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Your ref:  
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Date: January 10, 2006

**SUBJECT: WESTINGHOUSE LICENSE SNM-1107 RENEWAL APPLICATION SUPPLEMENTAL ENVIRONMENTAL REPORT INFORMATION (TAC 31911)**

The following information is being provided by Westinghouse Electric Company (WEC) in response to the NRC Request for Additional Information dated November 17, 2005. This information further supplements the Environmental Report provided in Enclosure 2 of our renewal application submitted on September 29, 2005 per WEC letter number LTR-RAC-05-71 and information provided per WEC letter number LTR-RAC-05-98 submitted December 16, 2005.

*NRC Question 3: A discussion of cumulative effects of the proposed action, defined as "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person takes such other actions. Cumulative impacts can result from individually minor, but collective significant actions taking place over a period of time" (40 CFR 1508.7). Examples of cumulative impacts are listed in Section 4.2.5.2 of NUREG-1748, Environmental Review Guidance for Licensing Actions Associated with NMSS Programs (August 2003).*

With regard to the proposed action, the impacts on the environment would be as a result of air emissions, liquid discharges, solid waste disposal, and direct radiation exposure.

The total stack discharge (air emissions) of 511 microcuries uranium during 2004 corresponds to an annual TEDE dose of less than 0.4 mREM to an exposed individual living at the site boundary (using the EPA "Comply" meteorological code). This dose is less than the ALARA goal in NRC Regulatory Guide 8.37 and the SC-DHEC Licensing Guide, "ALARA Levels for Effluents from Materials Facilities" (10 mREM/year); less than the "dose constraint" level in 10CFR20.1101(d), and less than the investigation level in WEC procedures of 1 mREM/year. Air emissions from the CFFF are routinely monitored, the results are trended, and corrective actions are taken if necessary to ensure that emissions remain As Low As Reasonable Achievable (ALARA).

Liquid discharges from the CFFF are routinely monitored, the results are trended, and corrective actions are taken if necessary to ensure that discharges remain ALARA. Consideration has been given to pollutant discharges to surface water as a result of cumulative effects of the proposed action. Liquid discharges are only routinely made to the Congaree River through a diffuser, and typical dilution factors are greater than 10,000. It is not expected that there would be cumulative effects to lake, stream or river water as a result of the proposed action. Current discharge levels remain well within regulatory

requirements and are routinely monitored to ensure that environmental effects are minimal. In addition, process upsets have been anticipated, and controls exist to prevent or mitigate any postulated effects. Process upsets would be detected and corrected in a timely manner.

Liquid effluent monitoring requirements at the CFFF are in accordance with the National Pollutant Discharge Elimination System (NPDES) permit. It is not expected that liquid effluent discharges would result in the deterioration of recreational uses of water bodies. Liquid effluents are discharged to the Congaree River. The discharge volume is miniscule compared to the flow rate and volume of the river. The temperature of the discharge is close to ambient, and solids contents are low to preclude collection of sediments.

Groundwater around the CFFF is routinely monitored and evaluated. Observation of an upward trend initiates investigation and corrective action if necessary. Current groundwater remediation efforts are discussed in the WEC Environmental Report.

Solid waste management activities are conducted in accordance with SC-DHEC permits. Pollution prevention practices at the CFFF are in accordance with the Pollution Prevention Act of 1990, and WEC policy is to live within the intent of ISO 14001 (although certification is not being pursued). The CFFF generates both hazardous and non-hazardous solid waste. Hazardous waste is sent to permitted contractors for disposal. Non-hazardous waste is disposed of at a state permitted landfill. Low Level Radioactive Waste shipment summary information is provided in the WEC Environmental Report. Non-Radioactive solid waste volumes generated vary based on construction and other factors, and are sent to a local landfill. For the alternative, no radioactive waste would be generated during the construction phase of a replacement facility. Overall, only minimal waste management impacts would result from construction-generated wastes. Also for the alternative, both hazardous and non-hazardous waste volumes would be comparable to the preferred option once plant operations begin. It can be anticipated that technical advances in waste minimization would likely be included in the design of such a facility. However, continuous improvement efforts at the CFFF ensure that solid waste discharges are routinely monitored, evaluated, and corrective actions taken if necessary to ensure that discharges remain ALARA.

