U.S. Nuclear Regulatory Commission
Public Meeting to Discuss the Draft Environmental Impact Statement
for the Combined Licenses Application for
William States Lee III Nuclear Station Units 1 and 2
Thursday, January 19, 2012

Agenda:

Two Meeting Sessions:
1:00 p.m. to 4:00 p.m. and 7:00 p.m. to 10:00 p.m.

I. Welcome and Introductory Statements – 10 minutes

II. U.S. Army Corps of Engineers, Charleston District, Statements – 5 minutes

III. Presentation of NRC Environmental Review Process and DEIS Findings – 25 minutes

IV. Public Comments – 2.25 hours

V. Closing Statements – 5 minutes

Included in this Packet:

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1. Information Sheet:
   William States Lee III Nuclear Station
   Units 1 and 2 Combined Licenses
   Environmental Review

2. Meeting Slides Handout

3. DEIS Comment Submission Sheet

4. NRC Public Meeting Feedback (NRC FORM 659)

U.S.NRC
UNITED STATES NUCLEAR REGULATORY COMMISSION
Protecting People and the Environment

Information Sheet on the William States Lee III Nuclear Station Units 1 and 2 Combined Licenses Environmental Review

OVERVIEW

Duke Energy Carolinas, LLC (Duke) submitted an application to the U.S. Nuclear Regulatory Commission (NRC) in December 2007 for combined licenses to construct and operate two AP1000 nuclear units at the William States Lee III Nuclear Station site in Cherokee County, SC. In September 2009, Duke submitted another environmental report regarding the creation of Make-Up Pond C, a supplemental source of cooling water for Lee Nuclear Station during periods of drought.

As part of the NRC's review of Duke's combined licenses application, the staff performed an environmental review. The results of that review are documented in the draft Environmental Impact Statement (EIS). The US Army Corps of Engineers (USACE), Charleston District, partnered with the NRC on this environmental review.

WHERE TO FIND MORE INFORMATION

Copies of Duke's environmental reports and the NRC's draft EIS can be found at the Cherokee County Public Library, 300 E. Rutledge Street, Gaffney, SC, and on the NRC's website at http://www.nrc.gov/reactors/new-reactors/col/lee.html.

The draft EIS can also be viewed at http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr2111/.

Environmental Project Manager

Sarah Lopas (NRC)
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ENVIRONMENTAL REVIEW MILESTONES

Application submitted to NRC	Dec 2007
Initial Scoping Meeting	Mar 2008
Pond C Scoping Meeting	Jun 2010
Publication of Draft EIS	Dec 2011
Public Meetings on Draft EIS	Jan 2011
Publication of Final EIS	Oct 2012

Comments on the Lee Nuclear Station Draft EIS will be accepted through **March 6, 2012**.

Your input on the draft EIS is an important aspect of the NRC's environmental review. Here are a few ways you can share your comments with us.

Email: Lee.COLAEIS@nrc.gov

Mail: Chief, Rulemaking and Directives Branch
Division of Administrative Services
Office of Administration
Mailstop TWB-05-B01M
US Nuclear Regulatory Commission
Washington, DC 20555-0001

Fax: 301.492.3446

Online: www.regulations.gov –
Search Docket Number NRC-2008-0170

Today's Public Meeting:
Submit verbally on the transcript
Submit in writing

THE NRC'S NEW REACTOR LICENSING PROCESS

The NRC is responsible for issuing combined licenses (COLs) for commercial nuclear power facilities. The combined licenses, if issued by the NRC, would give Duke the authorization to build and operate two AP1000 nuclear units at the Lee Nuclear Station site.

