

MEMORANDUM

MAR 08 1990

DATE:

SUBJECT: Gulf Power Company-Plant Scholz, Sneads, Florida  
Short-Term Chronic Test Results, September 27-October  
3, 1989. NPDES #FL0002283

FROM: Ronald Weldon *RW*  
Toxics Evaluation Section  
Ecological Support Branch

THRU: Linda Anderson-Carnahan, Chief *AC*  
Toxics Evaluation Section  
Ecological Support Branch

TO: John Marlar, Chief  
Facilities Performance Branch  
Water Management Division

As requested by the Water Management Division, personnel from the Toxics Evaluation Section coordinated the sampling and shipping of effluent samples from the subject facility. The effluent samples were collected by plant personnel and shipped to the EPA laboratory located in Athens, Georgia. Chronic tests were conducted on daphnids (Ceriodaphnia dubia) and fathead minnows (Pimephales promelas) using samples collected from the ash pond and cooling water effluents. A third test was conducted on a mixture of ash pond effluent and cooling water. Twenty-four hour composite samples of each effluent were collected September 25-26, 28-29, and October 1-2, 1989 for use in the static renewal toxicity tests. Algal (Selenastrum capricornutum) growth tests were conducted on the effluent samples collected on October 1-2. Procedures followed were Methods 1002.0, 1000.0, and 1003.0 from the USEPA manual "Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms" EPA/600/4-89/001.

Significant mortality did not occur to the daphnids or minnows during the initial 48-hour exposure period in any sample or sample combination (Tables 1,2,6,7,11, and 12). The daphnid survival-reproduction and minnow survival-growth data were analyzed using Fisher's Exact and Dunnett's Procedures. The no observed effect concentration (NOEC) for all the daphnid survival-reproduction tests was 100% (Tables 3,8, and 13). The NOEC for all of the minnow survival-growth tests was also 100% (Tables 4,9, and 14). The 100% cooling water concentration produced 17% lethality in the exposed fathead minnows (Table 9). This mortality was not considered significant as a lesser degree of minnow mortality occurred in the 100% concentration of cooling water used in the combination test (Table 14).

The algal growth test results indicated the ash pond effluent was increasingly stimulatory through the 50.0% concentration. The 100% effluent was inhibitory to the algae (Table 16). All cooling water concentrations stimulated algal growth except the 6.3% concentration which showed a slight retardation effect. The combination test was conducted using a 1-1 ratio of ash pond and cooling water as the highest concentration. All of the combination concentrations stimulated algal growth.

According to plant personnel the September ash pond discharge was 1.2 million gallons per day (mgd) or 1.9 cubic feet per second (cfs). The ash pond discharges into the cooling water which had an average flow of 129.3 mgd or 200.4 cfs in September. Using these flows, the ash pond effluent is only 0.94% of the total discharge. Plant Scholz has a total effluent flow of 202.3 cfs and discharges into the Apalachicola River which has a 7Q10 of 7000.0 cfs. Using the September monthly average effluent and 7Q10 flows, the Apalachicola River has a receiving stream concentration of 2.9%. The NOEC of all three species indicate that organisms as sensitive as these would not be adversely affected during low flow conditions by the cooling water, ash pond discharge or any combination of the two.

A summary of test conditions, test results, and pertinent physical-chemical water data is included in the attached Tables 1-16.

If you have any questions, please call me at 250-2489.

cc: Charles H. Kaplan, P.E.

Table 1. Data recorded during a 48-hour, daphnid acute lethality static renewal test conducted on ash pond effluent (collected 9/25-26/89) at Gulf Power Company--Plant Scholz, Sneads, Florida, September 27-29, 1989

| Conc.<br>Waste-<br>Water<br>(%) | Number of<br>Live Organisms |    |    | Dissolved Oxygen<br>(mg/L) |     |     | Temperature<br>(°C) |    |    | Initial Water Quality |            |          |              |        |
|---------------------------------|-----------------------------|----|----|----------------------------|-----|-----|---------------------|----|----|-----------------------|------------|----------|--------------|--------|
|                                 |                             |    |    |                            |     |     |                     |    |    | pH                    | Total Alk. | Hardness | Conductivity | TRC    |
|                                 | 0                           | 24 | 48 | 0                          | 24  | 48  | 0                   | 24 | 48 | (SU)                  | (mg/L)     | (mg/L)   | (umhos/cm)   | (mg/L) |
| 0                               | 10                          | 10 | 10 | 8.0                        | 8.2 | 7.5 | 26                  | 26 | 26 | 8.1                   | 72         | 92       | 215          | --     |
| 6.25                            | 10                          | 10 | 10 | 8.0                        | 7.8 | 7.4 | 26                  | 26 | 26 | 7.8                   | 69         | 100      | 238          | --     |
| 12.5                            | 10                          | 10 | 10 | 8.0                        | 8.0 | 7.4 | 26                  | 26 | 26 | --                    | --         | --       | 265          | --     |
| 25.0                            | 10                          | 10 | 10 | 8.0                        | 8.1 | 7.4 | 26                  | 26 | 26 | --                    | --         | --       | 315          | --     |
| 50.0                            | 10                          | 10 | 10 | 8.0                        | 8.3 | 7.3 | 26                  | 26 | 26 | 7.8                   | 52         | 166      | 416          | --     |
| 100.0                           | 10                          | 10 | 10 | 8.0                        | 8.9 | 7.3 | 26                  | 26 | 26 | 7.6                   | 47         | 236      | 604          | 0.02   |

