

Appendix A

Comments Received on the Environmental Review

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Part I - Comments Received During Scoping

On September 20, 2001, the U.S. Nuclear Regulatory Commission (NRC) published a Notice of Intent in the Federal Register (66 FR 48489), 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 Catawba Nuclear Station, Units 1 and 2, 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 with the issuance of the Federal Register Notice. The NRC invited the applicant; Federal, State, 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 November 22, 2001.

The scoping process included two public scoping meetings, which were held in the Council Chamber at the City Hall, located at 155 Johnston Street, Rock Hill, South Carolina, on October 23, 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 four attendees (six 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 November 29, 2001. In addition to the comments provided during the public meetings, two e-mail messages and one letter 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 gives the Commenter ID associated with each set of comments. Individuals who

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

6
 7 **Table A.1.** Individuals Providing Comments During Scoping Comment Period
 8

9 10	Commenter ID	Commenter	Affiliation (If Stated)	Comment Source
11	A	Doug Echols	Rock Hill, SC	Afternoon Scoping Meeting
12	B	Vance Stine	Clover, SC	Afternoon Scoping Meeting
13	C	Mike Channell	York County Office of Emergency Management	Afternoon Scoping Meeting
14	D	Gary Peterson	Catawba Nuclear Station	Afternoon Scoping Meeting
15	E	Margot Rott	Catawba Nuclear Station	Afternoon Scoping Meeting
16	F	Dennis Merrill	York Technical College	Afternoon Scoping Meeting
17	G	Mark Farris	York County Economic Development Board	Afternoon Scoping Meeting
18	H	Janet Zeller	Blue Ridge Environmental Defense League	Afternoon Scoping Meeting
19	I	Steve Taylor	Palmetto Council Boy Scouts	Afternoon Scoping Meeting
20	J	Lou Zeller	Blue Ridge Environmental Defense League	Afternoon Scoping Meeting
21	K	John Byrd	Lower Lake Wylie Association	Afternoon Scoping Meeting
22	L	Tim Morgan	York County Chamber of Commerce	Afternoon Scoping Meeting
23	M	Don Moniak	Blue Ridge Environmental Defense League	Afternoon Scoping Meeting
24	N	Mike Bush	Daniel Stowe Botanical Garden	Afternoon Scoping Meeting
25	O	Ann Barton	York County Adult Day Care Services	Afternoon Scoping Meeting
26	P	Nate Barber	Winthrop University	Afternoon Scoping Meeting

1	Q	Don Moniak	Blue Ridge Environmental Defense League	Evening Scoping Meeting
2	R	Mike Channell	York County Office of Emergency Management	Evening Scoping Meeting
3	S	Gary Peterson	Catawba Nuclear Station	Evening Scoping Meeting
4	T	Margot Rott	Catawba Nuclear Station	Evening Scoping Meeting
5	U	Angela Viney	South Carolina Wildlife Federation	Evening Scoping Meeting
6	V	Gregg Jocoy		Evening Scoping Meeting
7	W	Janet Zeller	Blue Ridge Environmental Defense League	Evening Scoping Meeting
8	X	Lewis Patrie	Physicians for Social Responsibility	Evening Scoping Meeting
9	Y	Mary Olson	Nuclear Information and Resource Service	Evening Scoping Meeting
10	Z	Lou Zeller	Blue Ridge Environmental Defense League	Evening Scoping Meeting
11	AA	Glenn Carroll	Georgians Against Nuclear Energy	Evening Scoping Meeting
12	AB	Ed FitzGerald		Evening Scoping Meeting
13	AC	Trey Eubanks	York, SC	Evening Scoping Meeting
14	AD	Judith Aplin		Electronic mail
15	AE	Hugh Jackson	Public Citizen's Critical Mass Energy and Environment Program	Electronic mail
16	AF	Edmund FitzGerald	Sierra Club	Written comments at Evening Scoping Meeting
17	AG	Jesse Riley	Carolina Environmental	Letter

18
19 Specific comments were categorized and consolidated by topic. Comments with similar specific
20 objectives were combined to capture the common essential issues raised by the commenters.
21 The comments fall into one of several general groups. These groups include
22

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- 1 • Specific comments that address environmental issues within the purview of the NRC
2 environmental regulations related to license renewal. These comments address
3 Category 1 or Category 2 issues or issues that were not addressed in the GEIS. They
4 also address alternatives and related federal actions.
5
- 6 • General comments (1) in support of or opposed to nuclear power or license renewal or
7 (2) on the license renewal process, the NRC's regulations, and the regulatory process.
8 These comments may or may not be specifically related to the Catawba license renewal
9 application.
10
- 11 • Questions that do not provide new information.
12
- 13 • Specific comments that address issues that do not fall the within or are specifically
14 excluded from the purview of NRC environmental regulations. These comments
15 typically address issues such as the need for power, emergency preparedness, current
16 operational safety issues, and safety issues related to operation during the renewal
17 period.
18

19 Each comment applicable to this environmental review is summarized in this section. This
20 information, which was extracted from the Catawba Scoping Summary Report, is provided for
21 the convenience of those interested in the scoping comments applicable to this environmental
22 review. The comments that are general or outside the scope of the environmental review for
23 McGuire are not included here. More detail regarding the disposition of general or
24 nonapplicable comments can be found in the summary report. The ADAMS accession number
25 for the summary report is: ML020870376.
26

