Appendix A

Comments Received on the Environmental Review

Appendix A

Comments Received on the Environmental Review

Part I - Comments Received During Scoping

On August 23, 2001, the U.S. Nuclear Regulatory Commission (NRC) published a Notice of Intent in the *Federal Register* (66 FR 44386), to notify the public of the staff's intent to prepare a plant-specific supplement to the *Generic Environmental Impact Statement for License Renewal of Nuclear Plants* (GEIS), NUREG-1437, Volumes 1 and 2, to support the renewal application for the McGuire Nuclear Station, Units 1 and 2 (McGuire) operating licenses and to conduct scoping. This plant-specific supplement to the GEIS has been prepared in accordance with the National Environmental Policy Act (NEPA), Council on Environmental Quality (CEQ) guidelines, and 10 CFR Part 51. As outlined by NEPA, the NRC initiated the scoping process by issuing the Notice of Intent. The NRC invited the applicant; Federal, State, Native American Tribal, and local government agencies; local organizations; and individuals to participate in the scoping process by providing oral comments at scheduled public meetings and/or submitting written suggestions and comments no later than October 21, 2001.

The scoping process included two public scoping meetings, which were held at the Central Piedmont Community College in Huntersville, North Carolina, on September 25, 2001. More than 100 individuals attended the meetings. Each session began with NRC staff members providing brief overviews of the license renewal process and the NEPA process. After the NRC's prepared statements, the meetings were opened for public comments. Twenty-six attendees (five of whom spoke at both sessions) provided either oral statements that were recorded and transcribed by a certified court reporter or written statements. The meeting transcripts are an attachment to the scoping meeting summary dated October 12, 2001. In addition to the comments provided during the public meetings, five e-mail messages were received by the NRC in response to the Notice of Intent.

At the conclusion of the scoping period, the NRC staff and its contractors reviewed the transcripts and all written material received to identify specific comments and issues. Each set of comments from an individual was given a unique identifier (Commenter ID), so that the comments could be traced back to the original transcript or e-mail containing the comment. Specific comments were numbered sequentially within each comment set. Several commenters submitted more than one set of comments (i.e., they made statements in both the afternoon and evening scoping meetings). In these cases, there is a unique Commenter ID for each set of comments.

Table A-1 identifies the individuals who provided comments applicable to the environmental review and the Commenter ID associated with each set of comments. Individuals who spoke at

the scoping meetings are listed in the order in which they spoke at the public meeting, and individuals who provided comments by letter or e-mail are listed in alphabetical order. To maintain consistency with the scoping summary report, (McGuire Scoping Summary Report, dated March 27, 2002), the unique identifier used in that report for each set of comments is retained in this report.

Table A-1. Individuals Providing Comments During Scoping Comment Period

Commenter ID	Commenter	Affiliation (If Stated)	Comment Source
A	James Harrill	Mayor, Stanley, NC	Afternoon Scoping Meeting
B	Wayne Broome	Director, Charlotte-Mecklenburg Emergency Management	Afternoon Scoping Meeting
C	Larry Dickerson	Iredell County Emergency Management	Afternoon Scoping Meeting
D	Thurman Ross	Cornelius, NC	Afternoon Scoping Meeting
E	Brew Barron	Site Vice President, McGuire Nuclear Station	Afternoon Scoping Meeting
F	Dayna Herrick	Engineering Supervisor, McGuire Nuclear Station	Afternoon Scoping Meeting
G	Melanie O'Connell-Underwood	Mooresville-South Iredell Chamber of Commerce	Afternoon Scoping Meeting
H	John Gibb		Afternoon Scoping Meeting
I	Rosemary Hubbard	Charlotte Women for Environmental Justice/Blue Ridge Environmental Defense League	Afternoon Scoping Meeting
J	Allen Hubbard		Afternoon Scoping Meeting
K	Scott Hinkle	Executive Director, Lake Norman Times	Afternoon Scoping Meeting
L	Sally Ashworth	Chairwoman, Lake Norman Convention and Visitors Bureau	Afternoon Scoping Meeting
M	Constance Kolpitcke		Afternoon Scoping Meeting
N	Catherine Mitchell	Blue Ridge Environmental Defense League	Afternoon Scoping Meeting
O	Joan Bodonheimer	Teacher, Long Creek Elementary School	Afternoon Scoping Meeting
P	Don Moniak	Organizer, Blue Ridge Environmental Defense League	Afternoon Scoping Meeting
Q	Lou Zeller	Community Organizer, Blue Ridge Environmental Defense League	Afternoon Scoping Meeting
R	Don Moniak	Organizer, Blue Ridge Environmental Defense League	Evening Scoping Meeting
S	Tommy Almond	Deputy Fire Marshall, Gaston County Emergency Management	Evening Scoping Meeting
T	Brew Barron	Site Vice President, McGuire Nuclear Station	Evening Scoping Meeting

Table A-1 (contd)

Commenter ID	Commenter	Affiliation (If Stated)	Comment Source
U	Dayna Herrick	Engineering Supervisor, McGuire Nuclear Station	Evening Scoping Meeting
V	Tim Gestwicki	North Carolina Wildlife Federation	Evening Scoping Meeting
W	Lou Zeller	Community Organizer, Blue Ridge Environmental Defense League	Evening Scoping Meeting
X	Donna Lizenby	Catawba Riverkeeeper	Evening Scoping Meeting
Y	Bill Russell	President, Lake Norman Chamber of Commerce	Evening Scoping Meeting
Z	Paul Smith	President, Mooresville-South Iredell Chamber of Commerce	Evening Scoping Meeting
AA	Mitch Eisner	Principal, Catawba Springs Elementary School	Evening Scoping Meeting
AB	Catherine Mitchell	Blue Ridge Environmental Defense League	Evening Scoping Meeting
AC	Jim Gilpin	Private Environmental Consultant	Evening Scoping Meeting
AD	Bob Mahood		Evening Scoping Meeting
AE	Dan Faris		Evening Scoping Meeting
AF	Alton Beasley		Electronic mail
AG	Dottie Toney		Electronic mail
AH	Mark Gilliss	Mechanical Engineer	Electronic mail
AI	Jim Matthews		Electronic mail
AJ	Hager		Electronic mail

Specific comments were categorized and consolidated by topic. Comments with similar specific objectives were combined to capture the common essential issues raised by the commenters. The comments fall into one of several general groups. These groups include:

- Specific comments that address environmental issues within the purview of the NRC environmental regulations related to license renewal. These comments address Category 1 or Category 2 issues or issues that were not addressed in the GEIS. They also address alternatives and related federal actions.

- General comments (1) in support of or opposed to nuclear power or license renewal or (2) on the license renewal process, the NRC's regulations, and the regulatory process. These comments may or may not be specifically related to the McGuire license renewal application.

- Questions that do not provide new information.

- Specific comments that address issues that do not fall within or are specifically excluded from the purview of NRC environmental regulations. These comments typically address issues such as the need for power, emergency preparedness, current operational safety issues, and safety issues related to operation during the renewal period.

Each comment applicable to this environmental review is summarized in this section. This information, which was extracted from the McGuire Scoping Summary Report, is provided for the convenience of those interested in the scoping comments applicable to this environmental review. The comments that are general or outside the scope of the environmental review for McGuire are not included here. More detail regarding the disposition of general or nonapplicable comments can be found in the summary report. The ADAMS accession number for the summary report is ML020870574.

These accession numbers are provided to facilitate access to the document through the Public Electronic Reading Room (ADAMS) http://www.nrc.gov/reading-rm.html.

The following pages summarize the comments and suggestions received as part of the scoping process that are applicable to this environmental review, and discuss the disposition of the comments and suggestions. The parenthetical alpha-numeric identifier after each comment refers to the comment set (Commenter ID) and the comment number.

Comments in this section are grouped in the following categories:

A.1.1 Comments Concerning Surface Water Quality, Hydrology, and Use Issues

A.1.2 Comments Concerning Aquatic Ecology Issues

A.1.3 Comments Concerning Terrestrial Resource Issues

A.1.4 Comments Concerning Threatened and Endangered Species Issues

A.1.5 Comments Concerning Air Quality Issues

A.1.6 Comments Concerning Socioeconomic Issues

A.1.7 Comments Concerning Postulated Accident Issues

A.1.8 Comments Concerning Uranium Fuel Cycle and Waste Management Issues

A.1.9 Comments Concerning Alternative Energy Sources

A.1 Comments Received during Scoping Process that are Applicable to this Environmental Review

A.1.1 Comments Concerning Surface Water Quality, Hydrology, and Use Issues

As stated in 10 CFR Part 51, Table B-1, Category 1 water quality issues include:

- Impacts of refurbishment on surface water quality
- Impacts of refurbishment on surface water use
- Altered current patterns at intake and discharge structures
- Altered salinity gradients
- Altered thermal stratification of lakes
- Temperature effects on sediment transport capacity
- Scouring caused by discharged cooling water
- Eutrophication
- Discharge of chlorine or other biocides
- Discharge of sanitary wastes and minor chemical spills
- Discharge of other metals in waste water
- Water use conflicts (plants with once-through cooling systems)

Comment: Duke Energy has conducted water quality and aquatic ecology testing on Lake Norman since the early 1970s. The areas that we study include water quality, water flow at the intake and discharge structures, and aquatic ecology. (F-2)

Comment: We had clean water and clean air. Over these many years, however, we have seen a tremendous degradation of our groundwater, our rivers, our streams, and our air. And Duke Energy has been a great contributor to that. (I-3)

Comment: In terms of the environmental impact of the plant, which is incredibly, and remarkably negligible, Lake Norman is among the most cleanest, it is among the most cleanest and environmentally sound bodies of water in the eastern United States. It is a wonderful resource for thousands of people, if not hundreds of thousands of people use each and every day. It is an incredibly clean source of drinking water for our communities. (K-2)

Comment: The areas that we routinely study include water quality, water flow at the intake and discharge structures, and aquatic ecology. (U-2)

Response: *The comments are noted. Surface water quality is a Category 1 issue and will be discussed in Chapter 2 of the SEIS. The comments provide no new information; therefore, the comments will not be evaluated further.*

A.1.2 Comments Concerning Aquatic Ecology Issues

As stated in 10 CFR Part 51, Table B-1, Category 1 and 2 aquatic ecology issues include:

Category 1

- Accumulation of contaminants in sediments or biota
- Entrainment of phytoplankton and zooplankton
- Cold shock
- Thermal plume barrier to migrating fish
- Distribution of aquatic organisms
- Premature emergence of aquatic insects
- Gas supersaturation (gas bubble disease)

- Low dissolved oxygen in the discharge
- Losses from predation, parasitism, and disease among organisms exposed to sublethal stresses
- Stimulation of nuisance organisms

Category 2

- Entrainment of fish and shellfish in early life stages
- Impingement of fish and shellfish
- Heat shock

Comment: Our evaluation of the historical data has indicated that we have made no changes to the aquatic resources on Lake Norman. And our continued operation will not have an adverse impact on the lake or the river. (F-3)

Comment: Our evaluation of this data has shown that we have made no changes to Lake Norman's aquatic resources, and our continued operations will continue that. We will not adversely impact the lake or the river. (U-3)

Comment: The second point I would like to address is the protection of the water resources. Duke has taken several steps to preserve this resource through continuing biological studies of the lakes. (AC-3)

Response: *The comments are noted and are supportive of license renewal at McGuire. Aquatic ecology will be discussed in Chapters 2 and 4 of the SEIS. The comments provide no new information; therefore, they will not be evaluated further.*

Comment: First of all, McGuire Nuclear does not have cooling water structures of any kind. It was built several years before Catawba. Catawba has cooling water structures. And so some kind of cooling water structure on McGuire would profoundly decrease the thermal shock, and the chronic thermal temperature impacts on Lake Norman. Finally, I wanted to bring to your attention that I believe the failure to have any kind of cooling water intake, a cooling water structure on McGuire is an inequitable application of the law in the United States. Many other nuclear facilities are required to have cooling water structures. Catawba has them, and particularly in the southeast where our temperatures are high in the summertime, we need some kind of cooling water structure on McGuire Nuclear. A substantial component of the -- it

should revolve around, not if cooling structures are needed, but should be required as a condition of the relicense. (X-1)

Comment: Duke Energy, Duke Power also has an NPDES, which is national pollution discharge elimination system permit variance for their delta T above state standards for hot water discharge. And also above EPA recommended levels for hot water discharges. McGuire has, I believe, and you all correct me if I'm wrong, but you all have, the NPDES permit provides an unlimited discharge of non-contact cooling water for North Carolina, is that right? No, I'm talking volume, not temperature. I'm pretty sure it is an unlimited discharge volume metrically. I just wanted to say that there are profound environmental impacts on aquatic life due to chronic effects of thermal impact from hot water into the aquatic environment. And I will give everyone here three brief examples that are well noted in the literature. Let's take, for example, the zooplankton *Ceriodaphnia*. *Ceriodaphnia* can survive about 108 days when water temperature is approximately 45 degrees. However, they only typically survive about 26 days when water temperature is about 82 degrees. I take the Riverkeeper patrol boat into the discharge areas of all of McGuire's plants, and we call them hot holes, here locally. And there are a lot of fishermen there, typically. And it is not uncommon for me to see water coming out of those hot water discharges at 95 degrees. And that is a profound environmental impact. Not only does it affect zooplankton, and provide lethal thermal shock, as well as chronic lethal effects, it also affects reproduction, and has lethal impacts for other aquatic species. For example, the upper lethal limit for bass is about 85 degrees Fahrenheit. And, typically, as I've said in the summertime it is not uncommon, and even in the winter, for me to find the water coming out of many of Duke's plants above 90 degrees. Hot water discharges also affects reproductivities of aquatic life. For example, the release of glocchidia from *Corbicula*. And for those non- science people, the release of immature young from clams relies on environmental cues. Specifically they rely on water temperature cues, as they rise in the spring, it triggers reproduction. And so hot water discharges, like the one from McGuire, can create a profound environmental impact. Additionally cooling water structures provide for recycling of water. The intake structures are huge, and the outflow structures are huge. And when there is a cooling water intake structure, a cooling water structure of some kind that cools the non-contact water, what happens is that the water, because it is non-contact, can be recirculated, rather than having to continuously withdraw water from the Catawba river, run it through the system once, and discharge it. And so some kind of cooling water structure on McGuire would profoundly decrease the thermal shock, and the chronic thermal temperature impacts on Lake Norman. (X-2)

Comment: When we also look at McGuire nuclear in relation to its cumulative impact on Lake Norman, we find that Marshall steam station has a very large hot water discharge above McGuire. And so the EIS, and the relicensing process, should take into account the impact of Marshall. It should take into account the cumulative impact to all of Lake Norman, considering the other thermal impacts from other discharges in the Lake Norman reservoir. Finally I would also like to ask the Nuclear Regulatory Commission to do a detailed analysis for the thermal

impacts, and the need for cooling structure at McGuire, including the cumulative impacts of Marshall upstream. (X-3)

Comment: In talking with the gentlemen from Duke, they indicated that the proper venue for this discussion of thermal impacts was through the NPDES permitting process. I respectfully disagree with the gentlemen, and I believe it should be included in the relicensing discussions and documentation, and the environmental scoping documents, the impact statements, and would like to see that included. (X-4)

Comment: I think Donna's comments were pretty much on mark, of looking at the possibility of cooling water, and cooling towers. (AC-4)

Comment: The high temperature of the water discharged into Lake Norman is a negative effect that cannot be ignored. Instead of fixing the problem, Duke merely lobbied for an exemption from the law. Skirting the law is becoming all to common for Duke Energy. (AI-4)