Table 2. Data recorded during a 48-hour, minnow larval acute lethality static renewal test conducted on ash pond effluent (collected 9/25-26/89) at Gulf Power Company--Plant Scholz, Sneads, Florida, September 27-29, 1989

| Conc.<br>Waste-<br>Water<br>(%) | Number of<br>Live Organisms |    |    | Dissolved Oxygen<br>(mg/L) |     |     | Temperature<br>(°C) |    |    | Initial Water Quality |            |          |              |        |
|---------------------------------|-----------------------------|----|----|----------------------------|-----|-----|---------------------|----|----|-----------------------|------------|----------|--------------|--------|
|                                 |                             |    |    |                            |     |     |                     |    |    | pH                    | Total Alk. | Hardness | Conductivity | TRC    |
|                                 | 0                           | 24 | 48 | 0                          | 24  | 48  | 0                   | 24 | 48 | (SU)                  | (mg/L)     | (mg/L)   | (umhos/cm)   | (mg/L) |
| 0                               | 30                          | 30 | 30 | 8.0                        | 8.2 | 7.5 | 26                  | 26 | 26 | 8.1                   | 72         | 92       | 215          | --     |
| 6.25                            | 30                          | 30 | 30 | 8.0                        | 7.8 | 7.7 | 26                  | 26 | 26 | 7.8                   | 69         | 100      | 238          | --     |
| 12.5                            | 30                          | 30 | 30 | 8.0                        | 8.0 | 7.8 | 26                  | 26 | 26 | --                    | --         | --       | 265          | --     |
| 25.0                            | 30                          | 30 | 30 | 8.0                        | 8.1 | 7.8 | 26                  | 26 | 26 | --                    | --         | --       | 315          | --     |
| 50.0                            | 30                          | 30 | 30 | 8.0                        | 8.3 | 7.8 | 26                  | 26 | 26 | 7.8                   | 52         | 166      | 416          | --     |
| 100.0                           | 30                          | 30 | 30 | 8.0                        | 8.9 | 7.8 | 26                  | 26 | 26 | 7.6                   | 47         | 236      | 604          | 0.02   |

Table 3. Data for the Ceriodaphnia dubia Survival and Reproduction Test Conducted During September 27-October 3, 1989, on Ash Pond Effluent Collected from Gulf Power Company--Plant Scholz, Sneads, Florida

| Concentration<br>% | Survival % |          | Mean Number of<br>Young Per Female |
|--------------------|------------|----------|------------------------------------|
|                    | 48 hrs.    | 120 hrs. |                                    |
| 0                  | 100        | 100      | 28.6                               |
| 6.25               | 100        | 100      | 28.2                               |
| 12.5               | 100        | 100      | 28.2                               |
| 25.0               | 100        | 100      | 28.8                               |
| 50.0               | 100        | 100      | 28.9                               |
| 100.0              | 100        | 100      | 29.6                               |

Table 4. Data for the Pimephales promelas Larval Survival and Growth Test Conducted During September 27-October 4, 1989, on Ash Pond Effluent Collected from Gulf Power Company--Plant Scholz, Sneads, Florida

| Concentration<br>% | Survival % |          | Mean Dry Weight<br>(mg) |
|--------------------|------------|----------|-------------------------|
|                    | 48 hrs.    | 168 hrs. |                         |
| 0                  | 100        | 93       | 0.65                    |
| 6.25               | 100        | 100      | 0.67                    |
| 12.5               | 100        | 97       | 0.75                    |
| 25.0               | 100        | 100      | 0.65                    |
| 50.0               | 100        | 100      | 0.62                    |
| 100.0              | 100        | 97       | 0.60                    |

Table 5. Initial Chemical and Physical Data Reported as a Mean and Range for Chronic Tests Conducted September 27-October 4, 1989 on Ash Pond Effluent Collected from Gulf Power Company--Plant Scholz, Sneads, Florida

| Concentration<br>% | DO<br>(mg/L)   | pH<br>(SU)     | Alkalinity<br>(mg/L) | Hardness<br>(mg/L) | Conductivity<br>(umhos/cm) | TRC<br>(mg/L)     |
|--------------------|----------------|----------------|----------------------|--------------------|----------------------------|-------------------|
| 0                  | 8.6<br>8.0-9.1 | 7.9<br>7.6-8.1 | 75<br>72-78          | 95<br>92-96        | 216<br>213-220             | --<br>-----       |
| 6.25               | 8.4<br>7.8-9.0 | 7.8<br>7.7-7.9 | 72<br>69-75          | 105<br>100-110     | 240<br>234-247             | --<br>-----       |
| 50.0               | 8.4<br>8.1-9.0 | 7.8<br>7.8-7.8 | 59<br>52-62          | 164<br>160-168     | 411<br>408-416             | --<br>-----       |
| 100.0              | 8.8<br>8.0-9.8 | 7.6<br>7.6-7.7 | 48<br>43-50          | 231<br>228-236     | 591<br>575-604             | 0.02<br>0.01-0.02 |