Radiological Exposures to the public from CFFF operations are primarily via air emissions results of which are described above. Based on using the TEDE compliance option, the contribution of dose from the liquid discharges will be negligible at the present liquid discharge levels (less than approximately 0.0003 mREM/year). Control of liquid discharges is based on adherence with ALARA principles and compliance with WEC Procedures and NRC Regulatory Guide 8.37. The CFFF Site workers average TEDE was 0.337 REM in 2004 and 0.376 mREM for 2003, where both are calculated using the dose coefficients in ICRP 68. Direct radiation exposure from the CFFF is routinely monitored, the results are trended, and corrective actions are taken if necessary to ensure that radiation exposure quantities remain ALARA.

Other than the CFFF itself, there is no classified industrial use or commercial use of the land within or immediately adjacent to the site boundaries. Most of the area is swamp-type land, unsuitable for commercial applications. Much of the land that makes up the site boundary is designated as agricultural. Residential and commercial development in the greater Columbia Metropolitan area is primarily to the Northeast and West of the City. The potential for major development surrounding the CFFF site is not likely during the license renewal period.

***NRC Question 4: A discussion of ecology, noise, visual and scenic resources, public and occupational health, and environmental justice including both affected environment and impacts, in accordance with 10 CFR 51.45 (b)(1), (b)(2), (b)(4) and (b)(5).***

As demonstrated in the WEC Environmental Report and the responses provided in WEC Letter, LTR-RAC-05-98, environmental impacts are well within regulatory requirements and do not constitute adverse environmental effects. Cumulative ecological impacts on habitats and biotic communities will be negligible. The CFFF is located on a semi-rural plot of approximately 1,158 acres, with 1,098 acres of the site undeveloped. The CFFF site is bounded by SC 48 (Bluff Road) to the north and by private property owners to the east, south, and west. The region around the CFFF site is sparsely settled, and the land is characterized by timbered tracts and wetland areas, penetrated by unimproved roads. The main manufacturing building for the CFFF is set back approximately 2,500 ft from the roadway and about 0.3 mi from the site boundary. No adverse noise (industrial operations) from the CFFF is detectable at the site boundary. Also, in consideration of visual and scenic resources, the CFFF structures blend into the environment and do not disturb the views of agricultural and wetlands surrounding the site.

Potential health impacts to members of the general public could occur if material released from the CFFF entered the environment and was transported from the site through the air, surface water, or groundwater. Off-site releases of uranium, because of the low specific activity of uranium, are small and are discussed in response to the previous question. For the workforce, industrial accidents can occur, as is the case in all work environments. In 2000, about 5,200 people in the United States were killed in accidents while at work, and approximately 3.9 million disabling work-related injuries were reported (National Safety Council 2002). The Occupational Safety and Health Act of 1970 provides OSHA the authority to prescribe and enforce standards and regulations affecting the occupational safety and health of private-sector employees. The CFFF operates in compliance with OSHA regulations, and has an aggressive worker safety management program in place. There has never been a death or a serious injury to a worker at the CFFF site. Current December 2005 statistics reflect a yearly Total Recordable Incident Rate of 1.16 and a Days Away Case Rate of 0.09. Although all work activities are conducted in as safe a manner as possible, there is a chance that workers could be accidentally killed or injured under the license renewal alternative, unrelated to any radiation or chemical exposures. As the alternative action would require new construction and additional D&D activity, the accident rates can be expected to be the same or higher for the alternative action.

The evaluation of environmental justice impacts is predicated on the identification of high and adverse impacts in surrounding areas, followed by a determination if those impacts would affect minority and low-income populations disproportionately. Analyses of impacts from operating the CFFF facility do not indicate high and adverse impacts for any of surrounding areas. The CFFF provides significant local employment, is partnered with local schools (i.e., Mill Creek Elementary), is active in the community, is a major supporter of the United Way, as well as provides training and support to local emergency response organizations. When the site was selected in the late 1960's, a main consideration was its location above the flood plain. The site was built prior to the concept of environmental justice considerations. Yet, there is no evidence indicating that minority or low-income populations would experience high and adverse impacts from continued CFFF operations in the absence of such impacts in the population as a whole.

Further, with routine facility and equipment maintenance and periodic equipment replacements or upgrades, it is believed that the CFFF will continue to be operated safely well into the future. If the operational characteristics (e.g., estimated releases of contaminants to air and water) of the facility

remained unchanged, it is expected that the annual impacts would be essentially the same as those presented in the WEC Environmental Report. Environmental impacts of a replacement facility should the license renewal not be granted are potentially more severe.