Response: *The comments are noted. The comments pertain to heat shock, which is a Category 2 issue and will be addressed in Chapter 4 of the SEIS.*

A.1.3 Comments Concerning Terrestrial Resource Issues

As stated in 10 CFR Part 51, Table B-1, Category 1 terrestrial resource issues include:

- Cooling tower impacts on crops and ornamental vegetation
- Cooling tower impacts on native plants
- Bird collisions with cooling towers
- Cooling pond impacts on terrestrial resources
- Power line rights-of-way management (cutting and herbicide application)
- Bird collisions with power lines
- Impacts of electromagnetic fields on flora and fauna (plants, agricultural crops, honeybees, wildlife, livestock)
- Floodplains and wetland on power line rights-of-way

Comment: And I can tell you that they are very viable, and apparently very healthy members of the accipiter family, buteo family, as well as the osprey, along Lake Norman, along Lake Wiley. So from my personal observations, at least as far as the birds of prey are concerned, not only are they viable, but they are healthy. (C-2)

Comment: However, McGuire has a thriving population of osprey, wild turkey, deer, and numerous other species. And we have many ongoing environmental initiatives that we manage in cooperation with the North Carolina Wildlife Resources Commission, the Wildlife Federation, Mecklenburg County Parks and Rec, and the Wild Turkey Federation. We are also wildlife and industry, together, certified by the North Carolina Wildlife Federation. We have a certified backyard habitat. We have a wood duck pond, a blue bird trail, an herbivore pond, a fish friendly pier, and numerous other wildlife areas on-site. Based on our review of our operating history, and a look at our continued operation, we have concluded that we will not adversely impact the plants and animals on-site. (F-5)

Comment: However, we do have a thriving population of wild turkey, osprey, deer, and numerous other species. We have many ongoing environmental initiatives that we manage in cooperation with the North Carolina Wildlife Resources Commission, the Wildlife Federation, Mecklenburg County Parks and Rec, and Wild Turkey Federation. We are wildlife and industry together certified by the North Carolina Wildlife Federation. We have a certified backyard habitat, bluebird trails, wildlife food plots, a herbivore pond, a fish friendly pier, and I can go on, the wildlife areas that we maintain on the McGuire site. Based on our review of our operating history, and a look at continued operation, again, we conclude that we will not adversely impact plants and animals at McGuire. (U-5)

Comment: McGuire Nuclear Station is the second corporate site in North Carolina to be certified as a Wildlife and Industry Together Site. This unique program recognizes companies across our state that exhibit wildlife stewardship on their properties. For example at McGuire instead of excess parking lots, there are planted food plots for turkey and deer. Instead of underutilized fescue acreage, there are butterfly gardens, songbird meadows, and bluebird, owl and hawk nesting boxes. An osprey platform has also been erected down by the lake. (V-1)

Comment: Most importantly McGuire has fostered relationships with the communities in the area. McGuire allows public wildlife viewing, and educational opportunities in the areas throughout their site. Just one example is McGuire's nature trail, which coincidentally goes through one of the first areas ever designated by the National Audubon Society as a very important bird designation area. I think that the signs at the front entrance of McGuire tell it all. They proudly proclaim, in big bold letters, wildlife habitat enhancement program, and wildlife and industry together. (V-3)

Comment: Simply put the folks at McGuire have embraced their surroundings. They have sought to enhance their property, and their community relations through wildlife enhancement and education. They have realized that these concerns serve not only the betterment of wildlife itself, but of the community as a whole. (V-4)

Response: *The comments are noted. The comments discuss the participation of Duke in programs to protect the environment. They provide no new information and will not be evaluated further. The appropriate descriptive information regarding the plant-specific ecology of the site will be addressed in Chapters 2 and 4 of the SEIS.*

A.1.4 Comments Concerning Threatened and Endangered Species Issues

As stated in 10 CFR Part 51, Table B-1, Category 2 threatened or endangered species issues are:

- Threatened or endangered species

Comment: As part of our study Duke Energy worked with Dr. L.L. "Chick" Gaddy, a well known environmental scientist, to conduct a survey of threatened and endangered species around the McGuire site. And the results of that study showed that there are no endangered or threatened species at the McGuire site. (F-4)

Comment: The second category is plants and animals. As part of our study we worked with Dr. L. L. "Chick" Gaddy, a well-known environmental scientist, to do a survey of threatened and endangered species around McGuire. The results of that study is that there are no federally or state listed threatened or endangered species on the McGuire site. (U-4)

Response: *The comments are noted. They provide no new information and will not be evaluated further. The appropriate descriptive information regarding the plant-specific ecology of the site will be addressed in Chapters 2 and 4 of the SEIS.*

A.1.5 Comments Concerning Air Quality Issues

As stated in 10 CFR Part 51, Table B-1, Category 1 air quality issues include:

- Air quality effects of transmission lines

Comment: The third category we looked at was air quality. For the past 20 years McGuire has not adversely impacted the air quality in this region. And there is nothing associated with license renewal that would change that. (F-6)

Comment: We had clean water and clean air. Over these many years, however, we have seen a tremendous degradation of our groundwater, our rivers, our streams, and our air. And Duke Energy has been a great contributor to that. (I-3)

Comment: The third category we looked at was air quality. You may not know, but nuclear power provides almost 50 percent of Duke Energy's total electric generation in the Piedmont Carolinas, and because of that overall emissions from that generation system are well below the national average. For the past 20 years McGuire has not adversely impacted the air quality in this region, and there is nothing about continued operations, or license renewal that will change that. (U-6)

Comment: And then this happens. Going and lobbying and saying, let's not have these stringent regulations, we don't have to have air that clean. So that shakes me. (AD-3)

Response: *The comments are noted. Air quality impacts from plant operations were evaluated in the GEIS and found to be minimal. These emissions are regulated through permits issued by the U.S. Environmental Protection Agency and the State. Air quality effects are a Category 1 issue as evaluated in the GEIS and will be discussed in Chapter 2 of the SEIS. The comments provide no new information; therefore, they will not be evaluated further.*

A.1.6 Comments Concerning Socioeconomic Issues

As stated in 10 CFR Part 51, Table B-1, Category 1 and 2 socioeconomic issues include:

Category 1

- Public services: public safety, social services, and tourism and recreation
- Public services, education (license renewal term)
- Aesthetics impacts (refurbishment)
- Aesthetics impacts (license renewal)
- Aesthetics impacts of transmission lines (license renewal term)

Category 2

- Housing impacts
- Public services: public utilities

- Public services, education (refurbishment)
- Offsite land use (refurbishment)
- Offsite land use (license renewal term)
- Public services, transportation
- Historic and archaeological resources

Comment: So from a personal point I think they are good neighbors. We have even been out to their grounds for gatherings, family gatherings, and church gatherings. (D-1)

Comment: We do a number, they participate in a number of community support activities. Catawba Spring School, Long Creek Elementary School, clean cast fishing events for local children, Boy Scouts and Girl Scouts events, United Way and Arts and Science Council campaigns. Supporting the community is a priority for them. (E-4)

Comment: As Brew mentioned earlier, our employees spend thousand of hours, every year, volunteering for school, and civic, and church programs, and groups. We are proud to be part of this community. (F-9)

Comment: I cannot tell you the impact, as far as economic impact, that Duke Power does, and represents with our hospitality industry. We are looking at exit 36 to exit 18. (L-1)

Comment: And the economic impact that they do on our hospitality industry, and as Scott Hinkle has just said, with the tragedy that happened two weeks ago, it still remains, we have to have somebody like that, that keeps our hotels running as well as they have. (L-4)

Comment: About five years ago Duke Power adopted our school and initiated a Pony Express writing program, where the students have a pen pal. As you can see, Duke Power is very actively involved I our community, and it is a very important part of our school at Long Creek Elementary. (O-1)

Comment: At Christmas time the pen pals come to our school bringing gifts for each child. They also have expanded their program to help needy families at our school. (O-2)

Comment: We do a lot of things in the community. Our employees give a lot of their time to the betterment of their communities and their neighbors. We have had an 11-year partnership with the Catawba Springs Elementary School providing help in math and reading and computer skills; a pen pal partnership with the Long Creek Elementary School; we hold clean cast fishing

events for local children; we hold Boy Scouts and Girl Scouts events; we hold annual United Way and Arts and Science Council drives. Last year the McGuire employees contributed 160,000 dollars to their communities through United Way agencies, and the United Way campaign. (T-4)

Comment: As Brew mentioned earlier, our employees spend thousands of hours every year volunteering for church, community, school, civic groups, and programs. We are proud to be part of this community. (U-9)

Comment: McGuire has been instrumental in creating many of these learning opportunities. Opportunities such as learning about wildlife habitat, and then actually putting that knowledge to use, like the students at East Lincoln High School, who created a backyard wildlife habitat at McGuire, and were subsequently recognized by the National Wildlife Federation for this honor. And all the kids that get to learn about water quality and fishing do collaborative family fishing days that McGuire hosts. And the kids that are introduced to safe, ethical sportsmen activities through the nationally recognized JAKES, juniors acquiring knowledge, ethics, and sportsmanship, also hosted and sponsored by McGuire. These wildlife education programs require a commitment and rely on enduring partnerships. That is why McGuire is recognized as a Wildlife and Industry Together Site. McGuire has developed and sustained partnerships that allow continuing wildlife projects, such as the annual butterfly and bird inventories with Mecklenburg Parks, hosting composting workshops with county waste reduction, hosting environmental workshops for our state's educators, in conjunction with the state, through project WILD. (V-2)

Comment: In addition to assisting with the business and industry recruitment, McGuire has been an annual sponsor of the Chamber's leadership program by inviting participants to spend a day on-site learning about electric supply and the McGuire station. (Z-3)

Comment: Furthermore, Duke Energy, McGuire, we've had a partnership for 11 years now, with our school. We have seen many individuals come to our school from McGuire in many capacities, helping the children. They have provided assistance with grant opportunities for the school systems. They have provided assistance in developing a computer lab, provided coats for children, assisted in grading our land. They've assisted with volunteers in our school. (AA-2)

Response: *The comments are noted. The comments are supportive of license renewal at McGuire. Public services were evaluated in the GEIS and determined to be a Category 1 issue. Information regarding the impact on education will be discussed in Chapter 4 of the SEIS. Socioeconomic issues will be addressed in Chapters 2 and 4 of the SEIS. The comments provide no new information; therefore, the comments will not be evaluated further.*

Comment: It (McGuire) is a great impact on our economy. It brings in a lot of money, a lot of good employees in this area. (A-2)

Comment: As far as the economic around here, I have a lot of friends that work at Duke Power. They have been at Duke for a while, and it is a huge impact on the economy. (D-3)

Comment: Over the last five years we've paid nine million annually in property taxes to Mecklenburg County. We have 1,100 employees that helped maintain a strong economy in the area. And our annual payroll of over 77 million, helps to support local business and industry. (F-8)

Comment: The McGuire nuclear plant employs over 1,000 employees. And I'm a little off in the statistics you just gave, but approximately 80 percent of these employees live within a 30 mile drive of the facility. Their payroll alone, which is close to 80 million, only multiplies as it is spent in our community. (G-2)

Comment: The property taxes to our neighboring county, Mecklenburg, of now eight million, are paying significant contributions in our schools, roads, libraries, police, fire, and it just keeps going. (G-3)

Comment: In addition to being safely operated we provide many benefits to the community. Over the last five years we've paid nine million, annually in property taxes to Mecklenburg county. We have 1,100 employees who help to maintain a strong economy in this area. And our annual payroll of over 77 million helps to support local business and industry. (U-8)

Comment: As President of the Chamber I'm very interested in attracting new business to our area. Reliable and affordable electricity is always a major factor for business who are considering a location. Duke Power has attractive rates, and the power has been reliable for Lake Norman Regional. My understanding from Duke is that 20 percent of their generation comes from McGuire. It makes good business sense to keep that supply source around for an additional 20 years. (Z-2)

Response: *The comments are noted. The comments are supportive of license renewal at McGuire. Socioeconomic issues specific to the plant are Category 2 issues and will be addressed in Chapter 4 of the SEIS. The comments provide no new information; therefore, the comments will not be evaluated further.*

A.1.7 Comments Concerning Postulated Accident Issues

As stated in 10 CFR Part 51, Table B-1, Category 1, postulated accidents issues include:

- Design basis accidents

- Severe accidents
-

The environmental impacts of design basis accidents is a Category 1 issue in the GEIS. Also, the Commission has determined that the probability-weighted environmental consequences from severe accidents (i.e., beyond design basis accidents) are small for all plants but that alternatives to mitigate severe accidents must be considered for all plants that have not considered such alternatives. See 10 CFR 51.53(c)(3)(iii)(L).

Comment: In the event of a severe accident, when the reactor fuel melts, the risk that reactor containment will rupture, and large releases of radioactive material get into the environment, will occur at significantly greater at Catawba and McGuire than at other pressured water reactors with other types of containment. There is no backup system for reactor containment. The steel containment vessel is the only one. Other plant systems may have backups. (Q-7)

Response: *The comment is noted. Severe accidents were evaluated in the GEIS and the impacts were determined to be small for all plants. A site-specific analysis of Severe Accident Mitigation Alternatives will be performed by the NRC staff in the SEIS for McGuire. The comment provides no new information; therefore, the comment will not be evaluated further.*

A.1.8 Comments Concerning Uranium Fuel Cycle and Waste Management Issues

As stated in 10 CFR Part 51, Table B-1, Category 1 uranium fuel cycle and waste management issues include:

- Offsite radiological impacts (individual effects from other than the disposal of spent fuel and high level waste)

- Offsite radiological impacts (collective effects)

- Offsite radiological impacts (spent fuel and high level waste disposal)

- Nonradiological impacts of the uranium fuel cycle

- Low level waste storage and disposal

- Mixed waste storage and disposal

- On-site spent fuel
- Nonradiological waste
- Transportation

Comment: I don't think we should renew any of our nuclear plants licenses across the country until there has been a solution of what to do with the nuclear radioactive waste that is accumulating. There is nothing to be done with it. So if you don't have a solution to a problem, why keep adding to the problem and keep creating more waste, with nobody knowing what to do with it? (M-1)

Comment: It (spent fuel) is a potential fire bomb if a terrorist comes in with a plane and just suicides, kamikaze-like, into these ceramic, whatever enclosures are housing this waste, that as I understand is sitting outdoors on concrete pads. But let's don't sacrifice the lives of our posterity. Maybe it won't happen for another 100, 200, 300 years, but do we want to be responsible for letting some disaster happen, when we don't have to? (M-2)

Comment: Spent fuel, is that within the scope of the EIS, or outside? (R-15)

Comment: The first is the long-term handling and storage of the radioactive waste, particularly the high level radioactive waste generated with the spent fuel rod assemblies. I have asked the question, and you have heard from others here, how open Duke Power is on asking questions, and their answering them. I asked the question, I said, how good is your long term storage? And here is the reply I got. Approximately 50 fuel rod assemblies are replaced each year, although not every 365 days, but on a different schedule. And they are currently permitted at the McGuire site for on-site storage for up to about 2,200 fuel rod assemblies. If one does a quick math, you can figure out that they've got just about a 40 year permitted area for the spent fuel rods on-site. And that does not include the possible disposal of central facility, that we have already talked about, with Yucca Mountain. (AC-2)

Comment: Is the waste stored inside the reactor shell which is so strong, and all that, or is it in another building, or is it in fact sitting around outdoors, the way it is at some nuclear plants? (AD-6)

Comment: The spent fuel storage problem is reason enough to decline the license renewal request. The Nitrogen-16 EMF radiation detectors at McGuire are picking up gamma rays from the spent fuel dry casks. This was not supposed to happen. What other little surprises will develop from storing spent fueling dry casks? The problem is not getting better; it is getting worse. (AI-8)

