Attachment 3

ADEM Water Quality Data for Weiss Lake
(Contained on enclosed CD)

Attachment 4

The Potential Impact of Water Reallocation on Retention and Chlorophyll *a* in Weiss Lake, Alabama

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The Potential Impact of Water Reallocation on Retention and Chlorophyll *a* in Weiss Lake, Alabama

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ABSTRACT

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Water supply demand has increased in North Georgia and prompted government officials to propose a water reallocation plan that would permit two reservoirs upstream from Weiss Lake, Alabama to increase water withdrawals nearly three fold. Hydrologic modeling predicted lower flows in the Coosa River, the primary tributary of Weiss Lake, during average to below average flows (exceedences from 50 to 90%). Consequently, we predicted retention (reservoir volume/discharge) would increase in Weiss Lake under reallocation and using data from 1989 to 2000 as a baseline, we estimated the effect of longer retention on chlorophyll a concentrations (CHLA) and water clarity. CHLA measured during the growing season (April to October) was positively correlated ($P < 0.01$) to retention in both upstream and downstream reservoir regions and retention accounted for 24 to 28% of the variation in CHLA in linear and non-linear regression models. Under the reallocation scheme, increased retention (as predicted by HEC-5) could potentially cause an increase in CHLA of 8 to 15% compared to historic conditions if CHLA increased linearly with retention. If retention should increase 10 days with water reallocation, we estimated CHLA could increase about 20 to 30% under a "worst-case scenario". Water reallocation would have little or no impact on water clarity as Secchi transparency did not increase with lower CHLA concentrations. If longer retention does occur in Weiss Lake with water reallocation, a greater frequency of hypereutrophic conditions is expected.

Key Words: chlorophyll a, retention, water reallocation, water clarity, algal blooms.

Analyses conducted in southeastern and midwestern USA reservoirs have generally shown a positive relation between retention (volume/discharge) and phytoplankton chlorophyll *a* (CHLA) after holding for the effects of nutrients (primarily phosphorus and nitrogen) (Kimmel et al. 1990; Søballe and Kimmel 1987; Maceina et al. 1996; Gomes and Miranda 2001). Critical retention times for full expression of phytoplankton algae for a given level of nutrients generally occurred when retention in reservoirs exceeded 60-100 days (Søballe and Kimmel 1987). Maceina et al. (1996) identified a critical retention of about 35 days in Alabama reservoirs, and retention less than this was related to a decoupling of the CHLA:phosphorus relation.

Because of the relation between retention and CHLA typically observed in USA reservoirs, concern has been expressed regarding the impact on water quality in Alabama of a proposed water reallocation plan for Georgia rivers that flow into Alabama. Greater water supplies are needed to support continued residential and industrial growth in the Atlanta area. Under the proposed agreement, permitted annual water withdrawals could nearly triple (from 3.71 to 10.61 x $10^5 m^3 \cdot d^{-1}$) from two U. S. Army Corps of Engineers reservoirs located in Georgia that are upstream of Weiss Lake, Alabama. Attempts will also be made to discharge less water from Weiss Lake to maintain slightly higher water levels and this would further increase retention time in this reservoir. Under reallocation, the HEC-5 model (Hydrologic Engineering Center, U. S. Army Corps of Engineers unpublished analysis) predicted a long-term flow reduction in the Coosa River at Rome, Georgia (Fig. 1), the primary tributary to Weiss Lake (Alabama and Georgia 2001), of 16 to 19% for the 50 and 75% historic exceedence levels, respectively (Table 1; exceedence levels defined in Table 1). Conversely, the water reallocation proposal will provide for higher flows in the lower Coosa River during moderate drought conditions (Table 1) by

Table 1.–Predicted exceedence flows under the proposed water reallocation proposal computed by the HEC-5 model compared to historic flows on the Coosa River at Rome, Georgia. Data were computed from 1 January 1939 to 31 December 1993. Corresponding retention times in Weiss Lake were estimated for the proposed water realloacation proposal and historic conditions from flows in the Coosa River at Rome, Georgia (computed from equation in Fig.2 top) Exceedence percentages represent cumulative frequency distribution of maximum to minimum flows. For example, an exceedence of 75% indicates flows were greater than 74 $m^3 sec^{-1}$, 75% of the time for the long-term historic data.