27 This accession number is provided to facilitate access to the document through the Public
28 Electronic Reading Room (ADAMS) <http://www.nrc.gov/reading-rm.html> .
29

30 The following pages summarize the comments and suggestions received as part of the scoping
31 process that are applicable to this environmental review, and discuss the disposition of the
32 comments and suggestions. The parenthetical alpha-numeric identifier after each comment
33 refers to the comment set (Commenter ID) and the comment number.
34

35 Comments in this section are grouped in the following categories:
36

- 37 1. Comments Concerning Aquatic Ecology Issues
- 38 2. Comments Concerning Terrestrial Resource Issues
- 39 3. Comments Concerning Threatened and Endangered Species Issues
- 40 4. Comments Concerning Air Quality Issues
- 41 5. Comments Concerning Human Health Issues

- 1 6. Comments Concerning Socioeconomic Issues
- 2 7. Comments Concerning Postulated Accident Issues
- 3 8. Comments Concerning Uranium Fuel Cycle and Waste Management Issues
- 4 9. Comments Concerning Alternate Energy Sources
- 5 10. Comments Concerning Safety Issues Within the Scope of License Renewal

6 **Comments**

7 **1. Comments Concerning Aquatic Ecology Issues**

8
9
10
11 As stated in 10 CFR Part 51, Table B-1, Category 1 aquatic ecology issues include:

- 12
- 13
- 14 – Entrainment of fish and shellfish in early life stages
- 15 – Impingement of fish and shellfish
- 16 – Heat shock

17
18 **Comment:** Duke Energy has conducted water testing on Lake Wylie since the early 1970s.
19 The areas we study include water quality, water flow at Catawba's intake and discharge
20 structures and aquatic ecology. Our evaluation of historical data indicates no changes to Lake
21 Wylie's aquatic resources as a result of Catawba's operation. Using scientific data, we
22 concluded that our continued operation would not have an adverse effect on the Lake or River.
23 (E-1)(T-1)

24
25 **Comment:** They've been an excellent steward, certainly, of Lake Wylie, a tremendous
26 resource for us from visitors and convention-related activities. We certainly place that as one of
27 our jewels in our environmental resources, and they've been an excellent steward of Lake Wylie
28 and the Catawba River. (G-3)

29
30 **Response:** *The comments are noted and are supportive of license renewal at Catawba.*
31 *Aquatic ecology will be discussed in Chapter 2 and Chapter 4 or the SEIS. The comments*
32 *provide no new information; therefore, they will not be evaluated further.*

33 34 **2. Comments Concerning Terrestrial Resource Issues**

35
36 As stated in 10 CFR Part 51, Table B-1, Category 1 terrestrial resource issues include:

- 37
- 38 – Cooling tower impacts on crops and ornamental vegetation
- 39 – Cooling tower impacts on native plants
- 40 – Bird collisions with cooling towers
- 41 – Cooling pond impacts on terrestrial resources

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- 1 – Power line rights-of-way management (cutting and herbicide application)
- 2 – Bird collisions with power lines
- 3 – Impacts of electromagnetic fields on flora and fauna (plants, agricultural crops,
- 4 honeybees, wildlife, livestock)
- 5 – Floodplains and wetland on power line rights-of-way

6
7 **Comment:** One of the other offshoots of the Backyard Wildlife Habitat Program is the WAIT
8 Program that Margot mentioned. And, in fact, Duke Power is one of the founding partners.
9 Having worked to protect and enhance wildlife habitat at the World of Energy in Seneca in
10 1996, the South Carolina Wildlife Federation, the South Carolina Department of Natural
11 Resources and the National Wild Turkey Federation worked with Duke Power at that site and
12 was so impressed with the outcome that this new wildlife habitat education program was
13 created. (U-1)

14
15 **Comment:** The Catawba Nuclear Station is our most recent WAIT site, and they've gone over
16 and above the standard requirements in creating their WAIT site. They've hosted one of our
17 habitat steward classes in 2000 at Energy Quest. In addition, they initiated partnerships with
18 three schools in the area. York Junior High School, Goldhill Elementary, and Goldhill Middle
19 School are being assisted in the creation of their schoolyard habitats, their outdoor classrooms,
20 by the staff of Catawba Nuclear Station. There are numerous wildlife habitat management and
21 protection initiatives at Catawba Nuclear Station to include osprey towers. To date, four have
22 been installed to encourage an osprey nest on-site. Wood duck boxes have been installed in
23 the standby nuclear service water pond. Wildlife food plots have been planted, wetlands within
24 the site boundary have been identified and signs posted. Selective mowing is in place to
25 provide meadows for wildlife habitat. Educational brochures are available at the visitors center
26 with information on butterfly gardens and native wild flowers. An educational nature trail is
27 available with a brochure to identify plants, trees and vines on the trail. (U-2)

28
29 **Response:** *The comments are noted. The comments discuss the participation of Duke as a*
30 *steward of the environment. They provide no new information and will not be evaluated further.*
31 *The appropriate descriptive information regarding the terrestrial ecology of the site will be*
32 *addressed in Chapters 2 and 4 of the Catawba SEIS.*