Response: *The comments are noted. Onsite storage and offsite disposal of spent nuclear fuel are Category 1 issues. The safety and environmental effects of long-term storage of spent fuel onsite has been evaluated by the NRC and, as set forth in the Waste Confidence Rule, the NRC generically determined that such storage could be accomplished without significant environmental impact. In the Waste Confidence Rule, the Commission determined that spent fuel can be stored onsite for at least 30 years beyond the licensed operating life, which may include the term of a renewed license. At or before the end of that period, the fuel would be moved to a permanent repository. The GEIS is based upon the assumption that storage of the spent fuel onsite is not permanent. The plant-specific supplement to the GEIS regarding license renewal for Catawba will be prepared based on the same assumption. The comments provide no new information; therefore, the comments will not be evaluated further.*

A.1.9 Comments Concerning Alternative Energy Sources

Comment: And part of this analysis we reviewed various alternatives to license renewal. We looked at solar, wind, conventional fossil generation, as methods to be able to replace McGuire. But none of those alternatives were selected. We didn't select them because of their high cost, relatively low electrical output, land use impacts, and other environmental impacts. (E-7)

Comment: I believe in nuclear generation, I believe it is the environmentally responsible way to create electricity. It is obviously, cleaner than fossil. And it is, obviously, an economical way to create electricity. (K-7)

Comment: I think we need to concentrate on developing alternative energy sources. A gentleman spoke that they had eliminated, they had looked at solar, and other forms of energy, and had discounted it. Maybe it will cost us more, maybe we will have to pay more for our energy. Maybe we will have to conserve, maybe we will have to share rides, maybe we will have to walk, maybe we will have to move closer to our jobs. Let's put our resources into developing the sustainable energy resources. (M-3)

Comment: Duke says that they believe that combined cycle technology is the most economically attractive baseload technology. I think that this is -- I don't know what economically attractive means to anyone in the room here, but I don't think that Duke did a sufficient analysis to be able to tell us if their comparison with other forms of renewable energy, including wind power, and solar power, had been compared alongside of the continued use of the Catawba or the McGuire reactors, in this case. (Q-1)

Comment: I might point out, as a dramatic point, that the consideration of safety issues in terrorism with regards to wind powered generators almost seems ridiculous, because there are no issues with regard to safety and terrorism, with regard to wind energy generators. This is a significant omission in their application process. (Q-2)

Comment: As for alternative sources of energy, Duke did not conduct an analysis that looked into the future. They looked at existing sources of energy and the current technologies. But just as the United States essentially subsidized the entire nuclear energy industry with its research and development, now they are sinking tens of millions of dollars into this thing called clean coal. Well, what does clean coal mean, and what would a clean coal plant mean? And that needs to be in this EIS, what would be the environmental impacts of a clean coal plant, because I'm really dying to find out what they are. I've only seen it kind of talked about in vague terms by the labs. (R-14)

Comment: We evaluated alternatives, we evaluated replacing McGuire's economical baseload electric generation with other sources of power. We looked at wind, we looked at solar, we looked at other forms of conventional fossil generation. We did not select those alternatives. We did not select them based on their cost, based on their limited electrical output, and relative basis, on their land use requirements, and on other environmental impacts. (T-7)

Comment: Okay, now to the questions. If the license is not renewed, would the nuclear plants be total write-offs, or could they be converted to operation by gas as a fuel, or some other form of energy? (AD-4)

Comment: This point is one I already made, so I won't make it again. The final point is, I think we are reaching a new era. A power plant that works on wave power. Solar power suggestions as well. (AD-11)

Response: *The comments are noted. The GEIS included an extensive discussion of alternative energy sources. Environmental impacts associated with various reasonable alternatives to renewal of the operating licenses for McGuire Nuclear Station, Units 1 and 2, will be discussed in Chapter 8 of the SEIS.*

A.1.10 Comments Concerning Environmental Justice

Comment: But nonetheless there are tens, and tens of thousands of families who are very poor, not as well educated as we would like Americans to be, living in this most polluted part of town. We are also home, mostly, to poor whites, blacks, and Latinos. The NRC begged you to consider all this, because you will further burden these many scores of thousands of families, unless you rein in Duke Power's ability to carry out their plans for using this plutonium. (I-4)

Response: *The comment is noted. Environmental Justice is an issue specific to the plant and will be addressed in Chapter 4 of the SEIS.*

A.1.11 Comments Concerning Related Federal Projects

Comment: And my understanding was the license originally was that Duke Energy had the right to dam the Catawba River at Lake Wiley, and Lake Norman, to produce energy. And since this was given by the federal government, the citizens gave them that right to do that, they had certain responsibilities about the water, and the land surrounding those lakes that they created, and where they were creating power. And I'm not sure, in today's nuclear age, how that original license fits into what this process is talking about today, about these two units. Because my concerns are about the environmental impact. So this is talking about two units, I'm talking about the whole picture for relicensing, which involves Duke Energy's responsibility to the citizens that gave them the right to dam the rivers and produce energy. (AE-1)

Comment: When I was growing up I had friends who had a lease on property on Lake Wiley, we loved to go out there, had a great time growing up as a child. We were known as river rats. Some of you have heard that expression before. And we just had a wonderful time. My understanding is the license doesn't just apply to these plants on the lakes. When the original license was given Duke had the responsibility of helping maintain the water, and the land adjacent to the lakes. And this is a question. It seems to me they lost that power to control the quality of the water, and maybe some of the air, too. When instead of having these leases they started selling off the land to private owners. And so now you heard the people talking about all the wonderful things they are doing at the sites, the sites, the sites. Well, yes, because I guess they don't have control of the property right on the lakes, and so the local governments are trying to get buffers now, get people to agree to buffers. So my question is, has Duke inadvertently abandoned what the federal government licensed them to do by giving up this buffer of leasing? If someone is not doing what they should be doing as far as protecting the water and so forth in their lease, it seems to me Duke could have some say so, I don't know, I'm just asking that question. (AE-2)

Response: *The comments are noted. These comments relate to Duke Energy Corporation (Duke) hydro power operations that fall under the authority of the Federal Energy Regulatory Commission (FERC). Related Federal projects such as the FERC license will be discussed in Chapter 2 of the SEIS.*

A.1.12 Comments Concerning Safety Issues Within the Scope of License Renewal

Comment: Neutron bombardment, silting from fission reaction degrades the metal parts of the reactor, the metal becomes brittle. Reactor embrittlement increases with age. And an embrittled reactor may look unchanged, but it will not perform as well under extreme conditions. In the event of a drop in the level of reactor coolant, the heated water is replaced by cold water from outside the reactor. The cold water can cause embrittled reactor parts to fail, and minor

reactor failure becomes a major one. Embrittlement of reactor parts is a well known phenomenon, and has caused premature closing of commercial power reactors. (W-5)

Comment: Having directly been involved with the design and installation of nuclear power plants I can testify that the original design was never intended to operate beyond a 40 year life. Operating these plants beyond the design life is clearly an experiment in stress and corrosion analysis, cycling fatigue and resulting fatigue failure. The granting of operating licenses to extend the life of a nuclear power plant within close proximity of densely populated area is analogous to playing Russian roulette with the health and safety of the public. (AH-1)

Response: *The comments are noted. The NRC's environmental review is confined to environmental matters relevant to the extended period of operation requested by the applicant. To the extent that the comments pertain to safety of equipment and aging within the scope of license renewal, these issues will be addressed during the parallel safety analysis review performed under 10 CFR Part 54. Operational safety issues are outside the scope of 10 CFR Part 51 and will not be evaluated further in this SEIS. The comments provide no new information and, therefore, will not be evaluated further in the context of the environmental review. However, the comments will be forwarded to the project manager for the license renewal safety review for consideration.*

A.1.13 Questions

The following comment was presented in the form of a question during the scoping process. The staff will take note of the questions to the extent that the question applies to the issues discussed in the SEIS. However, the question did not provide new information and will not be evaluated further.

Cumulative Impacts

Comment: Are you going to consider the cumulative impacts as if all four reactors were running at once? (R-6)

Response: *The SEIS will include a consideration of cumulative impacts considering both the two-unit McGuire plant and the two-unit Catawba plant.*

Part II - Comments Received on the Draft SEIS

Pursuant to 10 CFR Part 51, the staff transmitted the *Generic Environmental Impact Statement for License Renewal of Nuclear Plants, Regarding McGuire Nuclear Station, Units 1 and 2, Draft Report for Comment* (NUREG-1437, Supplement 8, referred to as the draft SEIS) to Federal, State, and local government agencies as well as interested members of the public. As part of the process to solicit public comments on the draft SEIS, the staff

- placed a copy of the draft SEIS into the NRC's electronic Public Document Room, its license renewal Website, and at the J. Murrey Atkins Library at the University of North Carolina – Charlotte in Charlotte, North Carolina
- sent copies of the draft SEIS to the applicant, members of the public who requested copies, and certain Federal, State, and local agencies
- published a notice of availability of the draft SEIS in the *Federal Register* on May 10, 2002 (67 FR 31846)
- issued public announcements, such as advertisements in local newspapers and postings in public places, of the availability of the draft SEIS
- announced and held two public meetings in Huntersville, North Carolina, on June 12, 2002, to describe the results of the environmental review and answer related questions
- issued public service announcements and press releases announcing the issuance of the draft SEIS, the public meetings, and instructions on how to comment on the draft SEIS
- established a website to receive comments on the draft SEIS through the Internet.

During the comment period, the staff received a total of four comment letters in addition to the comments received during the public meetings.

The staff has reviewed the public meeting transcripts and the four comment letters that are part of the docket file for the application, all of which are available in the NRC's electronic Public Document Room. Appendix A, Part II, Section A.2, contains a summary of the comments and the staff's responses. Related issues are grouped together. Appendix A, Part II, Section A.3, contains excerpts of the June 12, 2002, public meeting transcripts, the written statements provided at the public meetings, and comment letters.

Each comment identified by the staff was assigned a specific alpha-numeric identifier (marker). That identifier is typed in the margin of the transcript or letter at the beginning of the discussion of the comment. A cross-reference of the alpha-numeric identifiers, the speaker or author of the comment, the page where the comment can be found, and the section(s) of this report in which the comment is addressed is provided in Table A-2. The eight speakers at the meetings are listed in speaking order along with the page of the transcript excerpts in this report on which the comment appears. These comments are identified by the letters A through H followed by a number that identifies each comment in approximate chronological order in which the comments were made. The four written comment letters are identified by the letters I through L. The accession number is provided for the written comments to facilitate access to the document through the Public Electronic Reading Room (ADAMS) http://www.nrc.gov/reading-rm/adams/login.html.

The staff made a determination on each comment that it was one of the following:

(1) A comment that was either related to support or opposition of license renewal in general (or specifically for McGuire) or that made a general statement about the license renewal process. It may have made only a general statement regarding Category 1 and/or Category 2 issues. In addition, it provided no new information and does not relate to safety considerations reviewed under 10 CFR Part 54.

(2) A comment regarding environmental safety issues pertaining to 10 CFR Part 54.

(3) A comment that raised an environmental issue that was not addressed in the GEIS or the DSEIS.

(4) A comment regarding the severe accident mitigation alternative analysis.

(5) A comment outside the scope of license renewal (not related to 10 CFR Parts 51 or 54).

Comments without a supporting technical basis or without any new information are discussed in this appendix, and not in other sections of this report. Relevant references that address the issues within the regulatory authority of the NRC are provided where appropriate. Many of these references can be obtained from the NRC Electronic Public Document Room.

Within each section of Part II of this appendix (A.2.1 through A.2.13), similar comments are grouped together for ease of references, and a summary description of the comment is given, followed by the staff's response. Where the comment or question resulted in a change in the text of the draft report, the corresponding response refers to the reader to the appropriate section of the Supplement where the change was made. Revisions to the text of the draft report are designated by vertical lines beside the text.

Table A-2 Comments Received on the Draft SEIS

Comment No.	Commenter	Comment Source	Page of Comment	Section(s) Where Addressed
A-1	L. Zeller	Afternoon Meeting Transcript (06/12/02) ML021780452	A-43	A.2.1
A-2	L. Zeller	Afternoon Meeting Transcript (06/12/02)	A-45	A.2.11
A-3	L. Zeller	Afternoon Meeting Transcript (06/12/02)	A-51	A.2.13
A-4	L. Zeller	Afternoon Meeting Transcript (06/12/02)	A-51	A.2.11
B-1	B. Anderson	Afternoon Meeting Transcript (06/12/02)	A-47	A.2.12
C-1	J. Peel	Afternoon Meeting Transcript (06/12/02)	A-50	A.2.2
C-2	J. Peel	Afternoon Meeting Transcript (06/12/02)	A-50	A.2.2
C-3	J. Peel	Afternoon Meeting Transcript (06/12/02)	A-50	A.2.2
D-1	B. Mahood	Afternoon Meeting Transcript (06/12/02)	A-52	A.2.1
D-2	B. Mahood	Afternoon Meeting Transcript (06/12/02)	A-52	A.2.13
D-3	B. Mahood	Afternoon Meeting Transcript (06/12/02)	A-53	A.2.13
D-4	B. Mahood	Afternoon Meeting Transcript (06/12/02)	A-54	A.2.13
E-1	J. Collins	Evening Meeting Transcript (06/12/02) ML021780452	A-55	A.2.6
F-1	B. Mahood	Evening Meeting Transcript (06/12/02)	A-56	A.2.10
F-2	B. Mahood	Evening Meeting Transcript (06/12/02)	A-57	A.2.10
F-3	B. Mahood	Evening Meeting Transcript (06/12/02)	A-61	A.2.13
F-4	B. Mahood	Evening Meeting Transcript (06/12/02)	A-63	A.2.13
F-5	B. Mahood	Evening Meeting Transcript (06/12/02)	A-64	A.2.13
F-6	B. Mahood	Evening Meeting Transcript (06/12/02)	A-64	A.2.13
F-7	B. Mahood	Evening Meeting Transcript (06/12/02)	A-64	A.2.13
F-8	B. Mahood	Evening Meeting Transcript (06/12/02)	A-64	A.2.13
G-1	G. Knox	Evening Meeting Transcript (06/12/02)	A-59	A.2.13
G-2	G. Knox	Evening Meeting Transcript (06/12/02)	A-61	A.2.13
H-1	B. Barron	Evening Meeting Transcript (06/12/02)	A-62	A.2.2
H-2	B. Barron	Evening Meeting Transcript (06/12/02)	A-62	A.2.2
I-1	G. Hogue	Letter (07/26/02) ML022560053	A-66	A.2.2
I-2	G. Hogue	Letter (07/26/02)	A-66	A.2.4
I-3	G. Hogue	Letter (07/26/02)	A-66	A.2.5
I-4	G. Hogue	Letter (07/26/02)	A-66	A.2.6

Table A-2 (contd)