The NRC's evaluation of Duke's application involves two reviews:

- Safety Review
- Environmental Review

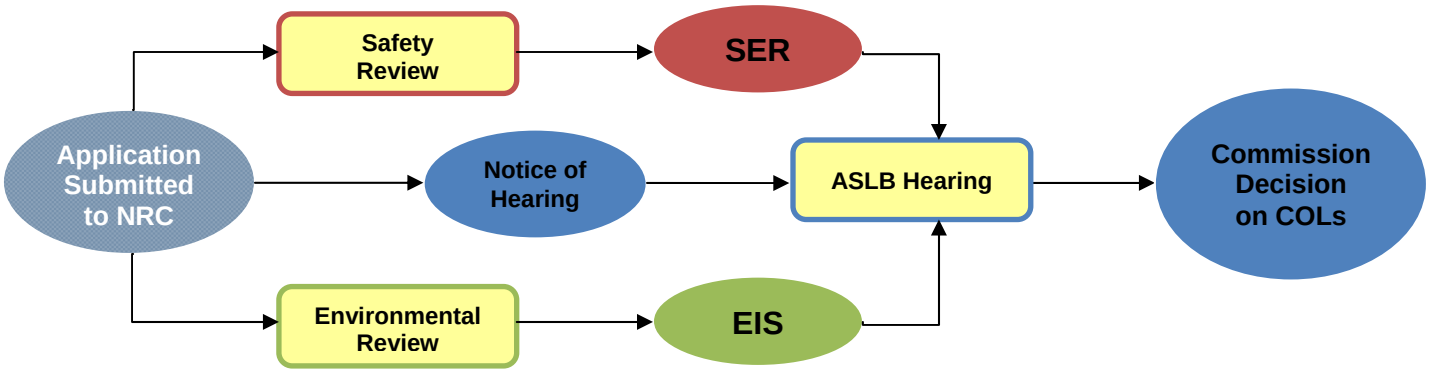

Figure 1. Simple Overview of the NRC's Review of a COL Application

The purpose of the **safety review** is to ensure the new reactors are safely built and operated according to NRC regulations and requirements. The review includes an evaluation of the design of the facility, siting requirements, quality assurance programs, physical security, and emergency preparedness. The NRC's analysis will be documented in the **Safety Evaluation Report (SER)**.

The **environmental review** serves to document the environmental impacts of building and operating new nuclear reactors. The environmental review includes input from the public, consultation and coordination with local, state, and Federal agencies, tribal nations, site visits, information audits, review of the applicant's Environmental Report, and other documentation. Subject areas reviewed include, for example: water quality and use, ecology, land use, air quality, socioeconomics, and environmental justice. The NRC's analysis of the environmental impacts is documented in the **Environmental Impact Statement (EIS)**.

The Advisory Committee on Reactor Safeguards (ACRS) – an independent group of technical experts – reviews each COL application and the NRC's corresponding safety evaluation, and reports its results to the NRC's five-member Commission. A mandatory public hearing will be conducted by the Commission after publication of the final EIS and SER. Additionally, a contested proceeding may be conducted by the Atomic Safety and Licensing Board (ASLB) panel, who will make a recommendation to the Commission on whether to grant the COLs. The Commission makes the final licensing decision.

Duke submitted an application for two new units that references the AP1000 (Advanced Passive 1000) design. The AP1000 reactor design amendment final rule was affirmed by the Commission in December 2011. More information about the AP1000 can be found online at: http://www.nrc.gov/reactors/new-reactors/design-cert/amended-ap1000.html.

PUBLIC MEETING

DRAFT ENVIRONMENTAL IMPACT STATEMENT FOR WILLIAM STATES LEE III NUCLEAR STATION UNITS 1 AND 2 COMBINED LICENSES APPLICATION

January 19, 2012
Gaffney, South Carolina

William F. Burton, Branch Chief
Sarah Lopas, Environmental Project Manager
Richard Darden, U.S. Army Corps of Engineers

U.S. Nuclear Regulatory Commission

- NRC's mission:
  - Protect public health and safety;
  - Promote common defense and security;
  - Protect the environment.
- The NRC is an independent agency.
- The NRC has over 30 years of experience regulating operating reactors and other civilian uses of nuclear materials.