	Flows at Rome, Georgia		Retention in Weiss Lake	
Percent exceedence (%)	Reallocation flow ($m^3 \cdot sec^{-1}$)	Historic flow ($m^3 \cdot sec^{-1}$)	Reallocation (days)	Historic (days)
0	1,863	1,925		
10	397	408	8.9	8.7
25	195	217	17.5	15.8
50	101	120	32.7	27.7
75	60	74	53.5	43.9
90	51	53	62.5	60.2
95	51	43	62.5	73.5
100	34	26	91.9	118.5

providing greater releases from upstream reservoirs when discharges at Rome drop below the 90% exceedence level.

Weiss Lake has the greatest storage capacity of any Alabama reservoir on the Coosa River (Maceina et al. 1996) and is located upstream in the basin; hence, this reservoir has higher summer retention than downstream impoundments. Weiss Lake also has high total phosphorus concentrations (> 50 µg TP L^{-1}). Consequently, CHLA concentrations in Weiss Lake are typically the highest found in Alabama (Bayne et al. 1994; ADEM 2000).

This paper presents the results of our analysis that predicts the effects of the proposed water reallocation pact between Alabama and Georgia on retention, CHLA, and water clarity in Weiss Lake. We suspected that increased retention due to greater upstream water withdrawal could affect water quality in this reservoir. Conversely during droughts, flows in the Coosa River could increase slightly under the reallocation plan when exceedences dropped below 90% and, thus, reduce retention in Weiss Lake.

Study Area

Weiss Lake is a 11,247 ha mainstem reservoir on the Coosa River (Georgia-Alabama). Average depth is 3.1 m, with a storage volume of 33,951 x $10^4 m^3$ at full pool (171.1 m MSL; Fig. 1). The reservoir is drawn down 1.8 m during the fall, winter, and early spring to provide flood storage. In addition, Weiss Lake serves as a hydroelectric generating facility. Weiss Lake is the most upstream of six impoundments operated by the Alabama Power Company on the Coosa River, and its headwaters are about 65 km downstream of the confluence of the Oostanaula and Etowah Rivers (Fig. 1). During the growing season (April to October) from 1989 to 2000, retention in Weiss Lake generally was greater than 25 days (Table 2) and when drought conditions occurred, retention exceeded 60 days and fell within the critical retention times for maximum phytoplankton production reported by Søballe and Kimmel (1987) and Maceina et al. (1996). Flows in the Coosa River entering Weiss Lake are expected to be reduced as a result of greater water storage, generally less discharge, and greater water withdrawal from two upstream reservoirs (Alabama and Georgia 2001). These two reservoirs include Lake Allatoona (4,900 ha) located on the Etowah River, and Carters Lake (1,350 ha) on the Coosawattee River, a tributary of the Oostanaula River (Fig. 1).

Based on mean and median CHLA and TP concentrations, Weiss Lake is eutrophic and contains moderate levels of alkalinity (Table 2). However, mean and median total nitrogen concentrations are within the oligomesotrophic range based on the criteria of Forsberg and Ryding (1980). Bayne et al. (1993, 1994) found that nitrogen limits phytoplankton production in Weiss Lake. Water clarity (Secchi transparency) was generally poor in Weiss Lake and averaged less than 1 m due to eutrophic CHLA concentrations and at times, relatively high concentrations of total suspended solids

