PART I: WASTEWATER MONITORING, CONTROLS AND LIMITATIONS

## A. (1) EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (002)

During the period beginning on the effective date of the permit and lasting until expiration, the Permittee is authorized to discharge from **Internal Outfall 002 (Ash Pond Treatment System to the Heated Water Discharge Canal)**. Such discharges shall be limited and monitored by the Permittee as specified below:

| EFFLUENT CHARACTERISTICS | LIMITS | | MONITORING REQUIREMENTS | | |
|---|---|---|---|---|---|
| | Monthly Average | Daily Maximum | Measurement Frequency | Sample Type | Sample Location[1] |
| Flow | | | Daily | Continuous | Effluent |
| Total Selenium | | | Monthly | Grab | Effluent |
| Oil and Grease | 15.0 mg/L | 20.0 mg/L | 2/Month | Grab | Effluent |
| Total Suspended Solids | 30.0 mg/L | 100 mg/L | 2/Month | Grab | Effluent |

**Notes:**

1. Samples taken in compliance with the monitoring requirements listed above shall be taken at the ash pond discharge prior to mixing with other sources of wastewater.

The low volume waste shall be discharged to the ash pond treatment system.

## A. (2) EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (003)

During the period beginning on the effective date of the permit and lasting until expiration, the Permittee is authorized to discharge from **Outfall 003 (Heated Water Discharge Canal System to the Hyco Reservoir).** Such discharges shall be limited and monitored by the Permittee as specified below:

| EFFLUENT CHARACTERISTICS | LIMITS | | MONITORING REQUIREMENTS | | |
|---|---|---|---|---|---|
| | Monthly Average | Instantaneous Maximum | Measurement Frequency | Sample Type | Sample Location[1] |
| Flow | | | Continuous | Pump Logs or similar reading | Plant Intake |
| Total Residual Chlorine[2] | | 200 µg/L | 2/Month | Multiple Grabs | Effluent |
| Total Phosphorus | | | Monthly | Grab | Effluent |
| Total Nitrogen | | | Monthly | Grab | Effluent |
| Temperature [3] | | | Continuous | Recorder | Effluent, 4C[3], 4D[3] |
| Total Arsenic | | | Monthly | Grab | Effluent |
| pH[4] | | | Weekly | Grab | Effluent |
| Acute Toxicity[5] | | | Quarterly | Composite | Effluent |

**Notes:**

1. Effluent sampling shall be performed on the discharge canal at the point of discharge into Hyco Lake. Samples taken in compliance with the monitoring requirements listed above shall be taken prior to mixing with other sources of wastewater.
2. Total residual chlorine shall not be discharged from any single generating unit for more than two hours per day, unless the Permittee demonstrates to the Division of Water Quality that discharge for more than two hours is required for macroinvertebrate control. The 200 µg/L limitation is an instantaneous maximum effluent limitation defined as the value which shall not be exceeded at any time, and is to be measured during the chlorine release period. Simultaneous multi-unit chlorination is permitted. In order to meet the two-hour limitation, the chlorination shall be automatically controlled or a log kept of manual system operation times. Monitoring is required only when chlorine is added to the cooling water system.
3. The Permittee shall operate so as to remain in compliance with the conditions outlined in the mixing zone defined in Special Condition A. (12) of this permit. The temperature of Hyco Lake at no time shall exceed the thermal water quality standard outside the mixing zone defined in Special Condition A. (12). Continuous monitoring in the mixing zone shall be between 4C and 4D as shown on the Fishery and Temperature Survey Map (attached). These thermal limitations may be deleted or revised, as appropriate, based upon evaluation of the results of the thermal studies.
4. The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units.
5. Acute Toxicity (*Pimephales promelas*) P/F @ 90%, March, June, September and December. See Special Condition A. (8) of this permit. In lieu of the requirement in Part II, Section A, Condition 8a, composite samples for this effluent characteristic shall consist of 24 or more grab samples of equal volumes collected at equal intervals over a 24-hour period.

The Permittee is allowed to operate Unit 3 in a once-through cooling mode from October 15 through April 30.

There shall be no discharge of floating solids or visible foam in other than trace amounts outside a distance five (5) meters from the discharge pipe.