34 **3. Comments Concerning Threatened and Endangered Species Issues**

35
36 As stated in 10 CFR Part 51, Table B-1, the following is a Category 2 issue:

- 37
38 – Threatened or endangered species

39
40 **Comment:** The second category we evaluated is plants and animals. As part of our study,
41 Duke Energy worked with Dr. L.L. Gaddy, a well-known environmental scientist, to perform a

1 study of threatened and endangered species at the Catawba site. Results of the study indicate
2 there were no state or federally recognized threatened or endangered species identified; in fact,
3 Catawba has a thriving population of quail, beaver, bobcats, Canada geese, osprey, deer and
4 many other wildlife species. Catawba has many ongoing environmental initiatives managed in
5 cooperation with the South Carolina Department of Natural Resources, the South Carolina
6 Wildlife Federation and the Wild Turkey Federation. The Catawba site is in the final stages of
7 becoming WAIT-certified by the South Carolina Wildlife Federation, and wait, W-A-I-T, stands
8 for Wildlife and Industry Together. Catawba hosts a butterfly garden and various other wildlife
9 areas. Based on review of our operating history and a look at our continued operation, we
10 conclude that license renewal will not adversely affect plants and animals. (E-2)(T-2)

11
12 **Response:** *The comment is noted. The appropriate descriptive information provided by Duke*
13 *regarding the terrestrial ecology of the site will be addressed in Chapters 2 and 4 of the SEIS.*

14 15 **4. Comments Concerning Air Quality Issues**

16
17 As stated in 10 CFR Part 51, Table B-1, Category 1 air quality issues include:

- 18
19 – Air quality effects of transmission lines

20
21 **Comment:** Duke Power has an excellent record of maintenance, and the nuclear generation is
22 the cleanest way, I think, for us to address the major air quality problems which we have in the
23 Charlotte metro area. (A-4)

24
25 **Comment:** The third [environmental] category we evaluated is air quality. Nuclear power
26 provides about 50 percent of Duke Energy's total electric generation in the Piedmont Carolinas.
27 And by design, nuclear power is [a] clean air energy source. Data shows Catawba's operation
28 has not adversely impacted the region's air quality, and there are no plans associated with
29 license renewal that would alter the air quality. (E-3)(T-3)

30
31 **Comment:** I also think that the concept of clean air is an important one to look at. (N-2)

32
33 **Response:** *The comments are noted. Air quality impacts from plant operations were*
34 *evaluated in the GEIS and found to be minimal. These emissions are regulated through*
35 *permits issued by the U.S. Environmental Protection Agency and South Carolina. Air quality*
36 *effects are a Category 1 issue as evaluated in the GEIS and will be discussed in Chapter 2 of*
37 *the SEIS. The comments provide no new information and, therefore, will not be evaluated*
38 *further.*

1 **5. Comments Concerning Human Health Issues**

2
3 As stated in 10 CFR Part 51, Table B-1, Category 1 human health issues include:

- 4
5 – Radiation exposure to the public during refurbishment
6 – Occupational radiation exposure during refurbishment
7 – Microbiological organisms (occupational health)
8 – Noise
9 – Radiation exposures to public (license renewal term)
10 – Occupational radiation exposures (license renewal term)
11

12 **Comment:** There are some real problems with describing nuclear power as clean, safe
13 technology. It may not produce the kinds of pollution that we see from Duke's seven coal plants
14 in North Carolina, and I'm not sure how many in South Carolina, but it does produce ionizing
15 radiation. And this ionizing radiation is legally emitted from the Catawba Plants in day-to-day
16 operations of the Plant. You can't see it, you can't taste it, you can't feel it, but it's there, and
17 legal emissions can cause, I think, excessive cancer deaths. In addition, ionizing radiation
18 causes birth defects, and it causes immune disorders. So the true health impacts of nuclear
19 power can't be looked at in terms of what your ozone levels are. (H-1)
20

21 **Comment:** One of the specifics that we are looking at for the license extension is the number
22 of people that would be projected to die an early death from cancer from the additional nearly
23 two decades, right at two decades, or operation of the Catawba Plants. And at this point, in
24 looking at that date, we believe that that number exceeds what is allowed under Nuclear
25 Regulatory Commission rules. (H-2)
26

27 **Comment:** The EPA—just as an aside, a parenthetical piece here, the EPA, if you live near a
28 chemical plant, requires that that chemical plant kill no more than one person in a million from
29 cancer. The requirements for the Nuclear Regulatory Commission for nuclear power plants are
30 much, much less rigid, so these can be very dangerous plants, and we want to know from the
31 NRC just how many people in this area can be expected to die an early death from the license
32 extension, and we will be presenting that analysis ourselves. (H-3)
33

34 **Comment:** Even the NRC admits that with no accident, no problem, just plain old routine
35 activities, 12 excess deaths will occur from 20 years of reactor operation at any reactor in the
36 United States, which is a ludicrous proposition to suggest that such a thing is totally linear and
37 totally quantifiable. But I'll take the bait. Okay, 12 deaths from extending Catawba's license.
38 Well guess what? There's 100 reactors looking for license extensions. That's 1,200 deaths
39 from license extension, according to NRC. Not me. I'd multiply it by at least ten times. So that