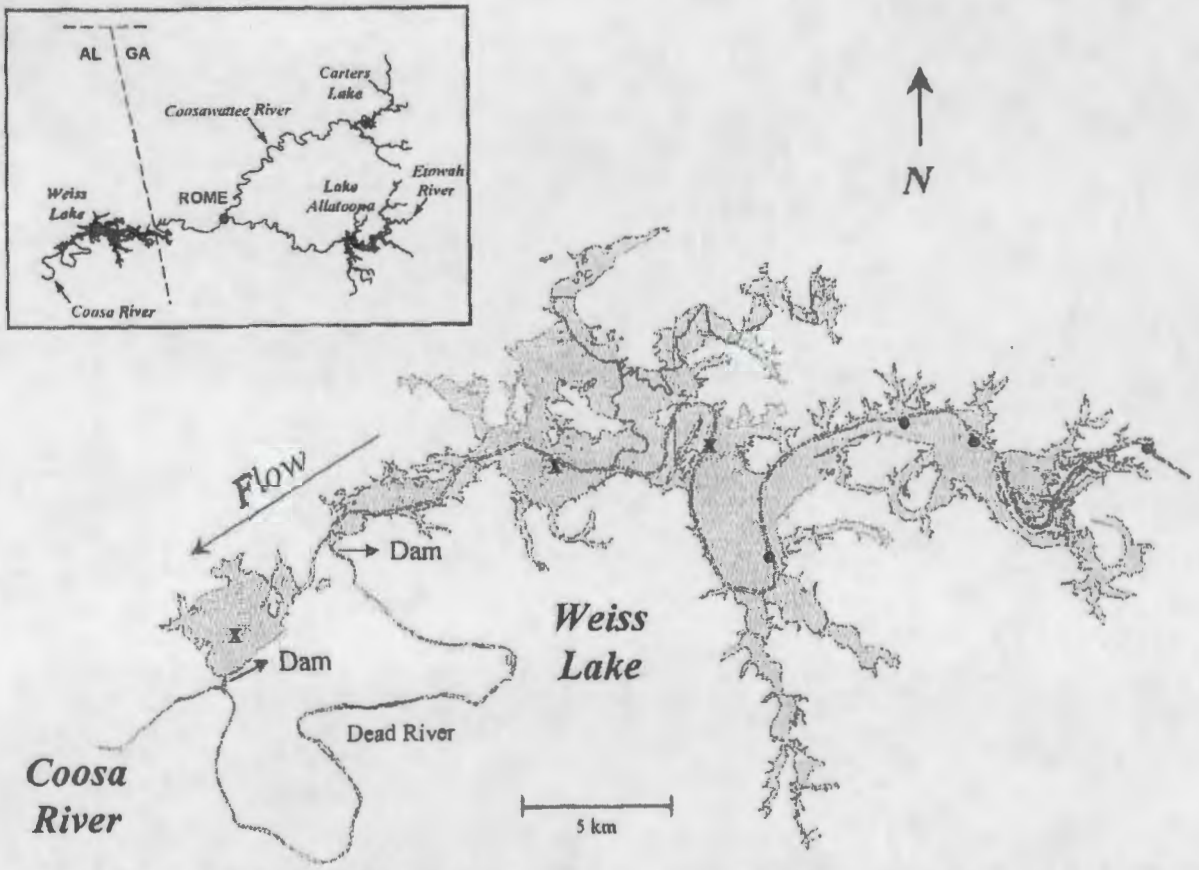

Figure 1.–Map of the upper Coosa River Basin and Weiss Lake. Location of water quality sampling stations in the downstream (X) and upstream (•) regions of Weiss Lake are given. When water levels exceed the regulation schedule in Weiss Lake, water is typically discharged into the Dead River. When computing retention in Weiss Lake, discharges were summed for both Powerhouse and Dead River releases.

(average = 12 mg·L^{-1}). Retention during the growing season (April to October) varied 15 fold (from 5 to 78 days) during drought and wet climatic conditions that occurred between 1989 and 2000.

Materials and Methods

To examine the potential impact of the water reallocation proposal on CHLA concentrations in Weiss Lake, we assembled CHLA data from Bayne et al. (1993), Bayne et al. (1994), and ADEM (2000) for upstream and downstream regions in Weiss Lake (Fig 1). Our preliminary analysis indicated that CHLA concentrations were about twice as high in the downstream region of Weiss Lake compared to the upstream region (Table 2) which justified spatial segregation for the analyses. Integrated water column samples were obtained from the surface to the depth of the photic zone (1% light penetration) and these were collected at irregular intervals from 10 April to 10 October from 1989 to 2000. CHLA was processed and corrected for phaeophytin following APHA (1998). Water clarity was measured to the nearest cm with a 20-cm Secchi disk.