Comment No.	Commenter	Comment Source	Page of Comment	Section(s) Where Addressed
J-1	M. Tuckman	Letter (08/02/02) ML022210223	A-68	A.2.4
J-2	M. Tuckman	Letter (08/02/02)	A-68	A.2.4
J-3	M. Tuckman	Letter (08/02/02)	A-69	A.2.4
J-4	M. Tuckman	Letter (08/02/02)	A-69	A.2.4
J-5	M. Tuckman	Letter (08/02/02)	A-70	A.2.7
J-6	M. Tuckman	Letter (08/02/02)	A-70	A.2.7
J-7	M. Tuckman	Letter (08/02/02)	A-70	A.2.7
J-8	M. Tuckman	Letter (08/02/02)	A-70	A.2.7
J-9	M. Tuckman	Letter (08/02/02)	A-70	A.2.7
J-10	M. Tuckman	Letter (08/02/02)	A-70	A.2.10
J-11	M. Tuckman	Letter (08/02/02)	A-70	A.2.10
J-12	M. Tuckman	Letter (08/02/02)	A-70	A.2.10
J-13	M. Tuckman	Letter (08/02/02)	A-71	A.2.10
J-14	M. Tuckman	Letter (08/02/02)	A-71	A.2.10
J-15	M. Tuckman	Letter (08/02/02)	A-71	A.2.10
J-16	M. Tuckman	Letter (08/02/02)	A-71	A.2.10
J-17	M. Tuckman	Letter (08/02/02)	A-71	A.2.10
J-18	M. Tuckman	Letter (08/02/02)	A-71	A.2.10
J-19	M. Tuckman	Letter (08/02/02)	A-71	A.2.10
J-20	M. Tuckman	Letter (08/02/02)	A-72	A.2.10
J-21	M. Tuckman	Letter (08/02/02)	A-72	A.2.10
J-22	M. Tuckman	Letter (08/02/02)	A-72	A.2.10
J-23	M. Tuckman	Letter (08/02/02)	A-72	A.2.10
J-24	M. Tuckman	Letter (08/02/02)	A-72	A.2.10
J-25	M. Tuckman	Letter (08/02/02)	A-72	A.2.10
J-26	M. Tuckman	Letter (08/02/02)	A-72	A.2.10
J-27	M. Tuckman	Letter (08/02/02)	A-72	A.2.10
J-28	M. Tuckman	Letter (08/02/02)	A-73	A.2.11
J-29	M. Tuckman	Letter (08/02/02)	A-73	A.2.3
K-1	H. Mueller	Letter (08/02/02) ML022270355	A-73	A.2.9

Table A-2 (contd)

Comment No.	Commenter	Comment Source	Page of Comment	Section(s) Where Addressed
K-2	H. Mueller	Letter (08/02/02)	A-73	A.2.2
K-3	H. Mueller	Letter (08/02/02)	A-73	A.2.13
K-4	H. Mueller	Letter (08/02/02)	A-74	A.2.13
K-5	H. Mueller	Letter (08/02/02)	A-74	A.2.3
K-6	H. Mueller	Letter (08/02/02)	A-74	A.2.8
L-1	B. Barron	Letter (08/19/02) ML022470024	A-75	A.2.10
L-2	B. Barron	Letter (08/19/02)	A-75	A.2.10

A.2 Comments and Responses on the Draft SEIS

Comments in this section are grouped in the following categories:

A.2.1 General Comments Concerning the License Renewal Process

A.2.2 Comments in Support of McGuire Nuclear Station, Units 1 and 2

A.2.3 Comments Concerning Groundwater Use and Quality

A.2.4 Comments Concerning Aquatic Ecology Issues

A.2.5 Comment Concerning Terrestrial Resource Issues

A.2.6 Comments Concerning Threatened and Endangered Species Issues

A.2.7 Comments Concerning Land Use Issues

A.2.8 Comments Concerning Historic and Archaeological Resources

A.2.9 Comments Concerning Human Health/Radiological Issues

A.2.10 Comments Concerning Severe Accident Mitigation Alternatives Analysis

A.2.11 Comment Concerning Uranium Fuel Cycle and Waste Management Issues

A.2.12 Comment Concerning Alternatives To License Renewal

A.2.13 Comments Concerning Issues Outside of the Scope of the Environmental Review for License Renewal: Emergency Response and Planning; Need For Power; and Safeguards and Security

A.2.1 General Comments Concerning the License Renewal Process

Comment: I thought of this question, just before you stood up Jim. It actually maybe refers to the previous presentation, but before we got too far along here I wanted to ask about the Commission's decision on April the 12th to change, reverse, or alter the findings of the Atomic Safety Licensing Board. How often does something like that happen, and where has it happened? I'm just curious to find out, the procedure, or the process, or perhaps there is a citation within the rules and regulations which outline how a sitting Atomic Safety Licensing Board, or actually any other board of that nature, would have a process underway as was described here shortly, a while ago. And the Commission, which set up that panel, to essentially reverse, or alter, or have any saying before the procedure, before the process had been completed. (A-1)

Comment: The whole strange thing about this process is that you are still completely bound by regulations, the original regulations from about 1954, I suppose with some revisions. (D-1)

Response: *These comments concern the license renewal process in general. The Commission has established a process, by rule, for the environmental and safety reviews to be conducted to review a license renewal application. While the comments refer to the process, they do not provide significant, new information relevant to this Supplement and, therefore, they will not be evaluated further. There were no changes made in this Supplement as a result of these comments.*

A.2.2 Comments in Support of McGuire Nuclear Station, Units 1 and 2

Comment: I assure you that we strongly believe that the McGuire plant is a worthy candidate for license renewal. (C-1)

Comment: I want to thank the Nuclear Regulatory Commission for having developed a process which is thorough and effective. That process has been described by at least two of the speakers before me. (C-2)

Comment: After reviewing the draft statement, and I'm referring specifically to Supplement 8, Duke Power agrees with the conclusions of that draft. (C-3)

Comment: Reading through the results of the draft environmental impact statement, the thoroughness, the completeness with which the Staff and the contractors have performed their work is very apparent. (H-1)

Comment: We are still reviewing the draft EIS. Initially it looks like we very much agree with the conclusions that have been reached. We do have our technical experts continuing to go through the report. (H-2)

Comment: We are pleased with the level of detail provided in the Draft Supplemental Environmental Impact Statement (DSEIS) and are glad the proposal includes regular monitoring following relicensing. (I-1)

Comment: Based on the sufficiency of information, alternatives evaluation, and potential environmental impacts over which EPA has authority, the document received a rating of "EC-1," (Environmental Concerns - Adequate Information). (K-2)

Response: *The comments were supportive of license renewal at McGuire Nuclear Station Units 1 and 2, and are general in nature. The comments did not provide significant, new information relevant to this Supplement and, therefore, they will not be evaluated further. There were no changes made in this Supplement as a result of these comments.*

A.2.3 Comments Concerning Groundwater Use and Quality

Comment: Page 4-35 discusses groundwater use and quality. The document mentions that the facility uses <100 gpm from six existing groundwater wells (page 2-8). However, Appendix E does not list information pertaining to the regulatory status of these groundwater wells. (K-5)

Response: *This is a Category 1 issue as discussed in Section 4.5 of this SEIS. These wells are regulated by the State of South Carolina and draw at total of less than 0.068 m^3/S 100 gpm. The regulatory status of these wells is not included in Appendix E due to the small amount of water drawn and the infrequency of use. The comment did not provide significant, new information relevant to this Supplement and, therefore, it will not be evaluated further. There were no changes made in this Supplement as a result of this comment.*

Comment: Page E-2, line 11: Draft permit was issued May 30, 2002. Comments have been submitted to NCDENR for final approval. (J-29)

Response: *The comment addresses groundwater use and quality. The Supplement has been revised as appropriate.*

A.2.4 Comments Concerning Aquatic Ecology Issues

Comment: Impingement and Entrainment of Aquatic Organisms. One of several issues identified at McGuire includes impingement and entrainment of aquatic organisms at the cooling water intake. Previous studies at the site by Duke found impingement of some fishes, mostly threadfin shad, some bluegill, and alewife, particularly during periods of cold water. Although the DSEIS concludes that the impacts were SMALL, we recommend that the licensee establish a regular monitoring program and develop a strategy to reduce impingement and entrainment. These periodic reports of findings should be forwarded to the U.S. Fish and Wildlife Service (FWS). (I-2)

Response: *The comment relates to impingement and entrainment of aquatic organisms at the cooling water intake. The staff reviewed the licensee's most recent impingement and entrainment data for McGuire; this issue is addressed in Sections 4.1.1 and 4.1.2 of the Supplement. The comment did not provide significant, new information relevant to this Supplement and, therefore, it will not be evaluated further. There were no changes made in the Supplement as a result of this comment.*

Comment: Page 2-19 line 19: Line reads: "The primary fish caught in the nearshore littoral zone include sunfish (*Lepomis spp.*), carp (*Cyprinus carpio*), and catfish including the blue catfish (*Ictalurus furcatus*), snail bullhead (*Ameiurus brunneus*), white catfish (*I. catus*), and flat bullhead (*I. platycephalus*). "The inclusion of blue catfish as inhabitants of the nearshore littoral zone is incorrect as these fish are considered largely pelagic in nature and are only occasionally caught inshore. Additionally snail bullhead, white catfish, and flat bullhead are no longer found in significant numbers due in large part we believe by blue catfish and flathead catfish predation.

Correct the sentence to read, "The primary fish caught in the nearshore littoral zone include sunfish (*Lepomis spp*.), largemouth bass, crappie, and carp (*Cyprinus carpio*). Numbers of previously abundant catfish species like snail bullhead (*Ameiurus brunneus*), white catfish (*I. catus*), and flat bullhead (*I. platycephalus*) have dwindled significantly due to suspected predation by blue catfish (*Ictalurus furcatus*), and flathead catfish (*Pylodictis olivaris*)." (J-1)

Comment: Page 2-19, line 27-29: Lines read. "In 1999, 135 species of phytoplankton were collected, the dominant types being cryptophytes and diatoms (Duke 2001a)."

It is more accurate to use the words 'varieties and forms' instead of species. Correct the sentence to read "In 1999, 135 varieties and forms of phytoplankton were collected, the dominant types being cryptophytes and diatoms (Duke 2001a)." (J-2)

Comment: Page 2-20 line 5-8: Lines read: "….--and three mussel species- Carolina heelsplitter (*Lasmigona decorata*), dwarf threetooth (*Triodopsis fulciden*), and Carolina

creekshell (*Villosa vaughnaniana*)- could inhabit the region around McGuire (Table 2-1). "Although the word 'could' is used in this sentence, it creates the impression these mussels might be found in the area. This likelihood is extremely remote due to the lack of flowing water habitats around McGuire. Concurrence with this professional judgment is even stated in the SEIS on page 4-36, lines 25-28, "As described in Section 2.2.5, the only Federally or State-listed threatened or endangered aquatic species with the potential to inhabit waters near McGuire, the Carolina heelsplitter (*Lasmigona decorata*), is not present in the vicinity of the plant (Fridell 2001) and does not occur in impounded water."

Revise sentence to read "…. --and three mussel species- Carolina heelsplitter (*Lasmigona decorata*), dwarf threetooth (*Triodopsis fulciden*), and Carolina creekshell (*Villosa vaughnaniana*)- could inhabit the region around McGuire (Table 2-1), but practically speaking the probability is extremely unlikely because of lack of lotic environments." (J-3)

Comment: Page 2-20, line 32-34: Lines read: "Menhinick (1991) lists the highfin carpsucker from Lake Norman considerably north of the study area and lists only historic records for the Santee chub in Lake Norman, but north of the study area (Gaddy 2001). "Although the above sentence is not factually incorrect, it leaves the impression that perhaps the highfin carpsucker and maybe even the Santee chub may exist in Lake Norman. It is well worth noting however that in the NC Heritage Program records the highfin carpsucker documentation is extremely sketchy and the EORANK (Element Occurrence Rank) designation is O (Obscure-date, location, and/or quality of the occurrence is unknown) and the survey date is listed only as pre-1991. The same paucity of rigorous documentation and species records is also true for the Santee Chub."

Revise sentence to read "Menhinick (1991) lists the highfin carpsucker from Lake Norman considerably north of the study area and lists only historic records for the Santee chub in Lake Norman, but north of the study area (Gaddy 2001). However, detailed and thorough historical documentation on both species in the NC Natural Heritage Program records is incomplete or non-existent and there have been no citings of these species at all in the recent past." (J-4)

Response: *The comments address aquatic ecology. The Supplement has been revised as appropriate.*

A.2.5 Comment Concerning Terrestrial Resource Issues

Comment: Migratory birds and raptors. We do not agree that there is enough information to conclude that the impacts of potential bird collisions, or electrocution, are small in significance. We believe that a monitoring program should be developed consistent with the draft Memorandum of Agreement between the U.S. Fish and Wildlife Service and NRC for migratory birds. Since bald eagles, osprey, black and turkey vultures, and herons frequent the project vicinity, we recommend lines crossing wetlands and large bodies of water should be maintained

to maximize visibility of the line to raptors by one of the following design modifications: (1) remove the static line; (2) enlarge the static line to improve visibility to raptors; or (3) mount aviation balls or similar markers on the static line. (I-3)

Response: *This is a Category 1 issue as discussed in Section 4.2 of this SEIS. The GEIS determined that "mortality resulting from bird collisions with transmission lines associated with license renewal and up to an additional 20 years of operation will not cause long-term reduction in bird populations and thus will be of small significance. Further, little potential for significance due to cumulative impacts is indicated." The licensee is required to report any migratory bird that has been found dead around the plant. Maintenance crews report on bird-related outages and that report is printed quarterly and sent to the U.S. Fish and Wildlife Service in Atlanta. Licensee employees have a 24-hour Migratory Bird Hot Line to report bird encounters occurring during their work. The transmission lines addressed in this action are relatively short (an average length of 1.2 km [4000 ft]), and they do not span high quality waterfowl or aquatic raptor habitat. The comment did not provide significant, new information relevant to this Supplement and, therefore, it will not be evaluated further. There were no changes made in this Supplement as a result of this comment.*

A.2.6 Comments Concerning Threatened and Endangered Species Issues

Comment: Talking with a curator at the NC State University, I understand that the sunflowers are very a man-friendly plant that likes to seed environments. And it does very well in and around transmission lines, because of all the upheaval in the soils. I also understand that most energy utility companies are using herbicides now along their transmission lines to keep back growth, rather than cut it. How does that affect any possibility for the growth of Schweinitz's sunflower? (E-1)

Response: *Most herbicide application on transmission line rights-of-way is targeted to specific plants that will interfere with transmission lines such as trees rather than broadcast use. The appropriate descriptive information regarding transmission lines and the plant-specific ecology of the site was addressed in Sections 4.2 and 4.6.2 of this Supplement. The comment did not provide significant, new information relevant to this Supplement and, therefore, it will not be evaluated further. There were no changes made in this Supplement as a result of this comment.*

Comment: Endangered species. We have reviewed our records and visited the site, and notwithstanding the above comments, we concur with the determination that the proposed project is not likely to affect endangered species. Therefore, we believe the requirements under Section 7 of the Act are fulfilled. However, obligations under Section 7 of the Act must be reconsidered if: (1) new information reveals impacts of this identified action that may affect listed species or critical habitat in a manner not previously considered; (2) this action is

subsequently modified in a manner that was not considered in this review; or (3) a new species is listed or critical habitat is determined that may be affected by the identified action. (I-4)

Response: *The staff is aware of the provisions on Section 7 of the Endangered Species Act. The appropriate descriptive information regarding Threatened and Endangered Species is addressed in Section 4.6.2 of this Supplement. The comment did not provide significant, new information relevant to this Supplement and, therefore, it will not be evaluated further. There were no changes made in this Supplement as a result of this comment.*

A.2.7 Comments Concerning Land Use Issues

Comment: Page 2-31 line 37: Cowan's Ford Wildlife Refuge should be Cowan's Ford Waterfowl Refuge. (J-5)

Comment: Page 2-33 line 1: Cowan's Ford Wildfowl Refuge should be Cowan's Ford Wildlife Refuge. (J-6)

Comment: Page 2-33, line 2: Line should read: "… within an oxbow bend in the riverine section of Mountain Island Lake." (J-7)