Source: U.S. NRC

Meeting Purposes

- Describe the NRC's environmental review process.
- Provide the environmental review schedule from today forward.
- Share NRC's preliminary findings and recommendation with you.
- Describe how you can provide comments.
- **Listen to and gather your comments.**

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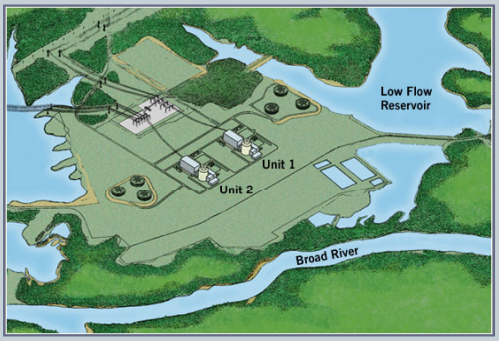
Application for Combined Licenses

- Duke applied for combined licenses (COLs) for the William States Lee III Nuclear Station Units 1 and 2 in December 2007.
- Duke submitted the Make-Up Pond C supplemental environmental report in September 2009.
- COLs would give Duke permission to build and operate two AP1000 reactors at the Lee Nuclear Station site.
  - The AP1000 reactor design was approved by the Commission on 12/22/2011.
- Two concurrent reviews for the COL application – safety and environmental.



Proposed Lee Nuclear Station Site Layout (Source: Duke ER 2009)

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Environmental Review

- The NRC is the lead agency, and the U.S. Army Corps of Engineers, Charleston District, is a cooperating agency in the preparation of the environmental impact statement (EIS).
- The NRC and USACE review team:
  - Reviewed Duke's environmental report and Make-Up Pond C supplemental report;
  - Asked 224 Requests for Additional Information;
  - Held audits at Lee Nuclear Station, Make-Up Pond C, alternative sites, and Duke's headquarters in May 2008, August 2010, and June 2011; and
  - Consulted Federal, State, Tribal, and local agencies.

US Army Corps of Engineers.

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Draft Environmental Impact Statement for William States Lee III Nuclear Station Units 1 and 2

Richard L. Darden, Ph.D.
Regulatory Division
U.S. Army Corps of Engineers
Charleston District

January 19, 2012

US Army Corps of Engineers
BUILDING STRONG®

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U.S. Army Corps of Engineers Regulatory Role and Authority

- USACE is the Federal agency responsible for administering Section 404 of the Clean Water Act.
- USACE regulates the discharge of dredged or fill material into virtually all waters of the United States.
- USACE permit decisions are “Federal actions” and must comply with the National Environmental Policy Act (NEPA).

Cooperating Agency Status

- NRC is serving as the “Lead Agency” in the preparation of the EIS for the Lee Nuclear Station.
- USACE is serving as a “Cooperating Agency” in the preparation of this EIS.
- The final EIS will serve as the environmental document on which USACE permit decisions will be based for this proposed project.

Public Participation with USACE

- Public involvement and participation are important to USACE and are critical to EIS preparation.
- Comments on the draft EIS received at this meeting and during the remainder of the comment period (through March 6, 2012) will be considered in the preparation of the final EIS and subsequent permit decisions.

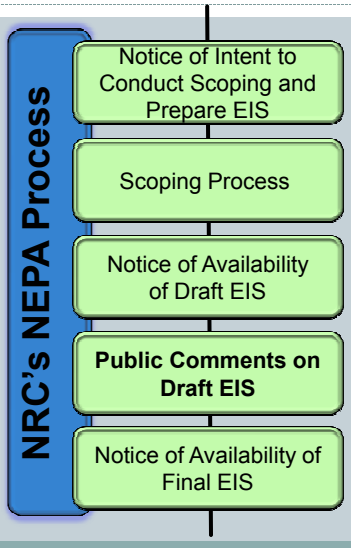
Proposed Impacts to Waters of the U.S.