1 takes us back to what I started with: acceptable end risk. NRC knows that [I have] never
 2 accepted the same definition as acceptable. I can't get up before you without reminding you
 3 that you should be regulating to protect children. (Y-6)
 4

5 ***Response:*** *The comments are noted. Radiation exposure to the public and workers was*
 6 *evaluated in the GEIS and determined to be a Category 1 issue. The NRC's regulatory limits*
 7 *for radiological protection are set to protect workers and the public from the harmful health*
 8 *effects of radiation on humans. The limits were based on the recommendations of standard-*
 9 *setting organizations. Radiation standards reflect extensive scientific study by national and*
 10 *international organizations (International Commission on Radiological Protection [ICRP],*
 11 *National Council on Radiation Protection and Measurements, and National Academy of*
 12 *Sciences) and are conservative to ensure that the public and workers at nuclear power plants*
 13 *are protected. The radiation exposure standards are presented in 10 CFR Part 20, "Standards*
 14 *for Protection Against Radiation," and are based on the recommendations in ICRP 26 and 30.*

15
 16 *The comments provide no new information, and do not pertain to the scope of license renewal*
 17 *as set forth in 10 CFR Parts 51 and 54. Therefore, they will not be evaluated further.*
 18

19 **6. Comments Concerning Socioeconomic Issues**

20
 21 As stated in 10 CFR Part 51, Table B-1, Category 1 and 2 socioeconomic issues include:
 22

23 Category 1

- 24
- 25 • Public services: public safety, social services, and tourism and recreation
- 26 • Public services, education (license renewal term)
- 27 • Aesthetic impacts (refurbishment)
- 28 • Aesthetic impacts (license renewal)
- 29 • Aesthetic impacts of transmission lines (license renewal term)
- 30

31 Category 2

- 32
- 33 • Housing impacts
- 34 • Public services: public utilities
- 35 • Public services, education (refurbishment)
- 36 • Offsite land use (refurbishment)
- 37 • Offsite land use (license renewal term)
- 38 • Public services, transportation
- 39 • Historic and archaeological resources
- 40

Appendix A

1 **Comment:** There are many economic advantages, I believe, to us having a reliable and clean
2 source of energy. (A-3)
3

4 **Comment:** The employees of Catawba are an important part of this community. They live and
5 work here, are active in supporting area civic, charitable and business endeavors. They
6 volunteer in the community, they contribute financially to organizations serving Rock Hill, York
7 County and this region. (A-6)
8

9 **Comment:** Duke Energy's been a valued corporate citizen for many years. Its employees are
10 hardworking members of surrounding communities, active in our schools, churches and civic
11 organizations. In addition to the obvious asset of generating safe, reliable energy for our
12 homes and businesses, Duke Energy participates in the activities of our area, annually
13 supporting the efforts of the United Way, the Red Cross, Adopt-a-Highway Programs and other
14 civic activities. (AC-2)
15

16 **Comment:** They have been a good corporate citizen of our community. (B-1)
17

18 **Comment:** Duke Power and Catawba, as Mayor Echols and Mayor Stine have already
19 mentioned, have always been good citizens of York County. They're a very big asset to York
20 County in our view. We are constantly working with Catawba on emergency planning issues,
21 on safety issues. (C-1)
22

23 **Comment:** We are active volunteers in the community. For 11 years, we've hosted Boy Scout
24 encampments where our employees teach classes in electricity, crime prevention, energy,
25 computers, electronics and communications. Over 1,000 boys have attended these events at
26 Catawba Station. Our employees are also part of the Junior Achievement Program, partnering
27 with local schools teaching business skills, providing tutors and mentors. And one thing I'm
28 particularly proud of is each year our employees collect coats and blankets for area shelters
29 and gather school supplies for area schools. They also volunteer hundreds of hours to United
30 Way agencies, and every year our employees donate well over \$100,000 to area United Way
31 agencies. Catawba employees also are involved in blood drives and donate annually over 300
32 units of blood. And we've also hosted Women in the Outdoors and Jake's Events and
33 partnered with local schools to create schoolyard habitats and nature trails. (D-2)(S-2)
34

35 **Comment:** In addition to being safely operated, Catawba has provided many benefits for the
36 community. For example, Duke Energy has contributed millions of dollars in property taxes to
37 York County. We have over 1,100 employees helping maintain a strong economy in this area.
38 Our annual payroll of over \$70 million helps support local businesses and industries. And as
39 Gary mentioned earlier, our employees spend hundreds of hours each year volunteering for
40 community, school, civic and church programs and projects. (E-5)(T-5)
41

1 **Comment:** I hope you'll give appropriate positive recognition to the record, because I don't
2 think anything speaks more loudly than the record-the record on participation in all of our
3 community and civic activities. (F-3)
4

5 **Comment:** Certainly, there are obvious benefits to having the Catawba Nuclear Station in York
6 County, primarily the tax benefits. (G-1)
7