## A. (3) EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (005)

During the period beginning on the effective date of the permit and lasting until expiration, the Permittee is authorized to discharge from **Internal Outfall 005** (**Cooling Tower Blowdown to the ash pond)**. Such discharges shall be limited and monitored by the Permittee as specified below:

| EFFLUENT CHARACTERISTICS | LIMITS | | MONITORING REQUIREMENTS | | |
|---|---|---|---|---|---|
| | Monthly Average | Daily Maximum | Measurement Frequency | Sample Type | Sample Location[1] |
| Flow | | | Continuous during discharge | Pump Logs | Effluent |
| Free Available Chlorine[2] | 200 µg/L | 500 µg/L | 2/month | Multiple Grabs | Effluent |
| Total Residual Chlorine[2] | | | Monthly | Multiple Grabs | Effluent |
| Total Chromium[3] | 200 µg/L | 200 µg/L | 2/Month | Composite | Effluent |
| Total Zinc[3] | 1.0 mg/L | 1.0 mg/L | 2/Month | Composite | Effluent |
| The 126 Priority Pollutants (40 CFR Part 423, Appendix A) Exclusive of Zinc and Chromium[3] | No Detectable Amount | | Annual | Grab | Effluent |

**Notes:**

1. Effluent sampling shall be conducted at the discharge from the cooling tower prior to mixing with other waste streams. Samples taken in compliance with the monitoring requirements listed above shall be taken prior to mixing with other sources of wastewater
2. Neither free available chlorine nor total residual chorine may be discharged from any single generating unit for more than two hours per day, unless the Permittee demonstrates to the Division of Water Quality that discharge for more than two hours is required for macroinvertebrate control. The 500 µg/L is a daily maximum limitation and is to be measured during the chlorine release period. The 200 µg/L limitation is an average during the chlorine release period. Monitoring is required only when chlorine is added to the cooling water system.
3. These limitations and monitoring requirements apply if these substances are added by the Permittee for cooling tower maintenance. There shall be no detectable amounts of the 126 priority pollutants (40 CFR 423 Appendix A) contained in chemicals added for cooling tower except for total chromium and total zinc. Compliance with the limitations for the 126 priority pollutants in 40 CFR Section 423.13(d)(1) may be determined by engineering calculations which demonstrate that the regulated pollutants are not detectable in the final discharge by the analytical methods in 40 CFR Part 136.

Discharge of blowdown from the cooling tower is defined as the minimum discharge of recirculation water necessary for the purpose of discharging materials contained in the process, the further build-up of which would cause concentration in amounts exceeding limitations established by best engineering practice.

The Permittee is authorized to discharge Maintenance Drain wastewater from the Cooling Tower for Unit 4 directly to the discharge canal. Grab samples of the following parameters are to be collected prior to mixing with other waste streams and the results shall be submitted to DWQ: pH (SU), flow (MGD) and total residual chlorine (mg/L). The Permittee shall notify the Division of Water Quality, Raleigh Regional Office (919/571-4700), prior to draining the cooling tower, except during non-office hour emergencies when notification must be made the next working day. Total residual chlorine monitoring is required prior to a maintenance drain of the Unit 4 Cooling Tower only if chlorine is added to the system.

## A. (4) EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (006)

During the period beginning on the effective date of the permit and lasting until expiration, the Permittee is authorized to discharge from **Outfall 006** (**Coal Pile Runoff Treatment System to the Hyco Reservoir).** Such discharges shall be limited and monitored by the Permittee as specified below:

| EFFLUENT CHARACTERISTICS | LIMITS | | MONITORING REQUIREMENTS | | |
|---|---|---|---|---|---|
| | Monthly Average | Instantaneous Maximum | Measurement Frequency | Sample Type | Sample Location[1] |
| Flow | | | 2/Month | Estimate | Effluent |
| Total Suspended Solids | | 50 mg/L | 2/Month | Grab | Effluent |
| Acute Toxicity[2] | | | Annually | Grab | Effluent |
| pH[3] | | | Weekly | Grab | Effluent |

**Notes:**

1. Effluent sampling shall be conducted at the point of discharge into Hyco Lake. Samples taken in compliance with the monitoring requirements listed above shall be taken prior to mixing with other sources of wastewater.
2. Acute Toxicity (*Pimephales promelas*, 24-hour) monitoring shall be performed in accordance with Special Condition A. (9) of this permit.
3. The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units.

There shall be no discharge of floating solids or visible foam in other than trace amounts outside a distance five (5) meters from the discharge pipe.