- Lee Nuclear Station Site
  - Streams: none
  - Wetlands: 0.21 acre
  - Open Waters: 12.05 acres
- Make-Up Pond C
  - Streams: 65,977 linear feet
  - Wetlands: 3.66 acres
  - Open Waters: 17.58 acres
- Transmission Lines, Pipelines, and Railroad Spur
  - Streams: 1,308 linear feet
  - Wetlands: 1.57 acres
  - Open Waters: none

USACE Permit Decisions

- Permit application submitted by Duke in November 2011 is currently available on USACE Public Notice.
- USACE Public Notice is available at http://www.sac.usace.army.mil/assets/pdf/regulatory/publicnotices/PNs20111216/SAC-2009-122-SIR_Cherokee.pdf.
- USACE permit decision on the proposed nuclear project will likely precede NRC combined licenses decision, but will be made after the final EIS has been completed.

Environmental Review Process



- Published *Federal Register* notices on March 20, 2008 and May 24, 2010.
- Two scoping periods: March-May 2008 and Supplemental May-July 2010.
- Published draft EIS *Federal Register* notice on December 21, 2011.
- **Comment period on draft EIS is December 23, 2011 to March 6, 2012.**
- Final EIS expected to be published in October 2012.

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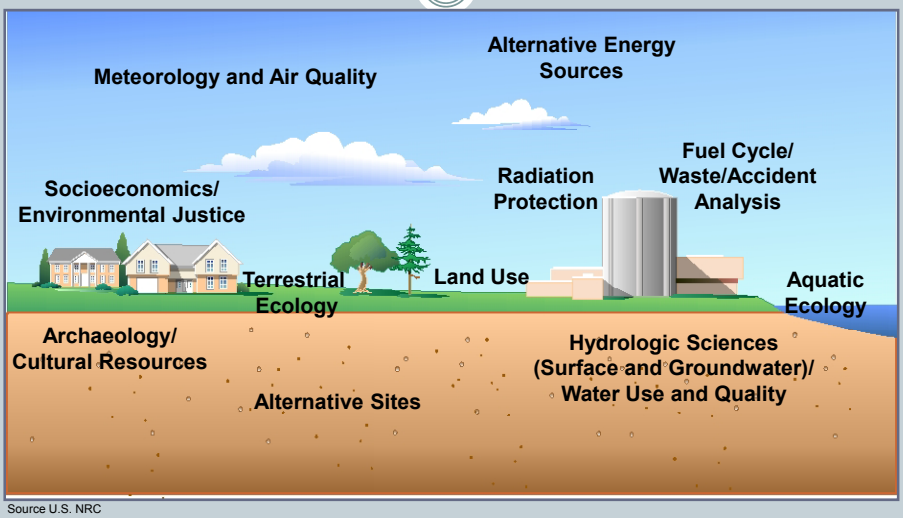
Organization of EIS

- Chapter 1 – Introduction
- Chapter 2 – Affected Environment
- Chapter 3 – Site Layout and Plant Description
- Chapter 4 – Construction Impacts
- Chapter 5 – Operation Impacts
- Chapter 6 – Fuel Cycle, Transportation, and Decommissioning Impacts
- Chapter 7 – Cumulative Impacts
- Chapter 8 – Need for Power
- Chapter 9 – Environmental Impacts of Alternatives
- Chapter 10 – Conclusions and Recommendation
- References
- Appendices A – J (Scoping Comments are in Appendix D)

Resource Areas



Source U.S. NRC

How Impacts are Quantified

NRC has established three levels of impacts:

SMALL:	Effect is not detectable, or so minor it will neither destabilize nor noticeably alter any important attribute of the resource.
MODERATE:	Effect is sufficient to alter noticeably, but not destabilize, important attributes of the resource.
LARGE:	Effect is clearly noticeable and sufficient to destabilize important attributes of the resource.

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Duke Water Management Plan

Duke's water management plan would ensure Broad River flows do not fall below 483 cubic feet per second (cfs).