8 **Comment:** Without a facility like this and other supporting industries, we would not have some
9 of the highest SAT scores, if not the highest, in the State of South Carolina. Our school
10 systems have the highest percentage of teachers with master's degrees, and then we also have
11 the highest average teacher salary. It's tremendously beneficial to us. And at a ten and a half
12 percent assessment, industries like Duke pay two and a half times the property taxes that our
13 residential development does. (G-2)
14

15 **Comment:** The Catawba Nuclear Power and the millions of dollars of revenue that's been
16 generated from that Station has created an opportunity for York County to provide for the
17 health, safety and welfare of our citizens to a much greater extent than we would have without
18 it. (G-4)
19

20 **Comment:** They [scouts in York County and the Lancaster and Chester areas] have been
21 privileged to be invited to Duke Power property at the Catawba Nuclear Station for the last 11
22 years and accounting for 1,000 kids during that time to be taught a variety of different merit
23 badge skills. (I-1)
24

25 **Comment:** Duke Power Company, and Catawba Nuclear in particular, have been good
26 community stewards. They have been an outstanding community partner participating with us
27 locally as well as on a regional basis. When I think about the people that I know with Duke
28 Power Company, and in particular Catawba Nuclear Station, I know that they've taught kids first
29 aid, they've managed the Council's web site, which was the first nationally accredited Boy
30 Scouts of America web site in the nation. They have constructed camp shelters at Camp Bob
31 Harden, they've managed major programs, they've provided untold hours of volunteer
32 community service and provided support services to the scouting leaders in the surrounding
33 areas as well. (I-2)
34

35 **Comment:** These are good community stewards, these are good people, these are our
36 neighbors, and these folks live here, they're conscientious community partners. (I-3)
37

38 **Comment:** I think of Duke Energy as being at the top of that list as far as promoting a good
39 quality of life in this area. (L-1)
40

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1 **Comment:** Duke, as it was said earlier, has a history of being a good corporate citizen here in
2 York County. The majority of the employees live in the community. Duke employees are not
3 only involved in most of the major community organizations, they are actively encouraged by
4 Management to become involved in their local communities. And I want to stress this goes
5 beyond financial involvement and includes what I would call human capital or leadership to
6 these organizations. (L-3)
7

8 **Comment:** [On behalf of York County Adult Day Services,] I have been very blessed to find
9 that these people [Catawba employees] repeatedly come back and try and serve the community
10 needs. They started out with building a concrete path for wheelchair vans to unload the clients,
11 they screened in porches at the facilities, they assisted with new renovations, and this was to
12 meet the new DEHAC regulations, and this included safety precautions and guidelines. (O-1)
13

14 **Comment:** I think that Catawba Nuclear for us has been a very good neighbor. They are there
15 with the know-how and the heart to get the job done in this community, and they are quite
16 aware of the community needs, and we're proud of them. (O-2)
17

18 **Comment:** I think that Duke has been, and will hopefully continue to be, a good corporate
19 neighbor. (P-4)
20

21 **Comment:** I think that Catawba itself has proven to not only be an asset to our community by
22 generating power there, but I think they -- but also because they are an active neighbor in our
23 area. They're not just there as a corporation, they're there as a neighbor as well. (R-1)
24

25 **Comment:** In conjunction with Catawba Nuclear Station efforts to partner with schools, they
26 have a program underway to supply every elementary and middle school near Catawba Nuclear
27 Site, within a ten-mile radius, with environmental workshop backpacks that will include kits for
28 environmental and wildlife monitoring. In all of these conversation education programs, the
29 Catawba Nuclear Station has developed and sustained partnerships with the South Carolina
30 Department of Natural Resources, the South Carolina Wildlife Federation, the National Wild
31 Turkey Federation, the Stowe Botanical Garden, the Piedmont Council of the Boy Scouts of
32 America and the schools in the area, specifically the ones I mentioned earlier. (U-3)
33

34 **Comment:** their (Duke) employees are good citizens. (AD-2)
35

36 **Response:** *The comments are noted. The comments are supportive of license renewal at*
37 *Catawba, and are general in nature. The comments provide no new information; therefore,*
38 *they will not be evaluated further. Socioeconomic issues specific to the plant are Category 2*
39 *issues and will be addressed in Chapters 2 and 4 of the SEIS.*
40

1 **Comment:** We are also wanting the NRC to evaluate some liability issues. Thanks to our
2 friend, Mary Olson, from Nuclear Information and Resource Service, we were alerted that Duke
3 recently filed with the Federal Energy Regulatory Commission to set up a limited liability
4 corporation, thereby relieving them from the day-to-day operations liability at their nuclear
5 power stations. We want the socioeconomic impacts of the potential for this new limited liability
6 corporation to be factored into a complete EIS. (W-5)
7

8 **Comment:** In this EIS, you've got to look ahead, and you've got to figure that sometime in the
9 next 20 years we're not going to have a regulated energy market in the Southeast. And you've
10 got to look at Duke Power's behavior in the West, and you've got to ask yourself what's going to
11 happen to the municipalities and the co-ops when Duke is unregulated, and they have to sell at
12 their bond rate? And you've got to look at what kind of a white elephant Catawba's going to be
13 for those communities. (Y-8)
14