Comment: Page 2-33, line 1-6: Section does not mention Crowder's Mountain State Park. Crowder's Mountain State Park is located approximately 24 miles south-west of McGuire. (J-8)

Comment: Page 4-29, line 19-25: McGuire's main entrance (west entrance) has been closed as a result of the events of Sept.11, 2001. This will probably be a permanent closure. All entrance and exit traffic must use the east entrance with the traffic light. (J-9)

Response: *The comments address land use issues. The Supplement has been revised as appropriate.*

A.2.8 Comments Concerning Historic and Archaeological Resources

Comment: We note that the licensee should take care that historic properties are not inadvertently impacted during normal operational and maintenance activities. (K-6)

Response: *Historic and archaeological issues are addressed in Section 2.2.9 of this Supplement. The comment did not provide significant, new information relevant to this Supplement and, therefore, it will not be evaluated further. There was no change made in this Supplement as a result of this comment.*

A.2.9 Comments Concerning Human Health/Radiological Issues

Comment: EPA Region 4's review of this Draft GEIS [SIC] found no issues related to nuclear or environmental radiation which were significant enough to comment on or ask for clarification. However, EPA does not regulate the radioactive component of any waste streams; that is the responsibility of the Nuclear Regulatory Commission (NRC). The NRC regulates the alpha, beta, and gamma radioactivity of all the waste streams at nuclear plants. (K-1)

Response: *This is a Category 1 issue and is discussed in Section 4.3 of this SEIS. The comment did not provide significant, new information relevant to this Supplement and, therefore, it will not be evaluated further. There was no change made in this Supplement as a result of this comment.*

A.2.10 Comments Concerning Severe Accident Mitigation Alternatives Analysis

Comment: I was a little bit puzzled by the definition of benefit. Reading over it, it seemed that if you want to be totally cynical about it, benefit would be the protection of the public's health and safety, whereas the cost would be what it would cost Duke if the balance to the public health and safety exceeded a certain point. And since Duke is ensured by the Price-Anderson Act, and has a cap on its liabilities, that definitely lowers Duke's cost a great deal, although the impact on the public health and safety might be considerable. And so that if you look at it as sort of a suspicious way, which is the way I think that the informed public should look at just about everything, it seems to be saying that as long as the damages that the power company would have to pay don't exceed the cost of preventing any damage to the public, then it is better to avoid, well, it is better for the bottom line, simply not to spend the extra money to protect the public. That is one impression one could gain from this, and correct me if I'm wrong. (F-1)

Comment: I'm sorry, but we seem to be in a little bit of a semantic muddle here, because I'm speaking of the cost, I thought that in the document cost referred to the cost to the nuclear industry to do what is necessary to protect the public. And the benefit is the protection of the public, and you are speaking of the cost to the public, so we are getting a little -- muddled here, because I'm talking about the cost of protecting the public, the cost of...(F-2)

Response: *The costs refer to the cost for a utility to implement a potential design enhancement that could reduce the risk of a severe accident and associated offsite property damage. The benefit is the averted public exposure, occupational exposure, cleanup and decontamination costs and power replacement costs associated with preventing or mitigating a major accident. The comments did not provide significant, new information relevant to this Supplement and, therefore, they will not be evaluated further. There were no changes made in this Supplement as a result of these comments.*

Comment: Page 5-6, line 23: Line reads: "... comments received during the McGuire peer review process, ..." Including the above phrase in this location may lead a reader to assume that the peer review comments were incorporated into Revision 2 of the PRA which was used for the SAMA analysis. This is not the case; the peer review occurred after Revision 2 was complete. Suggest that the reference to the peer review be deleted here. (J-10)

Response: *Section 5.2.2.1 has been revised, as suggested by the comment.*

Comment: Page 5-8, line 22: 0.006 should be 0.06. (J-11)

Comment: Page 5-8, line 23: 0.0075 should be 0.07. (J-12)

Response: *Section 5.2.2.1 has been revised; the decimal has been corrected.*

Comment: Page 5-10, line 22: The Revision 3 results provided at the time of the RAI response were preliminary and somewhat changed in the final approved version of Revision 3. Values from the final approved version of Revision 3 are provided in the following comment. (J-13)

Comment: Page 5-11, Table 5-5: The Revision 3 results provided by Duke at the time of the RAI were preliminary and somewhat changed in the final approved version of Revision 3. Values from the final approved version of Revision 3 are provided below. The format for these values is the same as provided in the RAI response dated January 31, 2002. (J-14)

Response: *Section 5.2.2.2 and Table 5-5 have been revised to include the CDFs from the final approved version of Revision 3 of the McGuire PRA.*

Comment: Page 5-11, Table 5-5 line 18: The seismic CDF listed under the column heading PRA, Rev. 1 (IPE) is given as 1.1E-05. This is the value from the IPEEE not the IPE (1.4E-05). This should be more clearly identified in the table. (J-15)

Response: *Table 5-5 has been annotated to show that the CDFs under PRA, Rev. 1, for external initiators came from the IPEEE, as suggested by the comment.*

Comment: Page 5-11, Table 5-5, line 20: Table 8.1-1 of Revision 1 of the McGuire PRA (IPE), lists the fire CDF as 8.1E-08, not 2.3E-07. The IPEEE estimate of the fire CDF is 2.3E-07. Clarify which value and reference are intended. (J-16)

Response: *Table 5-5 has been annotated to show that the CDFs under PRA, Rev. 1, for external initiators came from the IPEEE, as suggested by the comment.*

Comment: Page 5-16, Table 5-6: Line in Table 5-6 reads: "align reactor vessel (RV) cooling/other Unit RN"...The Duke table used RV cooling. In this case RV is not an acronym for reactor vessel. RV is the shorthand notation for the Containment Ventilation Cooling Water System. This description should be added to the RV entry on page xxiii Abbreviations/Acronyms. (J-17)

Comment: Page 5-16, Table 5-6: The zeros in the CDF column should be replaced with the CDF values from Table 4-2, found in Attachment K of the McGuire ER. (J-18)

Response: *Table 5-6 and the abbreviations/acronyms have been revised as suggested by the comments.*

Comment: Page 5-19, line 27: The Revision 3 results provided at the time of the RAI response were preliminary and somewhat changed in the final approved version of Revision 3. Values from the final approved version of Revision 3 are provided Comment Number 14. (J-19)

Response: *Section 5.2.4 has been revised to show that the reference for final Revision 3 of the PRA is the August 2, 2002, letter.*

Comment: Page 5-17, Tabel 5-7 and Page 5-21, line 28: The cost estimate provided by Duke ($205,000) is a per unit cost and should not be divided by 2. One of the major cost categories for the candidate modification is in the installation labor, primarily pulling cables. It was judged that finding a location for the diesel that would allow it to serve either unit would dramatically increase the cable pulling cost component. As such, it was judged that having a diesel for each unit would be less expensive (given the low cost of the hardware) than pulling cables to both units from a single location. (J-20)

Response: *Sections 5.2.5 and 5.2.6.2 and Tables 5-7 and 5-8 have been revised as suggested by the comment.*

Comment: Page 5-21, line 29: Note that the pre-staged option was selected in order to provide confidence that the alignment could be established within a time frame that would allow mitigation for fast as well as slow station blackouts. Without pre-staging, the time needed to power the igniters would be long and may not be effective for all sequences. The estimated benefit would be reduced by some amount if a pre-staged diesel was not assumed. (J-21)

Response: *This comment provided additional information but did not result in changes to Section 5.2.5.*

Comment: Page 5-21, line 39: The cost estimate provided by Duke ($540,000) is a per unit cost and should not be divided by 2. (J-22)

Comment: Page 5-22, line 9: replace “reactor vessel cooling” with “the Containment Ventilation Cooling Water System” (J-24)

Comment: Page 5-22, line 15-16: The two cost estimates, $275,000 and $291,000, are in the reverse order of the 2 SAMAs, (1) and (2), discussed earlier in the same paragraph. This may lead a reader to associate the costs incorrectly with the SAMAs. (J-25)

Response: *Section 5.2.5 has been revised as suggested by the comments.*

Comment: Page 5-22, line 3-5: The sentence, “Duke further noted that ...” should be modified. The discussion that Duke provided relative to powering the air-return fans was in the context of powering the igniters. The mixing afforded by the fans may or may not be significant to the effectiveness of PARs, but in any case Duke provided no position on the need for fans when using PARs. (J-23)

Response: *Section 5.2.5 has been revised as suggested by the comment. The sentence in question now only addresses igniters and was moved to the preceding paragraph.*

Comment: Page 5-25, line 4: 3.81E+08 should be 3.1E+08. See page 12 of Attachment K, McGuire ER. (J-26)

Response: *Section 5.2.6.1 has been revised as suggested by the comment.*

Comment: Page 5-27, line 17: Update CDF discussion based on final Revision 3 results provided in Comment Number 14. (J-27)

Response: *Section 5.2.6.2 has been revised as suggested by the comment*

Comment: Section 5.2.7 of Reference 1 identifies one Severe Accident Mitigation Alternative (SAMA) that would provide back-up power to the hydrogen igniters for Station Blackout (SBO) event...McGuire concurs with the NRC that this SAMA is not within the scope of license renewal and should be addressed separate from any license renewal proceedings. (L-1)

Comment: McGuire concurs with the NRC staff that there may be a cost-beneficial plant design modification that can provide alternative power to the hydrogen ignition system during a SBO event. (L-2)

Response: *The comments concur with the staff’s analysis. The comments did not provide significant, new information relevant to this Supplement and, therefore, they will not be evaluated further. There were no changes made in this Supplement as a result of these comments.*

A.2.11 Comment Concerning Uranium Fuel Cycle and Waste Management Issues

Comment: Page 6-6, line 25: This page presents a brief chronology of events that have occurred in the area of high level waste disposal subsequent to the GEIS being published in 1996. The chronology ends at the President's recommendation in February 2002. While it may seem a bit odd for this type of information to be contained in an environmental document, Duke believes that the chronology should remain in the SEIS and should be updated to reflect significant events that have taken place since then. For example: "On April 8, 2002, Governor Guinn of Nevada issued a "Notice of Disapproval" regarding the recommendation of the President. As required by the Nuclear Waste Policy Act, the matter was then referred to the Congress. Subsequently, [insert final decision of Congress and date]." (J-28)

Response: *The comment addresses uranium fuel cycle and waste management issues. The Supplement has been revised as appropriate.*

Comment: I have a question about the impacts which have to do with the collective off-site radiological impacts from the fuel cycle high level waste, and spent fuel. It says here, in the document, within the Category 1 issues, that they are not assigned a significance level, and it also says back in Section 8, under the Category 2 analysis for the draft statement, that they are not assigned a significance level there, either. Where are they considered, and why not? (A-2)

Comment: The other issue has to do with the one that I raised during the presentations, and it has to do with high level waste. On advice of the staff I did go back to reread Chapter 6 here about single significance levels, which are not assigned to high level waste. In that the Commission, and this is again from Page 6-5 in supplement, in Supplement 8 to the draft of today, it says: The Commission concludes these impacts are acceptable, and that the impacts would not be sufficiently large. I would submit that the lack of a single significance level at this point, and this is a lone exception, so far as I can tell, every other impact in this document is considered small. The impacts here are not small, they are not moderate, they are large. And there seems to be a reluctance to say large impacts in this case, particularly in the case before us, which is license renewal extension. The high level waste would increase, the impacts would increase for an additional 20 years. I think that before this process can move forward there must be a better analysis of the impacts from high level waste. It is not reassuring to me that the staff does not consider a change in its position necessary with regards to high level waste disposal, and consideration of the Category 1 issue. I wonder what it would take, considering that the document here mentions the possibility of 1,000 premature cancer deaths world-wide, for a 100,000 metric ton repository. (A-4)

Response: *Environmental impacts of the uranium fuel cycle are discussed in detail in Section 6.1 of this Supplement. The single significance level was not assigned because at the time that the GEIS was written there were no regulatory limits for offsite releases of radioactive nuclides for the candidate repository site, but enough information was available to assign the designation*

of "Generic." Since the GEIS was originally issued in 1996, the EPA has published radiation protection standards for Yucca Mountain, Nevada. The Commission has subsequently published its regulations at 10 CFR Part 63, "Disposal of High-Level Radioactive Wastes in a Geologic Repository at Yucca Mountain, Nevada." The comments did not provide significant, new information relevant to this Supplement and, therefore, they will not be evaluated further. There were no changes made in this Supplement as a result of these comments.

A.2.12 Comment Concerning Alternatives To License Renewal

Comment: I just have a question concerning the definitions of small, moderate and large. As far as your take on if the effect is to be large, is it your -- are you wanting to make a change so that it goes down to the small level? Because that goes to your last slide, but on alternatives it said that some of the alternatives also include no-action. And some of the no-action are currently in the moderate or large significance. And if they are currently in the large then are you taking a look at those issues? There again maybe I'm reading this wrong. But when it says including no- action alternatives, no-action to me means that it stays the same. (B-1)

Response: *Environmental impacts associated with various reasonable alternatives to renewal of the operating licenses for McGuire were discussed in Chapter 8 of the Supplement. In this case, "no-action" alternative refers to not renewing the applicant's operating license and decommissioning the plant when the current license expires. The staff does not evaluate the potential for mitigation of impacts for the alternative actions including the no-action alternative. Mitigation is only considered for the action being evaluated (renewal of the operating licenses for McGuire for a period of up to an additional 20 years). The comment did not provide significant, new information relevant to this Supplement and, therefore, it will not be evaluated further. There was no change made in this Supplement as a result of this comment.*

A.2.13 Comments Concerning Issues Outside of the Scope of the Environmental Review for License Renewal: Emergency Response and Planning; Need For Power; and Safeguards and Security

<u>Emergency Response and Planning</u>

Comment: It is noted here, in the draft report for comment, Supplement 8, that Duke completed a comprehensive effort to identify and evaluate the potential cost benefit plans enhancements to reduce the risk associated with severe accidents at McGuire. As a result, Duke concluded no additional mitigation alternatives are cost-beneficial. Among these analysis are averted public exposure costs. Recently there has been a lot of concern about off-site exposures from accidents. And, of course, the provision of such tablets as these here, the potassium iodide tablets to the public. That licensees have the obligation to confirm that off-site authorities have considered the use of potassium iodide as supplemental protective action for the general public. It also makes a supplemental point here, and I'm reading from the NRC, it will also require the

licensees to use this information in developing protective action recommendations for off-site agencies. I have two questions for the record. One, has Duke Energy fulfilled the Nuclear Regulatory Commission requirement with regard to off-site authorities? And, two, how has Duke used this information in protective action recommendations? I see nothing to that effect in the document before us today. (A-3)

Comment: But what I would submit to you is that while there may be no new information, there are a couple of new circumstances that I don't think can be ignored when the time comes to consider whether to go on with the nuclear industry. One of these, which is specific to McGuire, and also to Catawba plant, is that we have had an enormous population explosion here, and it is not stopping, it is continuing to go on. Whereas we have not had anything like an enormous improvement in the evacuation routes. And hardly anyone in this region believes that they could actually get out. And FEMA doesn't seem, which is the agency that is most responsible, or supposed to be responsible for this, seems to be thinking entirely in pre-9/11 terms. (D-2)

Comment: So you can see that this region is just not prepared for an eventuality like that. And the change in circumstances as to the population density, this is going to keep on changing. So here this renewal comes up 20 years from now. What do you think it is going to look like around these plants 20 years from now? It seems to me that it would be the responsible thing to do, to make some recommendations to the communities around here, to the governments around here, to put a moratorium on any further building in your evacuation zone, until the roads can be improved to the point where a quick evacuation is possible. And it seems to me that somebody needs to take this responsibility, whether it is Duke Power, whether it is the NRC, or whether it is FEMA, somebody needs to be advising local governments that they can't go on just packing people around these plants indefinitely, if you want to go on operating for another 40 years. (D-4)