Any radioactive or hazardous waste generated as a result of the license renewal or alternatives would involve the commitment of associated land, transportation, and disposal resources as well as resources associated with the processing facilities for waste management. For the construction and operation of an alternate facility, the associated construction activities would result in both short-term and long-term losses of terrestrial and aquatic habitats from natural productivity. After closure of the existing or a new facility, it would be decommissioned and could be reused, recycled, and/or remediated. For the alternative option, disposal of solid non-hazardous waste resulting from new facility construction, operations, and decontamination and decommissioning would require additional land at a sanitary landfill site, which would be unavailable for other uses in the long term.

A commitment of a resource is considered *irreversible* when the primary or secondary impacts from its use limit the future options for its use. An *irretrievable* commitment refers to the use or consumption of a resource that is neither renewable nor recoverable for later use by future generations. The major irreversible and irretrievable commitments of natural and man-made resources related to the license renewal and the alternatives analyzed in this environmental evaluation include the land used to dispose of any waste products; energy usage, which is applicable to both options; and materials used for construction of the necessary replacement facility that could not be recovered or recycled.

***NRC Question 5: A list of Federal permits, licenses, approvals, and other entitlements which must be obtained in connection with the proposed action and a description of the status of compliance with these requirements and with other applicable environmental standards and requirements, in accordance with 10 CFR 51.45(d).***

The following tables provides a listing of the applicable permits, licenses and registrations (other than those directly included in the license renewal request) which WEC currently complies with and are pertinent to the licensed activity.

| LICENSE, PERMIT, ETC.  | EFFECTIVE DATE    | EXPIRATION DATE                       |
|--|-------------------|---------------------------------------|
| SC-DHEC WASTE GENERATOR REGISTRATION SC40-0332G              | April 15, 2003    | March 31, 2006                        |
| RADIO STATION LICENSE FILE NUMBER 9208343234                 | October 9, 2002   | September 9, 2012                     |
| HAZARDOUS MATERIALS REGISTRATION CERTIFICATE 10353           | January 1, 2005   | December 31, 2005<br>(Timely Renewal) |
| EPA ID NO. SC0047559331                                      | 1976              | No expiration date                    |
| SOUTH CAROLINA RADIOACTIVE MATERIAL LICENSE 094              | September 9, 2003 | February 28, 2007                     |
| SOUTH CAROLINA RADIOACTIVE WASTE TRANSPORT PERMIT 0046-39-06 | December 31, 2005 | December 31, 2006                     |
| TENNESSEE RADIOACTIVE WASTE TRANSPORT LICENSE                | January 4, 2006   | December 31, 2006                     |

|   |               |                |
|---|---------------|----------------|
| T-SC004-L97   |               |                |
| SOUTH CAROLINA DHEC<br>NPDES PERMIT SC0001848   | July 1, 2004  | June 30, 2009  |
| SOUTH CAROLINA OFFICE OF<br>ENVIRONMENTAL QUALITY<br>CONTROL BUREAU OF AIR<br>QUALITY OPERATING PERMIT<br>1900-0050 | May 12, 2003  | April 30, 2008 |
| SOUTH CAROLINA DHEC<br>STORMWATER DISCHARGE<br>PERMIT SCR000000   | N/A           | N/A            |
| SOUTH CAROLINA DHEC<br>RADIOACTIVE MATERIAL<br>REGISTRATION # GL-005  | July 11, 2005 | N/A            |

In summary, the cumulative collective radiological exposure to the off-site population and the workers as a result of continued operations at the CFFF will remain well below regulatory limits. Cumulative ecological impacts on habitats and biotic communities will be negligible. Good engineering and ongoing remediation practices should ensure any indirect cumulative impacts on groundwater associated with the CFFF facility will be minimal. No cumulative land use impacts are anticipated for either of the alternatives. It is unlikely that any noteworthy cumulative impacts on cultural resources would occur under either alternative. No environmental justice cumulative impacts are anticipated for the continued operation of the CFFF site. Socioeconomic impacts considered are anticipated to be generally positive, and relatively small. All in all, we believe there are no significant cumulative impacts anticipated in granting this license renewal request.

If you have any questions regarding this supplemental information, please contact me at (803) 647-3338.

Sincerely,



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