15 **Response:** *The comments are noted. The comments relate to corporate liability and energy*
16 *deregulation. These are NRC policy issues and are outside the scope of license renewal. The*
17 *comments provide no new information and, therefore, will not be evaluated further.*
18

19 **7. Comments Concerning Postulated Accident Issues**

20
21 As stated in 10 CFR Part 51, Table B-1, Category 1, postulated accidents issues include:

- 22 • Design basis accidents
- 23 • Severe accidents
- 24
- 25

26 The environmental impacts of design basis accidents is a Category 1 issue in the GEIS. Also,
27 the Commission has determined that the probability-weighted environmental consequences
28 from severe accidents (i.e., beyond design basis accidents) are small for all plants but that
29 alternatives to mitigate severe accidents must be considered for all plants that have not
30 considered such alternatives. See 10 CFR 51.53(c)(3)(iii)(L).
31

32 **Comment:** [During a plant tour, we learned that] the Plant was designed to withstand
33 tremendous forces, both natural and unnatural—what we were told, certainly, was that
34 earthquake, hurricane and commercial jetliner crash had all been tested in the laboratory-type
35 testing to be concurrent. (N-5)
36

37 **Response:** *The comment is noted. The comment states an awareness of the types of*
38 *accidents that the Catawba Nuclear Station was designed to withstand. The comment provide*
39 *no new information; therefore, it will not be evaluated further.*
40

1 **8. Comments Concerning Uranium Fuel Cycle and Waste Management Issues**

2
3 As stated in 10 CFR Part 51, Table B-1, Category 1 uranium fuel cycle and waste management
4 issues include:

- 5
6 • Offsite radiological impacts (individual effects from other than the disposal of
7 spent fuel and high level waste)
- 8 • Offsite radiological impacts (collective effects)
- 9 • Offsite radiological impacts (spent fuel and high level waste disposal)
- 10 • Nonradiological impacts of the uranium fuel cycle
- 11 • Low level waste storage and disposal
- 12 • Mixed waste storage and disposal
- 13 • On-site spent fuel
- 14 • Nonradiological waste
- 15 • Transportation
- 16

17 **Comment:** The longer a reactor operates, the more nuclear waste it generates. The nation
18 still has no workable solution for the disposal of deadly nuclear waste. (AE-3)

19
20 **Comment:** The NRC “believes that there is reasonable assurance that at least one mined
21 geological repository will be available within the first quarter of the twenty-first century, and
22 sufficient repository capacity will be available within 30 years beyond the licensed life for
23 operation of any reactor . . . ” (10 CFR 51.23) What if there isn’t? Since the commission
24 rendered it’s belief, it’s become just as reasonable to assume that there may in fact not be a
25 geological repository in the first quarter of this century, or the first half of it, for that matter.
26 What then? (AE-13)

27
28 **Comment:** If the NRC relicenses Catawba, nuclear waste, whether stored in pools or in dry
29 storage, would continue to accumulate over an additional 20 years of an extended license
30 period. What “reasonable,” to use the NRC’s word, grounds are there for preferring that option
31 to the no-option alternative in the Catawba SEIS? (AE-14)

32
33 **Comment:** The generic EIS, (6.4.6.7) states: “Within the context of a license renewal review
34 and determination, the Commission finds that there is ample basis to conclude that continued
35 storage of existing spent fuel and storage of spent fuel generated during the license renewal
36 period can be accomplished safely and without significant environmental impacts.” Does that
37 finding assume that a permanent repository will be built, or is the NRC stating that waste can be
38 stored safely, without impacts, indefinitely? (AE-15)

39

1 **Comment:** In previous nuclear power plant relicensing documents, the NRC has failed to
2 assign a level of significant impact to collective offsite radiological impacts from the fuel cycle
3 and from high level waste and spent fuel disposal (NUREG 1437, Supplement 5, Chapter 6). If
4 the NRC is tempted to reach a similar conclusion with the Catawba SEIS, it raises the question:
5 How can the NRC claim that relicensing is a preferable alternative to the no-action alternative,
6 when the waste disposal question is so uncertain that the NRC can't even assign it a level of
7 significance? (AE-16)

8
9 **Response:** *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 comment provides no new information; therefore, the comment will not be evaluated further.*

20 21 **9. Comments Concerning Alternative Energy Sources**

22
23 **Comment:** We're always looking at new alternatives to better serve our customers. During
24 this license renewal application process, we did look at many alternatives for providing-for
25 generating baseload electricity, such as conventional fossil generation, wind, solar and
26 photocells. But when compared to the amount of electricity generated by Catawba, these
27 alternatives were not selected because of environmental impacts, land use requirements,
28 inadequate electricity output and, finally, cost. (D-5)(S-5)

29
30 **Comment:** Any self-respecting environmental impact statement would have alternatives. And
31 alternatives to the licensing extension of the Catawba Plants would be the focus on safer
32 alternative energy, ones that would not be terrorist magnets, like wind farms. (H-9)

33
34 **Comment:** We need to look for other alternative types of things [energy sources] to move into
35 as our need for energy grows. (N-3)