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Table 6. Data recorded during a 48-hour, daphnid acute lethality static renewal test conducted on cooling water effluent (collected 9/25-26/89) at Gulf Power Company--Plant Scholz, Sneads, Florida, September 27-29, 1989

| Conc.<br>Waste-<br>Water<br>(%) | Number of      |    |    | Dissolved Oxygen |     |     | Temperature |    |    | Initial Water Quality |                      |                    |                            |               |
|---------------------------------|----------------|----|----|------------------|-----|-----|-------------|----|----|-----------------------|----------------------|--------------------|----------------------------|---------------|
|                                 | Live Organisms |    |    | (mg/L)           |     |     | (°C)        |    |    | pH<br>(SU)            | Total Alk.<br>(mg/L) | Hardness<br>(mg/L) | Conductivity<br>(umhos/cm) | TRC<br>(mg/L) |
|                                 | 0              | 24 | 48 | 0                | 24  | 48  | 0           | 24 | 48 |                       |                      |                    |                            |               |
| 0                               | 10             | 10 | 10 | 8.0              | 8.2 | 7.5 | 26          | 26 | 26 | 8.1                   | 72                   | 92                 | 215                        | --            |
| 6.25                            | 10             | 10 | 9  | 8.0              | 8.0 | 7.5 | 26          | 26 | 26 | 7.8                   | 72                   | 90                 | 208                        | --            |
| 12.5                            | 10             | 10 | 10 | 8.0              | 7.9 | 7.5 | 26          | 26 | 26 | --                    | --                   | --                 | 204                        | --            |
| 25.0                            | 10             | 10 | 10 | 7.8              | 8.0 | 7.5 | 26          | 26 | 26 | --                    | --                   | --                 | 195                        | --            |
| 50.0                            | 10             | 10 | 10 | 7.6              | 7.8 | 7.4 | 26          | 26 | 26 | 7.7                   | 62                   | 76                 | 178                        | --            |
| 100.0                           | 10             | 10 | 10 | 7.5              | 7.7 | 7.3 | 26          | 26 | 26 | 7.5                   | 52                   | 54                 | 145                        | 0.02          |

Table 7. Data recorded during a 48-hour, minnow larval acute lethality static renewal test conducted on cooling water effluent (collected 9/25-26/89) at Gulf Power Company--Plant Scholz, Sneads, Florida, September 27-29, 1989

| Conc.<br>Waste-<br>Water<br>(%) | Number of      |    |    | Dissolved Oxygen |     |     | Temperature |    |    | Initial Water Quality |                      |                    |                            |               |
|---------------------------------|----------------|----|----|------------------|-----|-----|-------------|----|----|-----------------------|----------------------|--------------------|----------------------------|---------------|
|                                 | Live Organisms |    |    | (mg/L)           |     |     | (°C)        |    |    | pH<br>(SU)            | Total Alk.<br>(mg/L) | Hardness<br>(mg/L) | Conductivity<br>(umhos/cm) | TRC<br>(mg/L) |
|                                 | 0              | 24 | 48 | 0                | 24  | 48  | 0           | 24 | 48 |                       |                      |                    |                            |               |
| 0                               | 30             | 30 | 30 | 8.0              | 8.2 | 7.9 | 26          | 26 | 26 | 8.1                   | 72                   | 92                 | 215                        | --            |
| 6.25                            | 30             | 30 | 30 | 8.0              | 8.0 | 7.7 | 26          | 26 | 26 | 7.8                   | 72                   | 90                 | 208                        | --            |
| 12.5                            | 30             | 30 | 30 | 8.0              | 7.9 | 7.6 | 26          | 26 | 26 | --                    | --                   | --                 | 204                        | --            |
| 25.0                            | 30             | 29 | 29 | 7.8              | 8.0 | 7.5 | 26          | 26 | 26 | --                    | --                   | --                 | 195                        | --            |
| 50.0                            | 30             | 30 | 30 | 7.6              | 7.8 | 7.5 | 26          | 26 | 26 | 7.7                   | 62                   | 76                 | 178                        | --            |
| 100.0                           | 30             | 30 | 30 | 7.5              | 7.7 | 7.5 | 26          | 26 | 26 | 7.5                   | 52                   | 54                 | 145                        | 0.02          |