Broad River Flows (cfs)	Water Source
Greater than 538 cfs	All water withdrawn from Broad River
Between 538 and 483 cfs	Consumptive water needs withdrawn proportionally from Ponds B then C
Less than 483 cfs	All consumptive water needs withdrawn from Ponds B then C

Broad River (Source: PNNL 2010)

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Surface Water Resource Impacts

- Under normal conditions, Lee Nuclear Station would withdraw 78 cfs or about 4% of Broad River mean annual flow; consumptive use would be 55 cfs or about 3% mean annual flow.
- To comply with Clean Water Act regulations, Duke would only refill Ponds B and C July through February, and Broad River flows would not fall below 483 cfs.
- Review team concluded surface water impacts would be SMALL.

Make-Up Pond B (Source: PNNL 2010)

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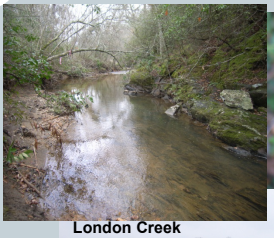
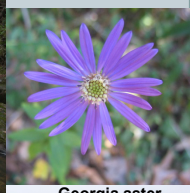
Ecological Impacts

- Evaluated impacts on birds, fish, wildlife, plants, and wetlands on the Lee Nuclear Station site and vicinity, including Make-Up Pond C.
- Consulted with SC Dept. of Natural Resources and U.S. Fish and Wildlife Service.
- Concluded that impacts to terrestrial and aquatic ecology would be MODERATE for building and SMALL for operations.
- Building impacts would be dominated by the loss of terrestrial and aquatic habitat from development of Make-Up Pond C.



London Creek (Source: PNNL 2010)



Georgia aster (Source: Gardening-by-State.com 2012)

Part of Make-Up Pond C Site (Source: PNNL 2010)

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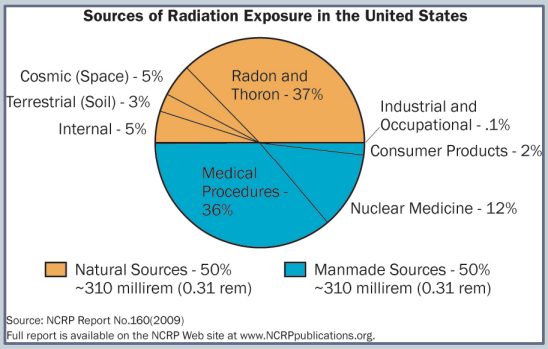
Radiological Impacts

- Analysis includes impacts on construction workers, members of the public, plant workers, and wildlife.
- Doses to workers and members of the public would be within regulatory limits and impacts would be SMALL.
- Doses to wildlife would also be below relevant guidelines and impacts would be SMALL.
- Population dose from normal operations would be a small fraction of the population dose from natural sources of radiation.



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Cumulative Impacts

- Cumulative impacts could occur when impacts from the proposed action are combined with effects from other past, present, and reasonably foreseeable future projects or actions.
  - Examples include:
    - Operating nearby nuclear plants (Catawba, McGuire, Summer Unit 1)
    - Proposed Summer Units 2 and 3
    - Proposed Cliffside Steam Station Unit 6
    - Existing hydroelectric facilities on the Broad River and its tributaries
    - Various small manufacturing facilities discharging wastewater into the Broad River
- Cumulative adverse impacts ranged from SMALL to MODERATE, with MODERATE impacts to land use, surface-water use, terrestrial and aquatic ecology, cultural and historic resources, traffic, and greenhouse gas emissions.

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Energy and Site Alternatives

Energy Alternatives

- Coal, natural gas, combination of alternatives (energy efficiency + renewables + natural gas).
- None of the feasible alternatives would be environmentally preferable.

Alternative Sites

- Perkins – near Salisbury, NC
  Keowee – near Clemson & Seneca, SC
  Middleton Shoals – near Iva, SC
- None of the alternative sites would be environmentally preferable to the Lee Nuclear Station site.