Material storage runoff shall include rainfall to navigable waters through any discernable, confined and/or discrete conveyance from, or through, coal.

## A. (5) EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (008)

During the period beginning on the effective date of the permit and lasting until expiration, the Permittee is authorized to discharge from **Internal Outfall 008 (Domestic Wastewater Treatment System to the ash pond).** Such discharges shall be limited and monitored by the Permittee as specified below:

| EFFLUENT CHARACTERISTICS | LIMITS | | MONITORING REQUIREMENTS | | |
|---|---|---|---|---|---|
| | Monthly Average | Daily Maximum | Measurement Frequency | Sample Type | Sample Location[1] |
| Flow | 0.015 MGD | | Annual | Pump Logs | Effluent |
| Biochemical Oxygen Demand (5-day @ 20°C) | 30.0 mg/L | 45.0 mg/L | Annual | Grab | Effluent |
| Total Suspended Solids | 30.0 mg/L | 45.0 mg/L | Annual | Grab | Effluent |
| Total Ammonia (as N) | | | Annual | Grab | Effluent |
| pH[2] | | | Annual | Grab | Effluent |

**Notes:**

1. Samples taken in compliance with the monitoring requirements listed above shall be taken after treatment and prior to mixing with other sources of wastewater.
2. The pH shall not be less than 6.0 standard units, nor greater than 9.0 standard units.

See Special Condition A (17).

## A. (6) EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (009)

During the period beginning on the effective date of the permit and lasting until expiration, the Permittee is authorized to discharge from **Internal Outfall 009 (Metal Cleaning Wastes to the ash pond)**. Such discharges shall be limited and monitored by the Permittee as specified below:

| EFFLUENT CHARACTERISTICS | LIMITS | | MONITORING REQUIREMENTS | | |
|---|---|---|---|---|---|
| | Monthly Average | Daily Maximum | Measurement Frequency | Sample Type | Sample Location[1] |
| Flow | | | Once per Discharge Event | Pump Logs or similar reading | Outfall 002 |
| Total Suspended Solids | 30.0 mg/L | 100 mg/L | Once per Discharge Event | Grab | Outfall 002 |
| Oil and Grease | 15.0 mg/L | 20.0 mg/L | Once per Discharge Event | Grab | Outfall 002 |
| Total Copper | 1.0 mg/L | 1.0 mg/L | Once per Discharge Event | Grab | Outfall 002 |
| Total Iron | 1.0 mg/L | 1.0 mg/L | Once per Discharge Event | Grab | Outfall 002 |

**Notes:**

1. Samples taken in compliance with the monitoring requirements listed above shall be taken after ash pond treatment and prior to mixing with other sources of wastewater.

For the purposes of this permit, the term “Once per Discharge Event” shall mean the discharge from Outfall 002 that occurs within 30 minutes from the time the fly ash containing metal cleaning waste is discharged into the ash pond plus the calculated detention time of the ash pond.

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## A. (7) EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (010)

During the period beginning upon commencement of the Flue Gas Desulfurization (FGD) treatment system and lasting until expiration, the Permittee is authorized to discharge from **Internal Outfall 010 (FGD blowdown)**. Such discharges shall be limited and monitored by the Permittee as specified below:

| EFFLUENT CHARACTERISTICS | LIMITS | | MONITORING REQUIREMENTS | | |
|---|---|---|---|---|---|
| | Monthly Average | Daily Maximum | Measurement Frequency | Sample Type | Sample Location[1] |
| Flow | | | Monthly | Pump Logs or similar reading | Effluent |
| Total Beryllium[3] | | | Weekly | Grab | Effluent |
| Total Mercury[3] | | | Weekly | Grab | Effluent |
| Total Antimony[3] | | | Quarterly | Grab | Effluent |
| Total Selenium[3] | | | Quarterly | Grab | Effluent |
| Total Silver[3] | | | Quarterly | Grab | Effluent |
| Total Vanadium[3] | | | Quarterly | Grab | Effluent |

**Notes:**

1. Samples taken in compliance with the monitoring requirements listed above shall be taken after bioreactor treatment and prior to mixing with other sources of wastewater.
2. DMRs for this outfall shall be submitted only after discharge commences from the FGD system.
3. Permittee may request reduction of monitoring frequency if data (of at least 12 data samples and covering at least one year) indicate no detection of pollutant.