Table 8. Data for the Ceriodaphnia dubia Survival and Reproduction Test Conducted During September 27-October 3, 1989, on Cooling Water Effluent Collected from Gulf Power Company--Plant Scholz, Sneads, Florida

| Concentration<br>% | Survival % |          | Mean Number of<br>Young Per Female |
|--------------------|------------|----------|------------------------------------|
|                    | 48 hrs.    | 120 hrs. |                                    |
| 0                  | 100        | 100      | 26.3                               |
| 6.25               | 90         | 60       | 15.0                               |
| 12.5               | 100        | 100      | 25.3                               |
| 25.0               | 100        | 100      | 26.3                               |
| 50.0               | 100        | 100      | 27.2                               |
| 100.0              | 100        | 100      | 27.6                               |

Table 9. Data for the Pimephales promelas Larval Survival and Growth Test Conducted During September 27-October 4, 1989, on Cooling Water Effluent Collected from Gulf Power Company--Plant Scholz, Sneads, Florida

| Concentration<br>% | Survival % |          | Mean Dry Weight<br>(mg) |
|--------------------|------------|----------|-------------------------|
|                    | 48 hrs.    | 168 hrs. |                         |
| 0                  | 100        | 100      | 0.81                    |
| 6.25               | 100        | 100      | 0.79                    |
| 12.5               | 100        | 97       | 0.82                    |
| 25.0               | 97         | 97       | 0.73                    |
| 50.0               | 100        | 100      | 0.71                    |
| 100.0              | 100        | 83 *     | 0.76                    |

\*Significant difference from the control

Table 10. Initial Chemical and Physical Data Reported as a Mean and Range for Chronic Tests Conducted September 27-October 4, 1989 on Cooling Water Effluent Collected from Gulf Power Company--Plant Scholz, Sneads, Florida

| Concentration<br>% | DO<br>(mg/L)   | pH<br>(SU)     | Alkalinity<br>(mg/L) | Hardness<br>(mg/L) | Conductivity<br>(umhos/cm) | TRC<br>(mg/L)     | - |
|--------------------|----------------|----------------|----------------------|--------------------|----------------------------|-------------------|---|
| 0                  | 8.6<br>8.0-9.1 | 7.9<br>7.6-8.1 | 75<br>72-78          | 95<br>92-96        | 216<br>213-220             | --<br>-----       |   |
| 6.25               | 8.3<br>7.8-9.0 | 7.9<br>7.8-7.9 | 73<br>70-77          | 93<br>90-96        | 211<br>205-220             | --<br>-----       |   |
| 50.0               | 8.2<br>7.6-8.9 | 7.7<br>7.6-7.8 | 59<br>53-63          | 72<br>68-76        | 172<br>163-178             | --<br>-----       |   |
| 100.0              | 8.3<br>7.5-9.0 | 7.4<br>7.3-7.5 | 43<br>34-52          | 45<br>36-54        | 127<br>109-145             | 0.04<br>0.02-0.10 |   |

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Table 11. Data recorded during a 48-hour, daphnid acute lethality static renewal test conducted on combined effluents (collected 9/25-26/89) at Gulf Power Company--Plant Scholz, Sneads, Florida, September 27-29, 1989

| Conc.<br>Waste-<br>Water<br>(%) | Number of<br>Live Organisms |    |    | Dissolved Oxygen<br>(mg/L) |     |     | Temperature<br>(°C) |    |    | Initial Water Quality |                      |                    |                            |               |
|---------------------------------|-----------------------------|----|----|----------------------------|-----|-----|---------------------|----|----|-----------------------|----------------------|--------------------|----------------------------|---------------|
|                                 | 0                           | 24 | 48 | 0                          | 24  | 48  | 0                   | 24 | 48 | pH<br>(SU)            | Total Alk.<br>(mg/L) | Hardness<br>(mg/L) | Conductivity<br>(umhos/cm) | TRC<br>(mg/L) |
| * 0                             | 10                          | 10 | 10 | 7.8                        | 7.7 | 7.4 | 26                  | 26 | 26 | 7.5                   | 52                   | 54                 | 145                        | 0.02          |
| 12.5                            | 10                          | 10 | 10 | 7.6                        | 7.5 | 7.3 | 26                  | 26 | 26 | --                    | --                   | --                 | 212                        | --            |
| 25.0                            | 10                          | 10 | 10 | 7.8                        | 7.7 | 7.3 | 26                  | 26 | 26 | --                    | --                   | --                 | 267                        | --            |
| 50.0                            | 10                          | 10 | 10 | 7.8                        | 8.1 | 7.4 | 26                  | 26 | 26 | 7.5                   | 50                   | 140                | 383                        | --            |
| 75.0                            | 10                          | 10 | 10 | 7.8                        | 8.2 | 7.3 | 26                  | 26 | 26 | --                    | --                   | --                 | 495                        | --            |
| 87.5                            | 10                          | 10 | 10 | 8.1                        | 8.4 | 7.3 | 26                  | 26 | 26 | 7.6                   | 49                   | 210                | 546                        | --            |
| 100.0                           | 10                          | 10 | 10 | 8.2                        | 8.4 | 7.4 | 26                  | 26 | 26 | 7.6                   | 47                   | 236                | 604                        | 0.02          |

\* Cooling water was used as the diluent.