Comment: And although your document says repeatedly there is no new information about most of the issues here, about safety, and these are mostly about the operational requirements, and that sort of thing, I do feel that there are now new circumstances. One of the new circumstances is the enormous population explosion that is taking place around here, and which is ongoing. So that instead of a few thousand people around the plant, living around the plant when the plant was first licensed, we now have hundreds of thousands of people living around both the McGuire and Catawba plants. And the evacuation possibilities have increased enormously because there has been much improvement in the roads around here. And I expect that some of our visitors from Washington may have been caught in a traffic jam or two between this afternoon's meeting and this evening's, so you know what I'm talking about. (F-4)

Comment: And it turned out, well, he was only thinking in terms of evacuating a 10-mile radius. Well, if a plane is driven into the spent fuel containment areas, there isn't going to be hours and hours to evacuate. We are going to have to get out immediately, the sooner the better, 5 minutes would be ideal. (F-5)

Comment: But I think that communities need to start passing ordinances that say you can't build any more houses, and bring any more people into harm's way, if you can't get out in at least 2 hours from the evacuation zone, whether it be a 10-mile radius, or a 25-mile radius, or 50-mile radius...Right now we are making this area into a better and juicier, and juicier, and juicier target, by selling more and more subdivisions to people, crowding them into the areas around here. And we are talking about a license renewal 20 years from now, to go on for another 20 years. What do you think it is going to look like around here 20 years from now, if we just go on building, and building, and building? And what is it going to look like 30 years from now, when there is still 10 years to go? We need to do something visible, and tangible, to avert a tragedy in this area. Thank you very much. (F-6)

Comment: That is, the review identified environmental impacts which should be avoided, in order to fully protect the environment. Specifically, the possibility of environmental impacts resulting from a release due to a severe accident are a concern. However, we understand that NRC along with DOE, FEMA, and EPA are taking additional steps to ensure that nuclear plants are prepared for such an occurrence. (K-3)

Response: *The staff evaluated impacts under current population conditions. Emergency preparedness is an ongoing process at all plants, including McGuire. Each nuclear plant must have an approved emergency plan, as required by 10 CFR Part 50, that is revised periodically and required to be up to date. Emergency planning is part of the current operating license and is outside the scope of the environmental analysis for license renewal. The comments did not provide new information relevant to this Supplement and they do not pertain to the scope of license renewal as set in 10 CFR Part 51 and Part 54, therefore, they will not be evaluated further. There were no changes made in this Supplement as a result of these comments.*

Need For Power

Comment: The document does not mention whether power demands on the McGuire facility are expected to change significantly from present levels during the license renewal period (up to 20 years). If consumer power needs in the service area increase significantly, please clarify how this would this (sic) affect operations, particularly with regard to the cooling system, effluent release, and waste quantity. The anticipated growth rate of the service area during the renewal period should be taken into consideration. (K-4)

Response: *The need for power is specifically directed to be outside the scope of license renewal (10 CFR 51.95 (c)(2)). The purpose and need for the proposed action (renewal of an operating license) is to provide an option that allows for power generation capability beyond the term of a current nuclear power plant operating license to meet future system generating needs, as such needs may be determined by State, utility, and where authorized, Federal (other than NRC) decisionmakers. The comment did not provide new information relevant to this Supplement and it does not pertain to the scope of license renewal as set in 10 CFR Part 51 and*

Part 54; therefore, it will not be evaluated further. There was no change made in this Supplement as a result of this comment.

Safeguards and Security

Comment: But if a plane is driven into your spent fuel deposits, whether they are in dry casks, or in pools of water, they are outside the containment domes. So all the things that you've been saying about how strong the domes are, and how -- what great safeguards you have against operational failures, become completely irrelevant in the case of an attack by even a fairly small plane, a moderately small plane on the spent fuel containment. And it seems to me that that would have, if that happened, it would have something of an environmental impact, in that there is about 20 or 30 times as much fissionable material outside of your highly fortified domes, as there is inside of them...And he said, yes, but we only need to evacuate a ten mile radius. Well, you know, that would be totally inadequate in such an accident. Well, not accident, but such an attack. (D-3)

Comment: Suppose the week after next, or the month after next, the new National Security Agency, or whatever they call themselves, were to impose new NRC regulations taking post-9/11 into account. Would this process go on just as before, or on the same schedule, or would the whole thing sort of start over again? (F-3)

Comment: That is something that we haven't heard about, really. If a plane crashed into the spent fuel pools and casks which contain 20, or 30, or 40, or 50 times as much radioactive material as is actually contained inside these domes, which are highly touted for being so well fortified. The other point I would like to make is that it may well not be any funny looking guy with a beard, and a big nose, and a strange name like Kai Al Hicby, or something like that, who does the job. There have already been precedents. An Egyptian pilot probably deliberately drove a plane full of passengers into the ocean. A Chinese pilot probably deliberately drove his plane into the ground with all passengers on board. There are 800 people, about five, who are seriously disturbed. And some of them can be airline pilots, or Air Force pilots, Coast Guard pilots, and so on. So the person who actually does this thing may well be American, is not suspected by anybody, with an ordinary name like John Wayne. And everyone will say, afterwards, he seemed like such a nice, straight-forward, reliable guy, with a good work record, and everything. (F-7)

Comment: We need to be prepared against that type of thing. And I would like to see some visible preparation. I would like to see them starting to lay down very thick concrete above all of the spent fuel depositories, as soon as possible. I would also like to see something visible in the way of protection of the nuclear plants, such as the balloons that we used in World War II to protect London against the Nazi planes, only these will have to be anchored at 9000 feet, and 5000, and 12,000, they only need to be anchored at maybe 500 feet or less, 300 feet, maybe. So it shouldn't be expensive at all, and it would be a visible sign to the public that something,

something is being done against this threat. It would also be a sign to the crazy guy in the airplane, that this is not such a good target. (F-8)

Comment: Looking at the application, the CFR Part 54, or Section 10, whatever, the renewal application process began prior to September 11th. Is there a supplement to this report as it relates to new findings, new information?... I would not ever dramatize that element, as much as I would if you look at the conclusion, and read it verbatim, it says that additional plant improvements to further mitigate severe accidents are not required at McGuire units, etcetera, as part of the license renewal pursuant to. I'm assuming those guidelines were written prior to September 11th, the application process started since then, I think we live in a new world. My question is, is this conclusion, or its draft, been amended or changed since that day?...There are additional findings, and the request for additional information will not be, I'm assuming that supplement, whenever it is going to appear, would be available to the public, as part of the application?...I think you did answer my question, the events of September 11th are not part of the renewal license application? (G-1)

Comment: My question is, I would like to separate – the security issues I believe, are separate and prudent from relative to whether or not improvements for security and severe accident mitigation need to be addressed. Apparently you are saying that because we have the current regulations they don't need to be addressed? Security needs to be addressed, but I think it would be my opinion that we should be leery as opposed to – (G-2)

Response: *NRC and other Federal agencies have heightened vigilance and implemented initiatives to evaluate and respond to possible threats posed by terrorists, including the use of aircraft against commercial nuclear power plants and independent spent fuel storage installations (ISFSIs). Malevolent acts remain speculative and beyond the scope of a NEPA review. NRC routinely assesses threats and other information provided to them by other Federal agencies and sources. The NRC also ensures that licensees meet appropriate security levels. The NRC will continue to focus on prevention of terrorist acts for all nuclear facilities and will not focus on site-specific evaluations of speculative environmental impacts. While these are legitimate matters of concern, they should continue to be addressed through the ongoing regulatory process as a current and generic regulatory issue that affects all nuclear facilities and many activities conducted at nuclear facilities. The NRC has taken a number of actions to respond to the events of September 11, 2001, and plans to take additional measures. However, the issue of security and risk from malevolent acts at nuclear power plants is not unique to facilities that have requested a renewal to their license and, therefore, is not within the scope of this Supplement. The comments do not provide new information relevant to this Supplement, and they do not pertain to the scope of license renewals set forth in 10 CFR Part 51 and Part 54, therefore they will not be evaluated further. There were no changes made in this Supplement as a result of these comments.*

A.3 Public Meeting Transcript Excerpts and Comment Letters

Transcript of the Afternoon Public Meeting on June 12, 2002, in Huntersville, North Carolina

[Introduction, Mr. Cameron]
[Presentation by Mr. Tappert]
[Presentation by Ms. Franovich]
[Presentation by Mr. Wilson]

Mr. Zeller: My name is Lou Zeller, I'm with the Blue Ridge Environmental Defense League.

A-1 I thought of this question, just before you stood up Jim. It actually maybe refers to the previous presentation, but before we got too far along here I wanted to ask about the Commission's decision on April the 12th to change, reverse, or alter the findings of the Atomic Safety Licensing Board.

How often does something like that happen, and where has it happened?

Mr. Cameron: I'm not sure that either Jim or Rani are prepared to answer that. And we do have a representative here from our Office of the General Counsel, Susan Uttal.

And she may not have those statistics for you, Lou, but let me see if Susan has anything she can offer on that. And if there is further discussion you need to have, you may need to do it offline.

But, Susan, can you give us some information on Lou's questions?

Ms. Uttal: I don't know the answer to that question.

Mr. Cameron: The answer to the -- there were two questions, right, Lou?

Mr. Zeller: Yes.

Mr. Cameron: The second one was how often does it happen. And I take it you are saying that you really don't have any information on that?

Ms. Uttal: I don't have any information on that.

Mr. Cameron: The first part of that, Lou, was just to make sure that Susan knows what it was, can you just -- you don't have to repeat the whole thing, but just what the question part was.

A-1 cont

Mr. Zeller: I'm just curious to find out, the procedure, or the process, or perhaps there is a citation within the rules and regulations which outline how a sitting Atomic Safety Licensing Board, or actually any other board of that nature, would have a process underway as was described here shortly, a while ago.

And the Commission, which set up that panel, to essentially reverse, or alter, or have any saying before the procedure, before the process had been completed.

Mr. Cameron: I think that that is a fairly simple answer from a procedural point of view, relating to the authority of the Commission to step into a proceeding and rule on something before the whole thing is over.

Can you say anything about that, Susan? And, again, I don't want to get us down into a big legal discussion, but so that you can do this with Lou afterwards.

But perhaps you could just tell us some of the basics on that?

Ms. Uttal: Well, first of all I'm not sure of the relevance to this particular meeting, to this information. Mr. Zeller's a party in the proceeding, and in the requirements of Part 2 of 10 CFR, there is a specific section that permits interlocutory appeals from decisions allowing the admission of contentions, and that appeal be made to the Commission.

I don't happen to have the section in my mind at this time, but it is provided under the regulations. So I would refer you to Part 2 of the regulations, or perhaps you can ask your counsel about it.

Mr. Cameron: Okay. We always want to try to provide some information on questions like that. And I think from what Susan said, Lou, it is something called an interlocutory appeal, and there is basis in the Commission's regulations for that, and we can explore that in more detail later on.

[Presentation by Ms. Harty]

A-2

Mr. Zeller: I have a question about the impacts which have to do with the collective off-site radiological impacts from the fuel cycle high level waste, and spent fuel.

It says here, in the document, within the Category 1 issues, that they are not assigned a significance level, and it also says back in Section 8, under the Category 2 analysis for the draft statement, that they are not assigned a significance level there, either.

Where are they considered, and why not? In a coal plant an analogy might be, you know, what comes out of the smoke stack is certainly part of the environmental impact as waste material.

Mr. Cameron: And, Becky, do you understand the question? This is, maybe, a Category 1 issue that was not assigned an impact. Do you understand the question?

Ms. Harty: Yes, these are Category 1 issues that were discussed in the generic environmental impact statement, and they weren't assigned a significance level there.

Mr. Cameron: So, in other words, if no significant new information was found to cause us to alter the Category 1 finding, then there would be no --

Ms. Harty: Then there is no further analysis. If there was information that we discovered during our analysis at McGuire that caused us to say, yes, that is new information, significant information, then we would have re-analyzed that issue and looked at further depth. And at that point we may have assigned it a significance level.

Mr. Zeller: I understand, but maybe I didn't make myself clear, for neither Category 1 nor Category 2, for generic or site-specific impacts were significant levels attached to high level waste and spent fuel impacts. It says it right here.

Ms. Harty: Right. But this is only a Category 1 issue. Where are you reading, exactly?

Mr. Zeller: I'm inside of this book.

Ms. Harty: Can you give me a page?

Mr. Zeller: Yes, it is on Page iii, in the beginning, and then also on Page 8-49, under the summary of alternatives considered.

Mr. Cameron: It may be a question of how the particular sentence was written, but let's see if we can get to the bottom of that.

Ms. Harty: Let me take a stab at this, and if somebody from the NRC is more familiar with this, then you may ask them the basis for this.

For Category 1 issues, they usually assign a single significance level for all the issues across all the plants it is always small, moderate, or large. And this particular disposal may be a case, from my understanding of this, where they did not assign the small, moderate, or large, but they still said it was generic across all the plants.

Now, I don't know if I'm quite answering your question or not. It is something that you don't really get into unless you decide there is new and significant information at that plant, which throws it out of -- which takes it from the Category 1 where it can just stay generic, to where you have to

do a site-specific analysis, and then you would assign a specific, or a significance level at that point.

Mr. Cameron: I guess that, let me ask Jim Wilson if he has any further explanation of this, because I gather from Lou's question that it was not just the Category 1 issue, because I think that is understandable.

There is a reference, though, to Category 2, and no specific finding be attached. And --

Ms. Harty: Well, I don't see that it referenced the Category 2, and maybe that is in the abstract.

Mr. Cameron: Because I think that is the heart of Lou's point. Let's go to Barry and see. This is Barry Zalcman, NRC staff.

Mr. Zalcman: Let me try and put this in perspective. When Becky laid out the Commission's structure for determining Category 1 issues, we established certain criteria that may be common for all plants, that may be common for plants of a specific design, or that have certain attributes.

It turns out for the cases that you are identifying the conditions are as discretion determined, even though it may not be the same at all plants, it was still going to categorize it as a Category 1 issue.

I think that is the complexity that you are struggling with right now, we are trying to eliminate that in the executive summary. And if you go into Chapter 6 I think you probably are going to have the best representation where we bring together the findings within the guidance, or we actually talk to the issues where the condition, even though it didn't meet the initial criteria for Category 1 determination, elected to make it a Category 1 for that issue.

Mr. Cameron: Let me just, at a minimum, suggest that the NRC take that as a comment on this draft EIS to, at minimum, make it clear exactly what is going on so that the reader can understand it, okay?

Ms. Harty: Sounds good.

Mr. Cameron: All right. Other questions before we go to the severe accident aspect of it? Yes, sir.

B-1 Mr. Anderson: My name is Bob Anderson. I just have a question concerning the definitions of small, moderate and large. As far as your take on if the effect is to be large, is it your -- are you wanting to make a change so that it goes down to the small level?

Ms. Harty: I guess the best way of saying that is if it is large, you look at possibilities for mitigation. And in the case that we were in (license renewal), we only had small impacts.

So we didn't find any areas where we needed to suggest any mitigation.

B-1 cont

Mr. Anderson: Because that goes to your last slide, but on alternatives it said that some of the alternatives also include no-action. And some of the no-action are currently in the moderate or large significance.

And if they are currently in the large then are you taking a look at those issues?

Ms. Harty: That is a very good question. Let me actually run down the -- I have a nice list here.

In Chapter 9, actually there is a table in 9-1 where we look at the proposed action versus the no-action alternative, and then there are four other alternatives, coal fired generation, natural gas fired, new nuclear, and then a combination of alternatives.

