# Attachment C

NPDES Permit (Applicable Pages)
Catawba Nuclear Station
Issued April 30, 2001

D H E C

PROMOTE PROTECT PROSPER

South Carolina Department of Health
and Environmental Control

# *National Pollutant Discharge Elimination System Permit*

## for Discharge to Surface Waters

This Permit Certifies That

***Duke Energy Corporation***
***Catawba Nuclear Plant***

has been granted permission to discharge from a facility located at

***Newport, South Carolina***
***York County***

to receiving waters named

***Lake Wylie***

in accordance with effluent limitations, monitoring requirements and other conditions set forth in Parts I, II, and III hereof. This permit is issued in accordance with the provisions of the Pollution Control Act of South Carolina (S.C. Code Sections 48-1-10 *et seq.*, 1976), Regulation 61-9 and with the provisions of the Federal Clean Water Act (PL 92-500), as amended, 33 U.S.C. 1251 *et seq.*, the "Act."

Marion F. Sadler, Jr., Director
Industrial, Agricultural, and Storm Water Permitting Division
Bureau of Water

Issued: *April 30, 2001*

Effective: *June 1, 2001*

Expires: *June 30, 2005*

Permit No.: *SC0004278*

= 29.5 C (85.1°F) long term average value (Summer) 184 samples
= 35.1 C (95.18°F) maximum 30 day value (Summer)
= 35.1 C (95.18°F) maximum daily value (Summer)

2. Previous Permit: 5.6°C(10.0°F) (Apr-Sep) temperature rise above ambient;
7.8°C(14.0°F) (Oct-Mar) temperature rise above ambient
3. Water Classifications and Standards (Reg. 61-69): The receiving water temperature may not be increased by more than 5°F(2.8°C) above natural conditions or exceed a maximum of 90°F(32.2°C) unless a mixing zone has been established or a Section 316(a) determination under the Federal Clean Water Act has been completed.
4. Conclusion: On September 15, 1988, a Section 316(a) report was submitted in support of a 316(a) thermal variance request. Subsequently, correspondence dated July 1, 1992, from the permittee to SCDHEC proposed a delta T of 10°F from April through August, and a delta T of 14°F from September through March. After a review of this request, our Office agreed with the following limits:

| | Monthly Average |
|---|---|
| Temperature Rise above ambient (April - September) | 5.6°C(10.0°F) |
| Temperature Rise above ambient (October - March) | 7.8°C(14.0°F) |

Required monitoring shall be continuous by recorder, as in the previous permit.

C. pH Limitations
1. Form 2C Value: (3-21-00) 52 samples
= 7.0 s.u. minimum, 8.3 s.u. maximum maximum daily value
2. Previous Permit: 6.0 s.u. minimum, 9.0 s.u. maximum
3. Water Classifications and Standards (Reg.61-68): The pH of the receiving waters shall be maintained between 6.0 standard units and 8.5 standard units.
4. Conclusion: Due to the Water Classifications and Standards (Reg.61-68), the permit shall monitor and report pH once per week by grab sample.

D. Total Residual Chlorine (TRC)
1. Form 2C Value: (3-21-00) 50 samples
= 0 mg/l long term average value
= 0 mg/l maximum 30 day value
= 0 mg/l maximum daily value
2. Previous Permit: Monthly Average 0.011 mg/l; Daily Maximum 0.019 mg/l
3. Effluent Guidelines: (0.2 mg/l)(73.6 MGD)/(82.14 MGD) = 0.18 mg/l
4. Wasteload Allocation: Monthly Average 0.011 mg/l; Daily Maximum 0.019 mg/l
5. Water Quality Criteria Allowable Effluent Concentration:
Aquatic Life Criteria from Reg.61-68 (50 FR 30784, July 29, 1985):
Monthly Average = 0.011 mg/l X $DF_1$ = 0.011 mg/l
Daily Maximum = 0.019 mg/l X $DF_1$ = 0.019 mg/l
6. Detection Limit: 0.05 mg/l
7. Conclusion: Since chlorine and sodium bromide are used in the cooling tower discharge, Total Residual Chlorine shall be limited to a monthly average of 0.011 mg/l and a daily maximum of 0.019 mg/l, which is based on the Water Classifications and Standards (Reg. 61-68) and effluent guidelines values for Total Residual Chlorine at a frequency of once per week.

VII. Previous Biological Studies

1. 316(a)

Studies of the thermal effects of the discharge were provided in support of the 316(a) variance request. Additionally, the Permittee has also conducted dye studies to determine the dispersion characteristics of Outfall 001 and its dilution with the receiving water.

2. 316(b)

In a March 17, 1987 letter, Duke Power Company provided information concerning the intake structures found in Lake Wylie and the Station's Standby Nuclear Service Water Pond. In a March 23, 1987 memorandum, it was determined that provided the screens are kept clean, the intake should not pose a significant threat to the biological integrity of Lake Wylie or the Standby Nuclear Service Water Pond because of low water velocities. As a result, a 316(b) study was not required to be performed.

VIII. Groundwater Monitoring

The Permittee shall monitor and report each of the four (4) groundwater monitoring wells semiannually for the following parameters:

Water Level, tenth/feet
Total Dissolved Solids
Total Organic Carbon
pH (field), standard units
Specific Conductance (field), umhos/cm
Ammonia, ($NH_3$) mg/l
Nitrate, ($NO_3$)
Sulfate, mg/l
Arsenic, total, mg/l
Barium, total, mg/l
Cadmium, total, mg/l
Chromium, total, mg/l
Copper, total, mg/l
Iron, total, mg/l
Lead, total, mg/l
Manganese, total, mg/l
Mercury, total, mg/l
Selenium, total, mg/l
Silver, total, mg/l
Zinc, total, mg/l

IX. Co-Treatment

Commingling and co-treatment of discharges were taken into account at Outfall 001 which combines cooling tower blowdown, once-through cooling water, liquid radiological wastes, and metal cleaning wastes. Commingling and co-treatment of discharges were taken into account at Outfall 002 which combines low volume wastewater, miscellaneous dilution water, and metal cleaning wastes. Where various wastes are combined for treatment and discharge, 40 CFR 423.15(n) requires that the quantity of each pollutant or pollutant property not exceed the specified limitation for that waste source. Applicable guideline concentrations were flow weighted in calculating final effluent concentrations.

X. Toxicity Testing

Since the chemical specific approach does not address all specific chemicals and their interactions with other components in the waste stream, a more comprehensive testing requirement is needed. To ensure that Water Quality Standards are not violated, whole effluent toxicity testing is being required at Outfalls 001 and 002. Testing will not be required for internal Outfalls or for the sanitary discharge Outfall 003.