36
37 **Comment:** As far as alternatives go, we heard earlier from Duke Energy that they evaluated
38 other sources of energy. However, what they didn't tell you is that in the Nuclear Regulatory
39 Guide 1437, Volume 1, Section 0.81 [8.1], the NRC has determined that a reasonable set of
40 alternatives should be limited to analysis of single, discrete electric generation sources and only
41 electric generation sources that are technically feasible and commercially viable. So the

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1 alternatives that were not considered as reasonable power, some of which Duke Energy earlier
2 claimed twice today, twice at McGuire that they did analyze and never really did, is [include]
3 wind, photovoltaic cells, solar thermal power, hydroelectric generation, geothermal, wood
4 waste, municipal solid waste, energy crops, delayed retirement of non-nuclear units, imported
5 power, conservation and combination of alternatives. The only thing they did analyze was for
6 replacement power alternatives is your basic centralized plants, such as conventional coal-fired,
7 oil- and gas-fired, gas-fired only, combined cycle, advanced light water nuclear reactor, even
8 though that's not necessarily technically feasible at this time. That remains to be seen. I would
9 wager that the advances that have occurred in wind energy, although this isn't the best part of
10 the world for it. (Q-4)

11
12 **Comment:** We also believe that energy alternatives have not been adequately addressed by
13 the Duke license extension application. And the NRC must do a much better job than Duke did
14 of evaluating realistic alternatives to a 19-year license extension of the Catawba and McGuire
15 reactors. (W-4)

16
17 **Comment:** So what are the alternatives? There are alternatives. Get it straight, guys. There
18 are alternatives, because we're not talking about today's jobs. We're talking about jobs that
19 start, what, 20 years from now? Right. Well, guess what? All of the alternatives have jobs too.
20 And guess what? Duke could provide them. So get it straight. Offshore wind is a great poten-
21 tial. If there's a single order for 500 megawatts of solar, it will be down below natural gas in its
22 kilowatt hour charge. Just make one big order for solar, and it's going to be affordable. (Y-7)

23
24 **Comment:** I'd like to comment here tonight on the lack or the inadequate analysis done by
25 Duke Energy in its submission for the license renewal at Catawba, the inadequate job done in
26 analyzing alternative sources which could be used to generate the power, which is now
27 provided by the Catawba Nuclear Station. (Z-1)

28
29 **Comment:** The State of South Carolina has a huge wind potential located offshore, out of sight
30 of some of the beautiful beaches. (Z-2)

31
32 **Comment:** The National Environmental Policy Act requires that the NRC consider all
33 reasonable alternatives to a proposal, including the no-action alternative. In this case, that
34 would mean not renewing the license for the Catawba units. Public Citizen believes that
35 inasmuch as the expiration dates on the current Catawba licenses are a staggering more-than
36 two decades away, the most prudent and wise course the NRC could take would be to adopt a
37 no-action alternative in the Catawba supplemental environmental impact statement (SEIS).
38 What would be the environmental and socio-economic impacts of the no-action alternative?
39 Given that the licenses at Catawba units 1 and 2 will expire in 2024 and 2026, respectively, it is

1 hard to imagine the no-action alternative could conceivably lead to any additional negative
2 environmental or socio-economic impacts on either the licensee, the community or the region's
3 land, air and water. (AE-6)
4

5 **Comment:** How can the NRC justify the assertion (implicit if the relicensing alternative is
6 preferred) that the impacts from relicensing will be smaller than the impacts from the no-action
7 alternative, when relicensing is an event that as a practical matter doesn't take effect for more
8 than two decades? (AE-9)
9

10 **Comment:** But wait-there's more! Because if you relicense now, the NRC will throw in a bonus
11 analytical conclusion: no alternative energy sources are viable, and none will be—at least not for
12 40 years! (AE-11)
13

14 **Comment:** The generic EIS “assumes that conservation technologies produce enough energy
15 savings to permit the closing of a nuclear plant.” (NUREG-1437, Vol.1, 8.3.14). Is that true with
16 respect to the Catawba plant? (AE-17)
17

18 **Comment:** What is the projected energy conservation from demand-side management in the
19 Catawba service area over the next 20, 30 and 45 years? (AE-18)
20

21 **Comment:** By how much will new federal appliance energy standards, implemented or
22 adopted since the GEIS was written, effect energy conservation in the Catawba service area
23 over the next 20, 30 and 45 years? (AE-19)
24

25 **Comment:** The GEIS tends to dismiss solar and wind power as “baseline” sources of
26 replacement. What is the potential of solar and wind power as replacement if considered as
27 distributive sources, rather than baseline sources, over the next 20, 30 and 45 years? (AE-20)
28

29 **Comment:** What are the environmental and socio-economic impacts of solar and wind power if
30 considered as distributive sources rather than baseline sources, and within that scenario, why
31 would the impacts from the relicensing alternative be preferred. (AE-21)
32

33 **Comment:** Could a combination of alternatives, blending conservation, energy efficiencies,
34 distributive power, including fuel cells, and renewable energy sources constitute a cost-effective
35 replacement for the Catawba capacity? Is the prospect of such combination being cost-
36 effective more, or less, likely in 20, 30 and 45 years? (AE-22)
37

38 **Comment:** In previous nuclear power plant relicensing documents, the NRC has dismissed
39 combination alternatives, such as a mix of conservation and distributive power, as “not
40 considered feasible at this time” (draft NUREG-1437, Supplement 5, 8.3). If the NRC is