And to give you something specific we said, okay, for example if we -- if they decided not to renew the license at McGuire, but they needed to replace the energy anyway, and they decided let's put in a coal fired generation plant; when you get to issues such as land use, the land mass that is there for McGuire, they would end up having to take out some trees, maybe buy some additional land, or something like that.

And, actually, the footprint of the plant will be larger than what it is now. So that is going to impact the land use, it is going to impact the ecology, and those impacts would be moderate or large.

And at that time, if they did come in and say, we are going to use a coal fired plant instead of a nuclear power plant, the same EIS process would start all over.

Pardon? Oh, you are right, that wouldn't be a federal action.

Mr. Wilson: We looked at the -- we laid out the alternatives and we found significance levels that, for some issues, reached moderate or large impact. We didn't look at mitigation to reduce the impacts of the alternatives. We looked at the impacts of McGuire operation, which were found to be small for all issues, and no mitigation is required.

We didn't go through the same process for each of the alternatives to the McGuire continuing-operation option. Is that clear?

We look at mitigation for the proposed action. We don't look at mitigation for alternatives. We look at mitigation if it happened as an operating impact at McGuire.

B-1 cont

Mr. Anderson: There again maybe I'm reading this wrong. But when it says including no- action alternatives, no-action to me means that it stays the same.

Ms. Harty: No-action means that they don't renew the licenses, and that the plant has been decommissioned.

Mr. Cameron: So that is the key, I guess, is how you define a no-action alternative?

Ms. Harty: And for that, for the no-action alternative, I will just tell you that on the impacts that were small or moderate on socioeconomics, because the plant is no longer going to be here, and the influence of the economics of the area, on an environmental justice.

[Presentation by Mr. Palla]

[Presentation by Mr. Wilson]

Mr. Cameron: So it all gets married up, okay.

We did, I think we have a clarification, or an answer for Lou Zeller's question from before. I'm going to ask Barry to help us with that.

Mr. Zalcman: Thanks, Chip. Again, this is Barry Zalcman, with the Staff.

I just wanted to add, for the record, so that others that may have heard the question raised by Mr. Zeller have some frame of reference, so that they can draw a conclusion regarding this.

In no way it diminishes our obligation to make sure that our environmental impact statement is written in plain and clear language, so we are taking back that issue.

But I would refer the readers to the generic environmental impact statement, which is a base document, on which site-specific supplements are created.

The base document provided the basis for the license renewal rule that was made part of Part 51 in 1996, the generic environmental impact statement is a support document to that.

If I could refer users of the GEIS to Section 6.2.4, which deals with conclusions associated with uranium fuel cycle and solid waste management issues. The radiological, and I am going to read this from the document, "radiological and nonradiological environmental impacts of the uranium fuel cycle have been reviewed."

Later in that section it goes on with: "The doses are very small fractions of regulatory units, and even small fractions of natural background exposure to the same population. Thus standards exist that can be used to reach a conclusion as to the significance of the magnitude of the collective radiological effects.

"Nevertheless, a judgement as to the regulatory NEPA implication of this issue should be made, and it makes no sense to repeat the same judgement in every case.

"The Commission concludes that these impacts were acceptable, and that these impacts would not be sufficiently large to require the NEPA conclusion for any plant. that the option of extended operations under 10CFR54 should be eliminated.

"Accordingly, while the Commission has allowed a site a single level of significance for collective effects of the fuel cycle, this issue is considered Category 1." That is as far as I'm going to read into the record.

More importantly, the issue that you had raised deals with categorization, meaning is it a Category 1 or Category 2, non-significance, the Staff has, in fact, considered the significance. Thank you.

Mr. Cameron: Thanks, Barry. And can you make sure that Lou has those specific page citations so that, and context on --

All right, thank you all very much for listening. And now we want to listen to you. And I'm going to ask Jack Peel, who is the manager of engineering at the McGuire station 2 for Duke Energy Corporation, to talk to us about Duke's vision and rationale in proceeding with the license renewal application. Jack?

Mr. Peel: Thank you very much, Mr. Cameron. My name is Jack Peel, and I'm manager of engineering at the McGuire site.

On behalf of Duke Power I would like to express public thanks and admiration for our employees. And I'm referring to the employees not only located at McGuire site, but also elsewhere in our company, for their excellent efforts, over the years, to make McGuire successful for an operating period of 21 years to date.

And I would be remiss in not also recognizing our license renewal project team, some of those members are here listening today. I appreciate the work they have done to create our application, and to squire it along in the review cycle.

C-1 I assure you that we strongly believe that the McGuire plant is a worthy candidate for license renewal.

C-2 I want to thank the Nuclear Regulatory Commission for having developed a process which is thorough and effective. That process has been described by at least two of the speakers before me.

After reviewing, really just a cursory review of the draft supplemental environmental impact statement would reveal the thoroughness of the work that the NRC and the National Labs have done.

C-3 After reviewing the draft statement, and I'm referring specifically to Supplement 8, Duke Power agrees with the conclusions of that draft. Now, we intend to do more detailed technical reviews in the weeks ahead, and we will fulfill, if we have any comments, we will provide them in writing, and fulfill the schedule date that Mr. Cameron mentioned, which is August 2nd of this year.

Most importantly I want to express thanks to our neighbors here in the local community who have been so supportive of our operations over the years. We, at McGuire, have made a sincere effort to be a good neighbor.

We take public safety very seriously. Public health and safety is our number one priority, and that is our unwavering commitment.

So we are glad to have the opportunity to go through this license renewal process; we are proud of our employees, proud of our plant, and proud of our operating history, and I thank you for your attention.

Mr. Cameron: Thank you very much, Jack. Now we will go to Lou Zeller of the Blue Ridge Environmental Defense League, and then we will go to Mr. Robert Mahood.

Mr. Zeller: Thank you. My name is Lou Zeller, I'm on the staff of the Blue Ridge Environmental Defense League.

I have just two brief overviews that I would like to present here today, with regards to this license renewal.

A-3 One has to do with the provision of potassium iodide to residents living within the ten mile exclusion zone. It is noted here, in the draft report for comment, Supplement 8, that Duke completed a comprehensive effort to identify and evaluate the potential cost benefit plans enhancements to reduce the risk associated with severe accidents at McGuire.

As a result, Duke concluded no additional mitigation alternatives are cost-beneficial. Among these analysis are averted public exposure costs.

Recently there has been a lot of concern about off-site exposures from accidents. And, of course, the provision of such tablets as these here, the potassium iodide tablets to the public.

Of course these are available, actually the Nuclear Regulatory Commission has stockpiled several million doses of these, and an 800,000 appropriation, which I think would make the cost of this virtually zero.

The radioactive iodine-131 isotope contributes a major constituent in nuclear plant accidents. We could look back to Chernobyl, for example, 150 miles from the site iodine-131 was detected.

In that case, the Food and Drug Administration decades ago, and continues to say that it is a safe and effective method. Oak Ridge National Laboratory Paul Zann saying that provision of iodine prevents 99 percent of the damage to the thyroid.

In recent Nuclear Regulatory Commission publications it does talk about a rule regarding potassium iodide in emergency planning. This is from May the 13th of this year.

A-3 cont That licensees have the obligation to confirm that off-site authorities have considered the use of potassium iodide as supplemental protective action for the general public.

It also makes a supplemental point here, and I'm reading from the NRC, it will also require the licensees to use this information in developing protective action recommendations for off-site agencies.

I have two questions for the record. One, has Duke Energy fulfilled the Nuclear Regulatory Commission requirement with regard to off-site authorities?

And, two, how has Duke used this information in protective action recommendations? I see nothing to that effect in the document before us today.

A-4 The other issue has to do with the one that I raised during the presentations, and it has to do with high level waste. On advice of the staff I did go back to reread Chapter 6 here about single significance levels, which are not assigned to high level waste.

Within Chapter 6 it merely, I think, begs the question, because there is no analysis, and only a recapitulation of the regulatory limits. And I think Barry Zalcman read something read something from the generic environmental impact statement which essentially says the very same thing.

A-4 cont In that the Commission, and this is again from Page 6-5 in supplement, in Supplement 8 to the draft of today, it says: The Commission concludes these impacts are acceptable, and that the impacts would not be sufficiently large.

I would submit that the lack of a single significance level at this point, and this is a lone exception, so far as I can tell, every other impact in this document is considered small.

The impacts here are not small, they are not moderate, they are large. And there seems to be a reluctance to say large impacts in this case, particularly in the case before us, which is license renewal extension.

The high level waste would increase, the impacts would increase for an additional 20 years. I think that before this process can move forward there must be a better analysis of the impacts from high level waste.

It is not reassuring to me that the staff does not consider a change in its position necessary with regards to high level waste disposal, and consideration of the Category 1 issue.

I wonder what it would take, considering that the document here mentions the possibility of 1,000 premature cancer deaths world-wide, for a 100,000 metric ton repository.

Thank you very much.

Mr. Cameron: Thank you, Lou. Let's go to Mr. Mahood. And I hope I've pronounced your name correctly.

Mr. Mahood: You certainly have. It is a rare pleasure, thank you.

D-1 The whole strange thing about this process is that you are still completely bound by regulations, the original regulations from about 1954, I suppose with some revisions.

And you talk about there being no new information, no new information, and for the most part I think that is perfectly true within the sort of frame of reference.

D-2 But what I would submit to you is that while there may be no new information, there are a couple of new circumstances that I don't think can be ignored when the time comes to consider whether to go on with the nuclear industry.

One of these, which is specific to McGuire, and also to Catawba plant, is that we have had an enormous population explosion here, and it is not stopping, it is continuing to go on. Whereas we have not had anything like an enormous improvement in the evacuation routes.

And hardly anyone in this region believes that they could actually get out. And FEMA doesn't seem, which is the agency that is most responsible, or supposed to be responsible for this, seems to be thinking entirely in pre-9/11 terms.

Because when you have a meltdown, if you start with a problem with the plant, and then you try to correct it, and then you find you are not succeeding, and so you send out the first warning, and then you are still not succeeding, and you send out a secondary, tertiary, quaternary warnings, and so on, you've got hours, and hours, and hours of this to start evacuating some things first, and all that.

D-3 But if a plane is driven into your spent fuel deposits, whether they are in dry casks, or in pools of water, they are outside the containment domes.

So all the things that you've been saying about how strong the domes are, and how -- what great safeguards you have against operational failures, become completely irrelevant in the case of an attack by even a fairly small plane, a moderately small plane on the spent fuel containment.

And it seems to me that that would have, if that happened, it would have something of an environmental impact, in that there is about 20 or 30 times as much fissionable material outside of your highly fortified domes, as there is inside of them.

I also note, just to back up what I said about evacuation, that Mr. Wayne Broome, I believe the name is, who is the local official that would do the evacuating, or take charge of evacuation here, talks entirely in pre-9/11 terms.

He says, well, we figure we can get everybody out in under six hours, provided that first we had cleared the lakes, we had cleared the schools, and we cleared all the businesses.

Well, that is kind of sort of a leisurely scenario that you have in a meltdown, but you don't have that in an instant attack on a plant, on the spent fuel depositories.

I called the Charlotte Mecklenburg schools, and I found that they thought it would take them about an hour, or an hour and a half to evacuate. When I pinned them down I found out, because this is sort of unbelievable, to get everybody in the region out of the schools in an hour and a half, or something like that, when it takes buses many, many hours on the roads to get the kids to and from school every day, in three shifts.

D-3 cont And he said, yes, but we only need to evacuate a ten mile radius. Well, you know, that would be totally inadequate in such an accident. Well, not accident, but such an attack.

He also said that the private schools, of which there are many around here, were not included in the plans, they all have plans of their own. I called one of the private schools, got the secretary, and asked what their plan was.

And she said, their safety man wasn't there, so I would have to wait for him to get back. And I said, well, what if the attack happened right now and your safety man isn't here? You must have the plan, it must be there.

And so she looked for it, and she couldn't find it. She said it was in her drawer, but she couldn't find it. The principal wasn't there, either. And then she got mad and pretty much hung up on me.

D-4 So you can see that this region is just not prepared for an eventuality like that. And the change in circumstances as to the population density, this is going to keep on changing.

So here this renewal comes up 20 years from now. What do you think it is going to look like around these plants 20 years from now?

It seems to me that it would be the responsible thing to do, to make some recommendations to the communities around here, to the governments around here, to put a moratorium on any further building in your evacuation zone, until the roads can be improved to the point where a quick evacuation is possible.

And it seems to me that somebody needs to take this responsibility, whether it is Duke Power, whether it is the NRC, or whether it is FEMA, somebody needs to be advising local governments that they can't go on just packing people around these plants indefinitely, if you want to go on operating for another 40 years.

Thank you.

Mr. Cameron: Thank you very much for that information and those recommendations, Mr. Mahood.

And I think that is all that we have in terms of formal comments for this afternoon session. We will be back tonight for a 7 o'clock meeting, and a 6 o'clock open house.

And, for your information, we are going to be doing a similar set of meetings on the Catawba Nuclear Power Plant on June 27th at the Rock Hill, South Carolina City Hall.

And thank you all for being here, and send us your written comments if you so desire. There are copies of this document out on the desk, and we are adjourned. Thank you.

(Whereupon, at 3:12 p.m. the above-entitled matter was concluded.)

Transcript of the Evening Public Meeting on June 12, 2002, in Huntersville, North Carolina

[Introduction, Mr. Cameron]
[Presentation by Mr. Tappert]
[Presentation by Ms. Franovich]
[Presentation by Mr. Wilson]
[Presentation by Ms. Harty]

E-1 Mr. Collins: My name is John Collins, I'm from the local paper here. I wanted to ask you why you skipped any presentation about the transmission lines, the Section 1.5?

Ms. Harty: Well, I was just trying to hit some of the highlights. We have, in the past, done the full thing, and it takes quite a while.

But let me, did you have specific questions on that?

E-1 cont Mr. Collins: I do, yes. It has come up recently in Huntersville Board considerations because of an extension, a thoroughfare. Talking with a curator at the NC State University, I understand that the sunflowers are very a man-friendly plant that likes to seed environments.

And it does very well in and around transmission lines, because of all the upheaval in the soils. I also understand that most energy utility companies are using herbicides now along their transmission lines to keep back growth, rather than cut it.

How does that affect any possibility for the growth of Schweinitz's sunflower?

Ms. Harty: For this site the line is a very short transmission line area. It just goes across the road to the 525 and 230 KV switchyards. So in this case, for this plant, we were able to actually look at what was there. I mean, it was very easy to do, we are not talking hundreds of miles of right-of-way that we had to look at.

So that was examined in depth. Now, these transmission lines do hook up to other lines that were, in one case we covered a lot of those lines for the Oconee plant.

I'm not sure that is getting exactly at the answer to your question.

Mr. Collins: Is there anybody else from the --

Ms. Harty: Actually, maybe Charlie, do you want to handle that one?

Mr. Cameron: Charlie, do you have the --

Ms. Harty: This is Charlie Brandt, he is our terrestrial ecologist. So he was actually out there on the team, looking for sunflowers.

Mr. Brandt: Well, it kind of depends on the different levels of the question that you want answered.

First off, just for this plant what Becky said is correct, that the only aspect of the transmission line that is involved in this proposed action is that chunk between the plant itself and the switchyard. It is real short, and Chic Gaddy did a walk-through survey on that area, and did not identify any of those sunflowers, or any of the other sensitive plants in that zone.

You are correct that Schweinitz's sunflower does seem to favor, or at least maybe that is where people look for it, it seems to favor transmission lines.