Table 12. Data recorded during a 48-hour, minnow larval acute lethality static renewal test conducted on combined effluents (collected 9/25-26/89) at Gulf Power Company--Plant Scholz, Sneads, Florida, September 27-29, 1989

| Conc.<br>Waste-<br>Water<br>(%) | Number of<br>Live Organisms |    |    | Dissolved Oxygen<br>(mg/L) |     |     | Temperature<br>(°C) |    |    | Initial Water Quality |                      |                    |                            |               |
|---------------------------------|-----------------------------|----|----|----------------------------|-----|-----|---------------------|----|----|-----------------------|----------------------|--------------------|----------------------------|---------------|
|                                 | 0                           | 24 | 48 | 0                          | 24  | 48  | 0                   | 24 | 48 | pH<br>(SU)            | Total Alk.<br>(mg/L) | Hardness<br>(mg/L) | Conductivity<br>(umhos/cm) | TRC<br>(mg/L) |
| * 0                             | 30                          | 30 | 30 | 7.8                        | 7.7 | 7.4 | 26                  | 26 | 26 | 7.5                   | 52                   | 54                 | 145                        | 0.02          |
| 12.5                            | 30                          | 30 | 30 | 7.6                        | 7.5 | 7.1 | 26                  | 26 | 26 | --                    | --                   | --                 | 212                        | --            |
| 25.0                            | 30                          | 30 | 30 | 7.8                        | 7.7 | 7.4 | 26                  | 26 | 26 | --                    | --                   | --                 | 267                        | --            |
| 50.0                            | 30                          | 30 | 30 | 7.8                        | 8.1 | 7.4 | 26                  | 26 | 26 | 7.5                   | 50                   | 140                | 383                        | --            |
| 75.0                            | 30                          | 30 | 30 | 7.8                        | 8.2 | 7.6 | 26                  | 26 | 26 | --                    | --                   | --                 | 495                        | --            |
| 87.5                            | 30                          | 30 | 29 | 8.1                        | 8.4 | 7.4 | 26                  | 26 | 26 | 7.6                   | 49                   | 210                | 546                        | --            |
| 100.0                           | 30                          | 30 | 30 | 8.2                        | 8.4 | 7.3 | 26                  | 26 | 26 | 7.6                   | 47                   | 236                | 604                        | 0.02          |

\* Cooling water was used as the diluent.

Table 13. Data for the Ceriodaphnia dubia Survival and Reproduction Test Conducted During September 27-October 3, 1989, on Combined Effluents Collected from Gulf Power Company--Plant Scholz, Sneads, Florida

| Concentration<br>% | Survival % |          | Mean Number of<br>Young Per Female |
|--------------------|------------|----------|------------------------------------|
|                    | 48 hrs.    | 120 hrs. |                                    |
| * 0                | 100        | 100      | 30.4                               |
| 12.5               | 100        | 100      | 29.5                               |
| 25.0               | 100        | 100      | 29.9                               |
| 50.0               | 100        | 100      | 29.6                               |
| 75.0               | 100        | 100      | 24.6                               |
| 87.5               | 100        | 100      | 27.5                               |
| 100.0              | 100        | 100      | 27.9                               |

\* Cooling water was used as the diluent.

Table 14. Data for the Pimephales promelas Larval Survival and Growth Test Conducted During September 27-October 4, 1989, on Combined Effluents Collected from Gulf Power Company--Plant Scholz, Sneads, Florida

| Concentration<br>% | Survival % |          | Mean Dry Weight<br>(mg) |
|--------------------|------------|----------|-------------------------|
|                    | 48 hrs.    | 168 hrs. |                         |
| * 0                | 100        | 97       | 0.73                    |
| 12.5               | 100        | 97       | 0.72                    |
| 25.0               | 100        | 97       | 0.71                    |
| 50.0               | 100        | 100      | 0.68                    |
| 75.0               | 100        | 93       | 0.83                    |
| 87.5               | 97         | 93       | 0.75                    |
| 100.0              | 100        | 93       | 0.65                    |

\* Cooling water was used as the diluent.

Table 15. Initial Chemical and Physical Data Reported as a Mean and Range for Chronic Tests Conducted September 27-October 4, 1989 on Combined Effluents from Gulf Power Company--Plant Scholz, Sneads, Florida

| Concentration<br>% | DO<br>(mg/L)   | pH<br>(SU)     | Alkalinity<br>(mg/L) | Hardness<br>(mg/L) | Conductivity<br>(umhos/cm) | TRC<br>(mg/L)     |
|--------------------|----------------|----------------|----------------------|--------------------|----------------------------|-------------------|
| 0                  | 8.2<br>4.7-9.0 | 7.4<br>7.3-7.5 | 43<br>34-52          | 45<br>36-54        | 127<br>109-145             | 0.04<br>0.02-0.10 |
| 50.0               | 8.4<br>7.8-9.1 | 7.6<br>7.5-7.6 | 45<br>41-50          | 134<br>124-142     | 373<br>362-383             | --<br>-----       |
| 87.5               | 8.5<br>8.1-9.2 | 7.6<br>7.5-7.7 | 48<br>43-49          | 207<br>200-210     | 536<br>523-548             | --<br>-----       |
| 100.0              | 8.6<br>8.2-9.4 | 7.6<br>7.6-7.7 | 48<br>43-50          | 231<br>228-236     | 590<br>575-604             | 0.02<br>0.01-0.02 |