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1 tempted to reach a similar conclusion with regard to Catawba, it begs the question: why does
2 the NRC care what is feasible “at this time” when the applicant’s current licensing is not going to
3 expire for more than two decades? (AE-23)
4

5 **Comment:** If, after rigorous analysis of the questions raised above regarding alternative
6 energy sources, it is determined that those sources may likely constitute a cost-effective
7 alternative to relicensing, then, given the distant expiration dates of the applicant’s current
8 licensing, why is relicensing preferable to the no-action alternative? (AE-24)
9

10 **Response:** *The comments are noted. The GEIS included an extensive discussion of*
11 *alternative energy sources. Environmental impacts associated with various reasonable*
12 *alternatives to renewal of the operating licenses for Catawba Nuclear Station, Units 1 and 2, will*
13 *be discussed in Chapter 8 of the SEIS.*
14

15 **Comment:** We have another economic problem, and maybe the EIS surprises me. Analyze it.
16 Because there’s a requirement to do cost/benefit analysis and comparison. Surprise me. Put
17 in the alternative energies. (AA-4)
18

19 **Response:** *The comment is noted. A cost-benefit analysis is specifically excluded from the*
20 *analysis of the impacts of license renewal. However, environmental impacts associated with*
21 *various reasonable alternatives to renewal of the operating licenses for Catawba will be*
22 *discussed in Chapter 8 of the SEIS.*
23

24 **10. Comments Concerning Safety Issues Within the Scope of License Renewal**

25

26 **Comment:** A subsidiary of Duke has been rapidly developing the buffer zone. So the buffer
27 zone’s going away. It’s not—it’s new information that the NRC needs to look at. (H-7)
28

29 **Comment:** I want to briefly mention that our concerns encompass issues like the aging of
30 these reactors, impacts on the Catawba River, impacts on endangered species and microbial
31 impacts. (Y-2)
32

33 **Comment:** There are some things about Catawba and McGuire that are pretty obvious. The
34 containment system, the freeze-thaw cycle from the ice condenser technology, which is used is
35 causing warpage so that doors and valves do not open properly, which creates safety
36 conditions. (AA-1)
37

38 **Comment:** The Catawba Plant is one of the thin-walled, ice condenser designs and is more
39 vulnerable to a catastrophic early containment failure that would release radioactive materials
40 into the environment. (AB-3)(AF-3)
41

1 **Comment:** Whereas, the Catawba and McGuire nuclear plants represent four of only nine U.S.
2 reactors with thin-walled, so called "ice-condenser" concrete containments that the Nuclear
3 Regulatory Commission estimates are significantly more vulnerable to a catastrophic early
4 containment failure that would release radioactive material to the environment. (AF-9)
5

6 **Comment:** Shortly after the Oconee Plant was relicensed, they found these initiation and
7 growth of significant cracks in PWR Alloy 600 weldments, apparently at growth rates that are
8 faster than previously modeled. So this represents what Dave Lockbaum, who's a nuclear
9 scientist, nuclear engineer with the Union of Concerned Scientists, said that the aging failures
10 that have occurred in the last few years indicate beyond a reasonable doubt that the aging
11 management programs in support of relicensing are inadequate because they are not
12 preventing equipment failures, such as the DC Summer hot leg nozzle to pipe weld crack that
13 had some potential generic issues, such as they found that they were due to extensive weld
14 repairs during construction occurred on those areas. It added stress to those. (Q-6)
15

16 **Comment:** Correct assessment of reactor vessel integrity. The reactor is currently limited to
17 200 refuelings, i.e. cycles of heating and cooling. It is subjected to the stress of internal
18 pressure and to stresses due to the thermal gradients from inside to outside making for a
19 differential in thermal expansion. Fatigue is the term used to characterize the losses of tensile
20 properties due to repeated cycles of stress. Tensile property losses are also caused by
21 irradiation from the reactor fuel. Coupons of the reactor metal are placed inside the reactor to
22 monitor tensile property losses. But they are not subject to stress fatigue. As a result they do
23 not accurately reflect the tensile properties of the fatigue-subjected reactor. (AG-1)
24

25 **Comment:** The reactor stud bolts are exposed to greater stress than the reactor vessel. Are
26 they replaced at refuelings? Are they the same material as the vessel? On what evidence are
27 the tensile properties of the stud bolts based? (AG-2)
28

29 **Response:** *The comments are noted. The NRC's environmental review is confined to*
30 *environmental matters relevant to the extended period of operation requested by the applicant.*
31 *To the extent that the comments pertain to safety of equipment and aging within the scope of*
32 *license renewal, these issues will be addressed during the parallel safety analysis review*
33 *performed under 10 CFR Part 54. Operational safety issues are outside the scope of 10 CFR*
34 *Part 51 and will not be evaluated further in the SEIS. The comments provide no new*
35 *information and, therefore, will not be evaluated further in the context of the environmental*
36 *review. However, the comments will be forwarded to the project manager for the license*
37 *renewal safety review for consideration.*
38

Appendix A

1 **Part II - Comments Received on the Draft SEIS**

2

3 (Reserved for comments received on the draft SEIS.)