And I can't speak in general for the transmission line maintenance practices throughout the Duke Power system. But, generally, the us of herbicide is going more and more into restricted use, rather than broadcast use.

So, in other words, it is focused right on specific plants that are targeted, the trees that are going to grow too tall, rather than a broadcast herbicide.

That is another reason why a lot of these plants are found in right of ways, because of the maintenance program.

[Presentation by Mr. Palla]

Mr. Cameron: Thank you, Bob. Any questions on the severe accident portion? Mr. Mahood, here you are.

F-1 Mr. Mahood: Thank you. In reading the bits about cost benefits, which are dispersed throughout the paper that I received, the document here, I was a little bit puzzled by the definition of benefit.

Reading over it, it seemed that if you want to be totally cynical about it, benefit would be the protection of the public's health and safety, whereas the cost would be what it would cost Duke if the balance to the public health and safety exceeded a certain point.

And since Duke is ensured by the Price-Anderson Act, and has a cap on its liabilities, that definitely lowers Duke's cost a great deal, although the impact on the public health and safety might be considerable.

And so that if you look at it as sort of a suspicious way, which is the way I think that the informed public should look at just about everything, it seems to be saying that as long as the damages that the power company would have to pay don't exceed the cost of preventing any damage to the public, then it is better to avoid, well, it is better for the bottom line, simply not to spend the extra money to protect the public.

That is one impression one could gain from this, and correct me if I'm wrong.

Mr. Palla: Well, let me try to clarify that. To begin with the methodology is a well-developed and -reviewed methodology, and it has been in use for many years.

Now, I can understand being skeptical about what assumptions go into this. My understanding of it is that insurance, even though Duke has insurance against accidents, do not come into play in this analysis.

So they do not get credit for insurance. The cost of an accident is treated as a societal cost, that society has to pay. Even if they were insured, someone has to pay that. That is the concept there.

So insurance is not a factor. And, similarly, damage to the public, the health effects, these are all, if you can avert them, these are all benefits.

So if you can keep the plant online you actually don't need replacement power, so replacement power comes into play. That would be, you can avert an accident. That is another thing in your favor.

But the insurance doesn't get any weight in this analysis, it can't be used as far as doing this analysis.

Mr. Mahood: I'm sorry, but we are in kind of --

Mr. Cameron: Let's get you in the transcript, Mr. Mahood.

Mr. Mahood: I'm sorry, but we seem to be in a little bit of a semantic muddle here, because I'm
F-2 speaking of the cost, I thought that in the document cost referred to the cost to the nuclear industry to do what is necessary to protect the public.

And the benefit is the protection of the public, and you are speaking of the cost to the public, so we are getting a little --

Mr. Palla: Well, let me try to --

Mr. Mahood: -- muddled here, because I'm talking about the cost of protecting the public, the cost of --

Mr. Palla: The cost in this analysis is the cost to implement the fix, the improvement. The benefit is all of these risk elements that you can avert.

So we are weighing the cost to implement this thing against the savings you get by not exposing the public to risk, by not losing the plant, and having to have replacement power. All of these outside costs related to cleaning up, there are off-site costs related to property damage.

These all, I know it may be confusing, but all of these costs get counted, you add them up and you compare them to the cost of implementing this thing.

So all of these different things that you avert are all collected on the same side of the equation, and then summed up and compared to the cost of the enhancement.

Mr. Cameron: So when we use the term cost benefit either specifically in the SAMA evaluation, or cost benefit generally in the environmental impact statement context, it may have a very specific and narrower meaning than some of the broader costs and benefits that Mr. Mahood is referring to?

Mr. Palla: Yes. Maybe the confusion comes from the fact that we basically add up these other costs, and then we label them as benefits. But we compare the cost of the fix to make this improvement, and then here are all these other averted costs which we count as a benefit of putting the fix in.

And we basically look at that balance between the cost of making the improvement versus all of the benefits that you would reap from reducing the risk.

Mr. Cameron: Does anybody else from -- thank you, Bob, for that. I think that helps. I just wondered if anybody else from the NRC team wanted to talk to how the term cost benefit is used in the environmental impact statement process?

(No response.)

Mr. Cameron: I would just say that after we are done tonight perhaps we could talk a little bit more with Mr. Mahood, in person, about that.

Are there any other questions on this particular aspect? Yes, sir?

Mr. Knox: Good evening, my name is Gary Knox, I'm a resident of Cornelius, and have been fortunate enough to be part of this community for a long, long time.

G-1 Looking at the application, the CFR Part 54, or Section 10, whatever, the renewal application process began prior to September 11th. Is there a supplement to this report as it relates to new findings, new information?

I see in here request for additional information subsequent to September 11th. And that would be my question.

Mr. Palla: I am probably not the best person to answer this. I think it goes to the scope of what is included in this, but I don't know if --

Mr. Cameron: Let me just see if we can get a little bit of clarification. Are you specifically concerned about security terrorism considerations?

G-1 cont Mr. Knox: I would not ever dramatize that element, as much as I would if you look at the conclusion, and read it verbatim, it says that additional plant improvements to further mitigate severe accidents are not required at McGuire units, etcetera, as part of the license renewal pursuant to.

I'm assuming those guidelines were written prior to September 11th, the application process started since then, I think we live in a new world. My question is, is this conclusion, or its draft, been amended or changed since that day?

Mr. Palla: It has not been. This conclusion is based on existing regulations. And these other security concerns are being addressed in a separate action, and haven't been brought back into this process.

G-1 cont Mr. Knox: There are additional findings, and the request for additional information will not be, I'm assuming that supplement, whenever it is going to appear, would be available to the public, as part of the application?

Mr. Cameron: This is Rani Franovich.

Ms. Franovich: Let me try to address your question. You are concerned about the implications of the events of September 11th. And what the Staff is looking at is the same concern you have, which is really a current issue, it is not unique to the extended operation.

So the Staff is evaluating actions that need to be taken by the industry to address those concerns right now. So this is not a license renewal issue, it is a current issue that we are addressing via a separate process, under 10CFR Part 50.

Mr. Cameron: So, in other words, like any plant, whether they are under license renewal or not, is going to have to meet whatever comes out of the new evaluation?

Ms. Franovich: Precisely.

G-1 cont

Mr. Knox: I think you did answer my question, the events of September 11th are not part of the renewal license application?

Ms. Franovich: Correct. And as Jim indicated, the concern you have applies to all nuclear power plants, regardless of whether they are pursuing renewal, or not. So that is why we are pursuing it now.

Mr. Knox: I understand. I may not be satisfied with the answer, but I understand.

Ms. Franovich: I think we are still trying to get our arms around the answer.

Mr. Knox: I understand.

Mr. Cameron: And, again, that may be one of those issues that perhaps we could talk to this gentleman after the meeting.

But, John, do you want to add anything?

Mr. Tappert: Yes, just a couple of things. I don't want you to have the impression that the absence of us addressing this as part of license renewal process means we are not looking at safeguard issues in general.

The Commission, and the whole federal government, has been mobilized since September 11th to address homeland security issues, and the Commission has done a number of things to address that issue.

We've created a whole new organization in our agency just to look at safeguards issues. The Commission has ordered a top-to-bottom review, a complete look at all the safety requirements.

And while we are performing that assessment we've also issued orders to each and every power plant, including McGuire, to implement interim compensatory measures to address security concerns.

So the fact that it is not a license renewal issue means that we don't want to wait 20 years to address it. It doesn't mean that the Commission doesn't take these issues seriously, and has taken serious steps to take them on.

G-2

Mr. Knox: My question is, I would like to separate -- the security issues I believe, are separate and prudent from relative to whether or not improvements for security and severe accident mitigation need to be addressed.

Apparently you are saying that because we have the current regulations they don't need to be addressed? Security needs to be addressed, but I think it would be my opinion that we should be leery as opposed to --

Ms. Franovich: I think what the answer to your question is, is that severe accidents, within the context of license renewal, do not involve terrorist threats.

However, there are, of course, those implications outside of license renewal. That as John Tappert indicated, the Staff, the Commission, and the federal government, is in the process of addressing this. Does that answer your question?

Mr. Knox: It does.

Mr. Cameron: Thank you.

Mr. Knox: Thank you very much.

[Presentation by Mr. Wilson]

F-3 Mr. Mahood: Sorry, but I do have one. Suppose the week after next, or the month after next, the new National Security Agency, or whatever they call themselves, were to impose new NRC regulations taking post-9/11 into account.

Would this process go on just as before, or on the same schedule, or would the whole thing sort of start over again?

Mr. Cameron: John, do you want to try that?

Mr. Tappert: Yes. If the Commission may very well issue additional regulations addressing security issues in response to the 9/11 attacks, those will be taken on a plant by plant basis, for all 103 operating reactors, irrespective of which ones are at license renewal, or not.

So the short answer is that this process will continue as it is, because this is addressing an extension issue, and an additional 20 years. The safeguards issues are today issues, and will be addressed today by all the operating reactors.

Mr. Cameron: I think it is probably hard to speculate on what exactly the result would be. I suppose it is conceivable that new regulations would say, well, let's take a look back, a careful look at license renewal, or something like that.

I mean, it is hard to say what would happen. But thank you, John.

Okay. Let's go to you for some more formal comment at this point. And we are going to hear first from Duke Energy Corporation, hear about the rationale for license renewal process, some of the vision behind that, and we are going to ask Mr. Brew Barron, who is the site vice president for the McGuire station, to come up and say a few words to us.

Mr. Barron: Thank you, Chip, thank you for the opportunity. I just have a few short remarks, if I may.

I really want to start off by giving some recognition to the hard working employees at McGuire, and throughout Duke Energy, that do work at McGuire. Over the past 21 years, it is their hard work, dedication, and contributions, that have made McGuire the safe, reliable, and world-class operating nuclear power plant that it is today.

They are the folks that have done the hard work, that have achieved the great results, and really deserve all the credit. I would also like to thank the NRC, the Agency has defined and codified, and implemented a license renewal process which is both thorough and predictable.

H-1 Reading through the results of the draft environmental impact statement, the thoroughness, the completeness with which the Staff and the contractors have performed their work is very apparent.

But, just as importantly, they've completed that work on or ahead of their initial estimated schedule on that. And from a business standpoint, our ability to make timely and informed business decisions, that is also very important to us.

And the Agency, both the Commission themselves, and the Staff, are to be commended on their very good work in that area.

H-2 We are still reviewing the draft EIS. Initially it looks like we very much agree with the conclusions that have been reached. We do have our technical experts continuing to go through the report.

And any comments that we have we will provide in writing, and we will provide them on or before the requested date of August 2nd.

I guess the last group I would like to address is our neighbors, the community. We appreciate the support that we've gotten at the facility over the past 21 years of operation.

Being a good neighbor is very important to us at McGuire. The actions that we take to ensure that the plant is operated safely, that it is a reliable source of economical power to our customers is extremely important to us, and every decision we make, day in and day out, takes into account whatever we can do to minimize the environmental impact, any impact that we would have on the safety of the community around us.

I thank the community for their support, and again thanks for the opportunity to get up and speak.

Mr. Cameron: Thank you, Brew. Next I'm going to ask Mr. Robert Mahood to come up. Mr. Mahood, would you like to say a few words to us?

Mr. Mahood: Thank you. I feel that both the people at Duke Power, and the people that work at NRC are in a very difficult position right now, because they are still having to deal with all these questions on the pre-9/11 regulations.

F-4 And although your document says repeatedly there is no new information about most of the issues here, about safety, and these are mostly about the operational requirements, and that sort of thing, I do feel that there are now new circumstances.

One of the new circumstances is the enormous population explosion that is taking place around here, and which is ongoing. So that instead of a few thousand people around the plant, living around the plant when the plant was first licensed, we now have hundreds of thousands of people living around both the McGuire and Catawba plants.

And the evacuation possibilities have increased enormously because there has been much improvement in the roads around here. And I expect that some of our visitors from Washington may have been caught in a traffic jam or two between this afternoon's meeting and this evening's, so you know what I'm talking about.

If I were an Al Qaeda operative I would make sure that there were a couple of accidents on I77, just to ensure that nobody got away expeditiously.

The thinking of local branch of FEMA, which is the Mecklenburg emergency management office, is clearly, I have quotations on this from Mr. Broome, who is in charge of the office, via the television, that they are thinking in pre-9/11 terms.

He says that, yes, we could probably evacuate everybody in less than six hours, assuming that we already cleared the lakes, we've already cleared the schools, we've already cleared all the business offices.

Well, now you are talking about a long time. After hearing that I called the Charlotte Mecklenburg schools, and asked them how long, they gave me their safety officer, and he said, it would take about an hour and a half, an hour to an hour and a half to get all the kids evacuated.

I couldn't understand that, because it takes hours, and hours, and hours, to get the kids to school, in three different shifts on the buses, plus parents driving them, and so on.

F-5 And it turned out, well, he was only thinking in terms of evacuating a ten-mile radius. Well, if a plane is driven into the spent fuel containment areas, there isn't going to be hours and hours to evacuate. We are going to have to get out immediately, the sooner the better, five minutes would be ideal.

F-6 But I think that communities need to start passing ordinances that say you can't build any more houses, and bring any more people into harm's way, if you can't get out in at least two hours from the evacuation zone, whether it be a ten-mile radius, or a 25-mile radius, or 50-mile radius.

F-7 That is something that we haven't heard about, really. If a plane crashed into the spent fuel pools and casks which contain 20, or 30, or 40, or 50 times as much radioactive material as is actually contained inside these domes, which are highly touted for being so well fortified.

The other point I would like to make is that it may well not be any funny looking guy with a beard, and a big nose, and a strange name like Kai Al Hicby, or something like that, who does the job.

There have already been precedents. An Egyptian pilot probably deliberately drove a plane full of passengers into the ocean. A Chinese pilot probably deliberately drove his plane into the ground with all passengers on board.

There are 800 people, about five, who are seriously disturbed. And some of them can be airline pilots, or Air Force pilots, Coast Guard pilots, and so on. So the person who actually does this thing may well be American, is not suspected by anybody, with an ordinary name like John Wayne.

And everyone will say, afterwards, he seemed like such a nice, straight-forward, reliable guy, with a good work record, and everything.

F-8 We need to be prepared against that type of thing. And I would like to see some visible preparation. I would like to see them starting to lay down very thick concrete above all of the spent fuel depositories, as soon as possible.

I would also like to see something visible in the way of protection of the nuclear plants, such as the balloons that we used in World War II to protect London against the Nazi planes, only these will have to be anchored at 9,000 feet, and 5,000, and 12,000, they only need to be anchored at maybe 500 feet or less, 300 feet, maybe.

So it shouldn't be expensive at all, and it would be a visible sign to the public that something, something is being done against this threat. It would also be a sign to the crazy guy in the airplane, that this is not such a good target.

F-6 cont Right now we are making this area into a better and juicier, and juicier, and juicier target, by selling more and more subdivisions to people, crowding them into the areas around here.

And we are talking about a license renewal 20 years from now, to go on for another 20 years. What do you think it is going to look like around here 20 years from now, if we just go on building, and building, and building?

And what is it going to look like 30 years from now, when there is still ten years to go? We need to do something visible, and tangible, to avert a tragedy in this area. Thank you very much.

Mr. Cameron: Thank you, Mr. Mahood.

And anybody else, comment, any questions, before we break up tonight? Again, the NRC staff and our experts will be here. I was glad that we had a chance, at least, for one of them to expound on their area of expertise. But we do have others here.

I would just thank all of you for taking the time out of your evening to come down and to share your comments, and concerns with us.

And John, do you have anything you want to add at this point? Well, then we are adjourned for the evening, thank you all.

(Whereupon, at 8:30 p.m., the above-entitled matter was concluded.)