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Table 16. Data for the Algal Selenastrum capricornutum Growth Tests Conducted During October 3-7, 1989, on Ash Pond, Cooling Water, and Combination Effluents Collected from Gulf-Power Company--Plant Scholz, Sneads, Florida

| <u>SAMPLE</u>                                                      | <u>PERCENT SAMPLE CONCENTRATION</u> | <u>PERCENT RETARDATION<br/>or STIMULATION</u> |
|--------------------------------------------------------------------|-------------------------------------|-----------------------------------------------|
| Ash Pond                                                           | 6.3                                 | +107                                          |
|                                                                    | 12.5                                | +201                                          |
|                                                                    | 25.0                                | +203                                          |
|                                                                    | 50.0                                | +241                                          |
|                                                                    | 100.0                               | -82                                           |
| Cooling Water                                                      | 6.3                                 | -5                                            |
|                                                                    | 12.5                                | +139                                          |
|                                                                    | 25.0                                | +130                                          |
|                                                                    | 50.0                                | +80                                           |
|                                                                    | 100.0                               | +84                                           |
| Combination<br>(50% cooling water<br>and 50% ash pond<br>effluent) | 100.0                               | +140                                          |

Administrative File

MAY 06 1991

REF: 4WM-FP

Mr. Jim O. Vick  
Electric Operations Services  
Gulf Power Company  
500 Bayfront Parkway  
Post Office Box 1151  
Pensacola, Florida 32520-1151

RE: Permit Renewal Applications for Crist Electric Generating Plant (NPDES Permit No. FL0002275) dated February 23, 1989, and Scholz Electric Generating Plant (NPDES Permit No. FL0002283) dated April 28, 1989

Dear Mr. Vick:

The National Pollutant Discharge Elimination System (NPDES) applications submitted for the referenced facilities has been found to be incomplete for the following item: Form 2C, Item V.C., Pages V6-V9 Pages should be completed.

In your letter of May 18, 1989, you referenced a phone conversation with Ms. Yvonne Martin of my staff indicating that these pages did not need to be completed. In accordance with 40 CFR Part 122.21 requirements, the pollutant information required in permit application Form 2C, Item V, Part C, must be marked as "Testing Required" for metals cyanide, and total phenols, volatile compounds; acid compounds; and base/neutral compounds. Further, analytical results must be supplied for each pollutant in these categories. An exception to this requirement according to 40 CFR 122 Appendix D. Note 1.c.5, is that testing and reporting for the base/neutral fraction in once-through cooling water and fly ash and bottom ash transport water process waste streams (but not low volume wastes, metal cleaning wastes, coal pile runoff, or domestic wastes) have been suspended for steam electric power plants. Therefore, where other waste streams which are not exempted and are discharged to an ash pond; base/neutral analyses are required.

We are continuing to process your applications, but we will not be able to public notice the draft permits until the data is received. We apologize for any inconvenience that has occurred. Please contact Babu Varughese at 404/347-3012, if you have any questions or comments.

Sincerely,

Roosevelt Childress, Chief  
South Area Permits Unit  
Facilities Performance Branch  
Water Management Division

BV:pj:crist-sholz:5/2/9

BV 05/06/91



the southern electric system

May 20, 1991

Mr. Roosevelt Childress, Chief  
South Area Permits Unit  
United States Environmental Protection Agency  
Region IV  
345 Courtland Street, N.E.  
Atlanta, Georgia 30365

Dear Mr. Childress:

BASE/NEUTRAL ANALYTICAL RESULTS

Crist Plant NPDES FL0002275  
Scholz Plant NPDES FL0002283

In accordance with your May 6, 1991 letter, attached are the results of base/neutral analyses on ash pond discharge samples at the referenced plants.

As expected, all results are below detection levels. If you should have any questions, please do not hesitate to contact me.

Sincerely,

Michael F. Oaks  
Senior Environmental Affairs  
Specialist

rc/1088F

Attachment

cc: R. L. Allen  
M. L. Gilchrist  
C. R. Lee  
W. T. Lyford  
P. Parker  
J. O. Vick

Received on 05/29/91 B&D

# SL SAVANNAH LABORATORIES

& ENVIRONMENTAL SERVICES. INC.

