR 14362



UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

BEFORE THE SECRETARY

RECEIVED

2013 MAY -2 AM 8:29

RULES AND DIRECTIVES  
BRANCH  
USNRC

In the Matter of  
Tennessee Valley Authority  
Sequoyah Nuclear Plant Units 1 and 2  
License Nos. DPR-77 and DPR-79  
Docket Nos. 50-327 and 50-328  
NRC-2013-0037

DECLARATION OF STANDING

Under penalty of perjury, I declare as follows:

1. My name is KRISTINA LAMBERT and I am a member of  
Print your name  
the Blue Ridge Environmental Defense League.

2. I live at 129 RIPPLE STONE RD, DUNLAP, TN  
Physical address

3. My home lies within 35 miles of the site in Soddy-Daisy, Tennessee in Hamilton County where Tennessee Valley Authority operates two nuclear power plants and for which the U.S. Nuclear Regulatory Commission has received a license renewal application for an additional 20-year period of operation.

4. The design of the Sequoyah reactors has a particular weakness in its construction which reduces its ability to withstand accidents. Only nine such reactors have ever been completed in the United States. Aging of the plant may only increase the danger.

22-1-OS

5. Based on historical experience with nuclear reactors, I believe that these facilities are inherently dangerous. An accident at these nuclear reactors so close to my home could pose a grave risk to my property, health and safety. In particular, I am concerned that if an accident involving release of radioactive material were to occur, I could be killed or become very ill.

22-2-PA

6. Therefore, I have authorized Blue Ridge Environmental Defense League to represent my interests in this proceeding as to whether good cause exists for the renewal of the operating licenses to the Tennessee Valley Authority.

Kristine Lambert  
(Signature)

Date 05-01-2013

SUNSI Review Complete

Template = ADM - 013

E-RIDS= ADM-03

Add= m.yoo (MH)