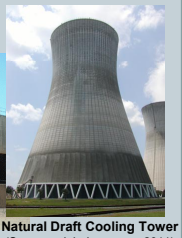
(Source: U.S. DOE)

Alternative Sites (Source: PNNL, EIS Fig. 9-2)

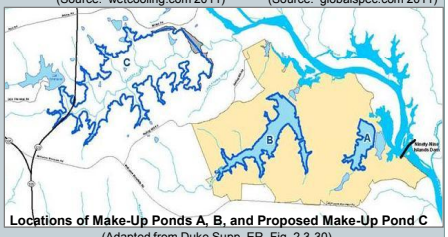
System Design Alternatives

- Heat-Dissipation System Alternatives
  - Natural draft cooling towers, once-through cooling, cooling ponds, spray canals, dry towers, hybrid cooling towers, mechanical draft with plume abatement.
- Circulating-Water System Alternatives
  - Intake and discharge alternatives.
  - Water supply alternatives, including water reuse, use of groundwater, and the expansion of Make-Up Pond B.
- The review team identified no environmentally preferable system alternatives.

Mechanical Draft Cooling Towers
(Source: wetcooling.com 2011)



Natural Draft Cooling Tower
(Source: globalspec.com 2011)



Locations of Make-Up Ponds A, B, and Proposed Make-Up Pond C
(Adapted from Duke Supp. ER, Fig. 2.3-30)

Preliminary Recommendation

- The NRC staff's preliminary recommendation to the Commission is that the combined licenses be issued.
  - Based on Duke's environmental report; consultation with Federal, State, Tribal, and local agencies; the staff's independent review; public comments; and assessments summarized in the draft EIS.
  - None of the feasible alternative energy sources nor alternative cooling systems evaluated would be environmentally preferable to the proposed plant.
  - None of the alternative sites would be environmentally preferable to the Lee Nuclear Station site.

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Access to the Draft EIS

Sarah Lopas
1-800-368-5642, Extension 1147
Sarah.Lopas@nrc.gov

www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr2111

(Source: Cherokee County Public Library 2011)

Cherokee County Public Library
300 East Rutledge Avenue
Gaffney, South Carolina
(864) 487-2711

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Submitting Comments on Draft EIS

Lee.COLAEIS@nrc.gov

www.regulations.gov – *Docket Number NRC-2008-0170*

Chief, Rulemaking and Directives Branch (RDB)
Division of Administrative Services
Mailstop TWB-05-B01M
U.S. Nuclear Regulatory Commission
Washington DC, 20555-0001

Fax to RDB at (301) 492-3446

COMMENTS ARE DUE BY MARCH 6, 2012

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William States Lee III Nuclear Station, Units 1 and 2
DEIS Public Meeting

Thursday, January 19, 2011

Commenter Name: _____

Organization Name (if any): _____

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William States Lee III Nuclear Station, Units 1 and 2
DEIS Public Meeting

Thursday, January 19, 2011

NRC FORM 659
(12-2011)

U.S. NUCLEAR REGULATORY COMMISSION

Category
3

NRC PUBLIC MEETING FEEDBACK

Meeting Date: 01/19/2012

Meeting Title: William States Lee Nuclear Station Draft Environmental Impact Statement Mtg

In order to better serve the public, we need to hear from the meeting participants. Please take a few minutes to fill out this feedback form and return it to NRC.

1. How did you hear about this meeting?

☐ NRC Web Page ☐ NRC Mailing List ☐ Newspaper
☐ Radio/TV ☐ Other _____

		Yes	No (Please explain below)	Somewhat
2.	Were you able to find supporting information prior to the meeting?	☐	☐	☐
3.	Did the meeting achieve its stated purpose?	☐	☐	☐
4.	Has this meeting helped you with your understanding of the topic?	☐	☐	☐
5.	Were the meeting starting time, duration, and location reasonably convenient?	☐	☐	☐
6.	Were you given sufficient opportunity to ask questions or express your views?	☐	☐	☐
7.	Are you satisfied overall with the NRC staff who participated in the meeting?	☐	☐	☐

COMMENTS OR SUGGESTIONS: Thank you for answering these questions.

OPTIONAL ***Continue Comments on the reverse.*** ➪

Name _____ Organization _____

Telephone No. _____ E-Mail _____ ☐ *Check here if you would like a member of NRC staff to contact you.*

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