900 Lakeside Drive • Mobile, Alabama 36693-5118 • (205) 666-6633 • Fax (205) 666-6696

LOG NO: M1-21153

Received: 06 MAY 91

Mr. Pat Parker  
Gulf Power Company, Scholz Plant  
Route 1, Box 234A  
Sneads, FL 32460

Purchase Order: B-91-000245

CC: Mr. Raymond Walden

## REPORT OF RESULTS

Page 1

| LOG NO                            | SAMPLE DESCRIPTION , LIQUID SAMPLES | SAMPLED BY |
|-----------------------------------|-------------------------------------|------------|
| 21153-1                           | Scholz Ashpond Discharge 05/02/91   | Client     |
| PARAMETER                         | 21153-1                             |            |
| Base Neutral Compounds            |                                     |            |
| Acenaphthene, ug/l                | <10                                 |            |
| Acenaphthylene, ug/l              | <10                                 |            |
| Anthracene, ug/l                  | <10                                 |            |
| Benzidine, ug/l                   | <80                                 |            |
| Benzo(a)Anthracene, ug/l          | <10                                 |            |
| Benzo(a)pyrene, ug/l              | <10                                 |            |
| 3,4-Benzofluoranthene, ug/l       | <10                                 |            |
| Benzo(g,h,i)perylene, ug/l        | <10                                 |            |
| Benzo (k) Fluoranthene, ug/l      | <10                                 |            |
| bis(2-Chloroethoxy) methane, ug/l | <10                                 |            |
| bis(2-Chloroethyl) ether, ug/l    | <10                                 |            |
| Bis(2-chloroisopropyl)ether, ug/l | <10                                 |            |
| bis(2-Ethylhexyl) phthalate, ug/l | <10                                 |            |
| 4-Bromophenyl-phenyl-ether, ug/l  | <10                                 |            |
| Butylbenzylphthalate, ug/l        | <10                                 |            |
| 2-Chloronaphthalene, ug/l         | <10                                 |            |
| 4-Chlorophenyl-phenyl ether, ug/l | <10                                 |            |
| Chrysene, ug/l                    | <10                                 |            |
| Dibenz(a,h)anthracene, ug/l       | <10                                 |            |
| 1,2-Dichlorobenzene, ug/l         | <10                                 |            |
| 1,3-Dichlorobenzene, ug/l         | <10                                 |            |
| 1,4-Dichlorobenzene, ug/l         | <10                                 |            |
| 3,3'-Dichlorobenzidine, ug/l      | <20                                 |            |

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## REPORT OF RESULTS

Page 2

| LOG NO                                     | SAMPLE DESCRIPTION , LIQUID SAMPLES | SAMPLED BY |
|--------------------------------------------|-------------------------------------|------------|
| 21153-1                                    | Scholz Ashpond Discharge 05/02/91   | Client     |
| PARAMETER                                  | 21153-1                             |            |
| Diethylphthalate, ug/l                     | <10                                 |            |
| Dimethylphthalate, ug/l                    | <10                                 |            |
| Di-n-butylphthalate, ug/l                  | <10                                 |            |
| 2,4-Dinitrotoluene, ug/l                   | <10                                 |            |
| 2,6-Dinitrotoluene, ug/l                   | <10                                 |            |
| Di-n-octylphthalate, ug/l                  | <10                                 |            |
| 1,2-Diphenylhydrazine, ug/l                | <10                                 |            |
| Fluoranthene, ug/l                         | <10                                 |            |
| Fluorene, ug/l                             | <10                                 |            |
| Hexachlorobenzene, ug/l                    | <10                                 |            |
| Hexachlorobutadiene, ug/l                  | <10                                 |            |
| Hexachlorocyclopentadiene, ug/l            | <10                                 |            |
| Hexachloroethane, ug/l                     | <10                                 |            |
| Indeno (1,2,3-cd)pyrene, ug/l              | <10                                 |            |
| Isophorone, ug/l                           | <10                                 |            |
| Naphthalene, ug/l                          | <10                                 |            |
| Nitrobenzene, ug/l                         | <10                                 |            |
| N-Nitrosodimethylamine, ug/l               | <10                                 |            |
| N-Nitrosodi-N-Propylamine, ug/l            | <10                                 |            |
| N-Nitrosodiphenylamine/Diphenylamine, ug/l | <10                                 |            |
| Phenanthrene, ug/l                         | <10                                 |            |
| Pyrene, ug/l                               | <10                                 |            |
| 1,2,4-Trichlorobenzene, ug/l               | <10                                 |            |

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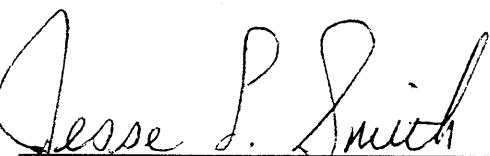
CC: Mr. Raymond Walden

## REPORT OF RESULTS

Page 3

| LOG NO                           | SAMPLE DESCRIPTION , LIQUID SAMPLES | SAMPLED BY |
|----------------------------------|-------------------------------------|------------|
| 21153-1                          | Scholz Ashpond Discharge 05/02/91   | Client     |
| PARAMETER                        | 21153-1                             |            |
| Acid Extractable Organics        |                                     |            |
| 2-Chlorophenol, ug/l             | <10                                 |            |
| 2,4-Dichlorophenol, ug/l         | <10                                 |            |
| 2,4-Dimethylphenol, ug/l         | <10                                 |            |
| 4,6-Dinitro-2-methylphenol, ug/l | <50                                 |            |
| 2,4-Dinitrophenol, ug/l          | <50                                 |            |
| 2-Nitrophenol, ug/l              | <10                                 |            |
| 4-Nitrophenol, ug/l              | <50                                 |            |
| p-Chloro-m-cresol, ug/l          | <10                                 |            |
| Pentachlorophenol, ug/l          | <50                                 |            |
| Phenol, ug/l                     | <10                                 |            |
| 2,4,6-Trichlorophenol, ug/l      | <10                                 |            |

REFERENCE: EPA 40 CFR Part 136

  
Jesse L. Smith

ATTACHMENT B  
 Gulf Power Company - Scholz Generating Plant  
 NPDES Permit No. FL0002283  
 Ash Pond OSN 002

|                        | <u>AVERAGE</u> |             |                |             |             | <u>MAXIMUM</u> |             |                |             |             |
|------------------------|----------------|-------------|----------------|-------------|-------------|----------------|-------------|----------------|-------------|-------------|
|                        | <u>FLOW</u>    | <u>TSS</u>  | <u>O&amp;G</u> |             |             | <u>FLOW</u>    | <u>TSS</u>  | <u>O&amp;G</u> |             |             |
| <u>Waste Stream</u>    | <u>MGD</u>     | <u>mg/l</u> | <u>lb/d</u>    | <u>mg/l</u> | <u>lb/d</u> | <u>MGD</u>     | <u>mg/l</u> | <u>lb/d</u>    | <u>mg/l</u> | <u>lb/d</u> |
| Ash Sluice Water       | 0.5430         | 30.00       | 135.94         | 15.00       | 67.97       | 0.5430         | 100.00      | 453.13         | 20.00       | 90.63       |
| Bldg. & Yard Sumps     | 0.7200         | 30.00       | 180.25         | 15.00       | 90.13       | 0.7200         | 100.00      | 600.84         | 20.00       | 120.17      |
| Treated Metal Cleaning |                |             |                |             |             |                |             |                |             |             |
| Waste                  | 0.0000         | 30.00       | 0.00           | 15.00       | 0.00        | 0.0000         | 100.00      | 0.00           | 20.00       | 0.00        |
| Coal Pile Runoff       | 0.6000         | 0.00        | 0.00           | 0.00        | 0.00        | 0.6000         | 50.00       | 0.00           | 0.00        | 0.00        |
| Flow Weighted Limits   | 1.8630         | 20.34       | 316.19         | 10.17       | 158.10      | 1.8630         | 67.79       | 1053.97        | 13.56       | 210.80      |

The flow for coal pile runoff was calculated using a 10-year, 24-hour rainfall event of 7.5 inches falling over an area of 5.9 acres. A coefficient of runoff equal to 0.5 was assumed.

XC: RDP  
AB  
PC

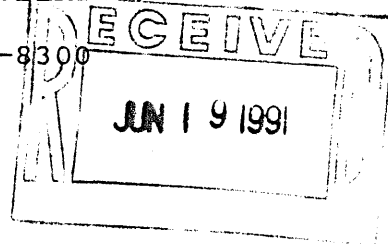
INTE. OFFICE MEMORANDUM

*Conesp.*

RECEIVED

JUN 17 1991

Date: 14-Jun-1991 04:50pm GMT  
From: Robert V. Kriegel  
KRIEGL, ROBERT V.  
Dept: DIV. PMTG  
Tel No: (904) 436-8300



TO: Carol Forthman  
DIRECTOR - WATER FACILITIES  
CC: Richard Harvey  
Subject: Gulf Power

( FORTHMAN\_C )  
( HARVEY\_RM )

Carol, we met with representatives of Gulf Power and agreed to support a six month extension of time in which to petition for hearing concerning our denial of their three OP's with certain requirements. These included:

Sholtz and Crist:

- Gulf Power provide a plan outlining the surface and ground water monitoring discussed over the past several weeks within ten days
- Gulf Power provide monthly updates of the acquired data with a synopsis
- Gulf Power provide copies of the consultant contracts and scopes of work
- The extension is cancelable at the dept's discretion for good cause with 21 days notice

Smith

As above concerning surface water sampling

- Dept to review latest ground water CAP to determine if issues addressed
- Thermal issues to be addressed with a 12 month Gulf Power study
- If everthing works out, Dpt to consider a two year OP with thermal study condition.

Windsor participated in the meeting; Alvarez and Green should be knocking on your door soon (today, Monday!)

Bob K.

*Bob K. (B)*

*you and your folks need to be aware of the details*

*of these cases - just in case we have to get involved.*

*RK*

*Copies to:*

*02275  
02263*

Permit # *02267* File Folder *Corr* Type *I*  
Permittee *Gulf Power*

|         |            |      |  |  |  |  |
|---------|------------|------|--|--|--|--|
| INITIAL | JMP        | P.L. |  |  |  |  |
| & ROUTE | <i>JMP</i> |      |  |  |  |  |

District cc: \_\_\_\_\_

RECEIVED

JUN 17 1991

BUREAU OF WATER FACILITIES  
PLANNING AND REGULATION