Daily flow data for the Coosa River at Rome were obtained from the USGS and daily stage (measured at the dam) and discharge data were obtained from the Alabama Power Company. From 1 April to 10 October 1989 to 2000, we calculated 10-day average flows for successive 10-day periods in the Coosa River at Rome, and average discharge, stage, volume, and retention in Weiss Lake for the same 10-day intervals. This facilitated data comparisons because typically, on weekends, no water was released from Weiss Lake and daily retention could not be calculated. CHLA concentrations were paired with average retention for 1-10,

Table 2.–Description of water quality and hydrology for Weiss Lake from April to October 1989 to 2000 (Bayne et al. 1993; Bayne et al. 1994, ADEM 2000). Hydrologic data were computed from data supplied by the United States Geological Survey and Alabama Power Company. Chlorophyll a, Secchi, and turbidity data from the downstream (Down) and upstream (Up) regions of the reservoir are presented. Other data represent whole reservoir values.

Variable	(Region)	N	Mean	Median	Standard Deviation	Range
Chlorophyll a ($\mu g \cdot L^{-1}$)	(Down)	87	30	28.3	12.8	9.1 - 76.2
	(Up)	54	14	13.7	7.5	0.5 - 34.9
Secchi transparency (cm)	(Down)	87	77	76	19	39 - 124
	(Up)	54	73	74	20	30 - 120
Turbidity (NTUs)	(Down)	48	12	11.0	6.1	5.1 - 37.0
	(Up)	54	16	14.3	8.9	6.6 - 52.5
Total phosphorus ($\mu g \cdot L^{-1}$)		104	102	100	41	10 - 410
Total nitrogen ($\mu g \cdot L^{-1}$)		105	460	360	380	150 - 2,250
Conductivity (μS)		105	153	151	36	82 - 225
Alkalinity ($mg \cdot L^{-1}$)		105	52	54	14	13 - 84
Coosa River flow at Rome, GA ($m^3 \cdot sec^{-1}$)			153	111	136	33 - 1,049
Discharge from Weiss Lake ($m^3 \cdot sec^{-1}$)			193	141	186	0 - 1,205
Retention in Weiss Lake (days)			30	30	15	5 - 78

11-20, and 21-30-day intervals prior to dates when CHLA was sampled. Finally, discharge and elevation data for Weiss Lake were predicted from the HEC-5 model under the operating conditions of the water reallocation proposal (data provided by Dow Johnston, Alabama Office of Water Resources). Currently the HEC-5 model only provides predictions from 1989 to 1993, and these data were averaged using the same 10-day incremental method. Predicted stage and discharge data for the period of 1989 to 1993 (1 April to 10 October) were used to compute retention for Weiss Lake under the water reallocation proposal.

Results and Discussion

Coosa River inflows to the reservoir (as gaged at Rome, Georgia) were strongly related to retention and discharge from Weiss Lake from 1989 to 2000, and as flows at Rome during the growing season (April - October) decreased to less than 200 $m^3 \cdot sec^{-1}$, retention in Weiss Lake increased dramatically (Fig. 2). At Coosa River inflows less than 100 $m^3 \cdot sec^{-1}$, retention in Weiss Lake typically exceeded 30 days. Coosa River inflows were strongly related to discharge from Weiss Lake (Fig. 2), although a 1:1 association was not evident, as other tributary inflows contribute to discharge. However, for low inflow conditions ranging from 50 to 200 $m^3 \cdot sec^{-1}$, Coosa River inflow accounted for 73 to 86% of the discharge (based on regression). Lagging Coosa River inflows by 1-10 and 11-20 day time periods resulted in poorer fits to observed discharge and retention in Weiss Lake.

Under the reallocation proposal, predicted retention times were usually longer than those historically observed (Fig. 3). Comparison of historic and proposed water reallocation predictions between 1989 and 1993 showed the greatest effect of the proposed reallocation when historic retention was greater than about 20 days (Fig. 3). At times, the proposed water reallocation model predicted the same or slightly shorter retention, but overall, and particularly during dryer conditions, retention predicted under the water reallocation proposal was up to 30 days longer than those historically observed. Overall, predicted retention under the water reallocation was 14% greater than historic conditions for the period modeled (1989 to 1993). Using the regression equation that predicted growing-season retention in Weiss Lake from Coosa River inflows between 1989 and 2000 (Fig. 2), retention would increase 18 and 22% (5 and 10 days) at the new 50 and 75% exceedance levels under the reallocation compared with historic exceedance levels (see Table 1). If Weiss

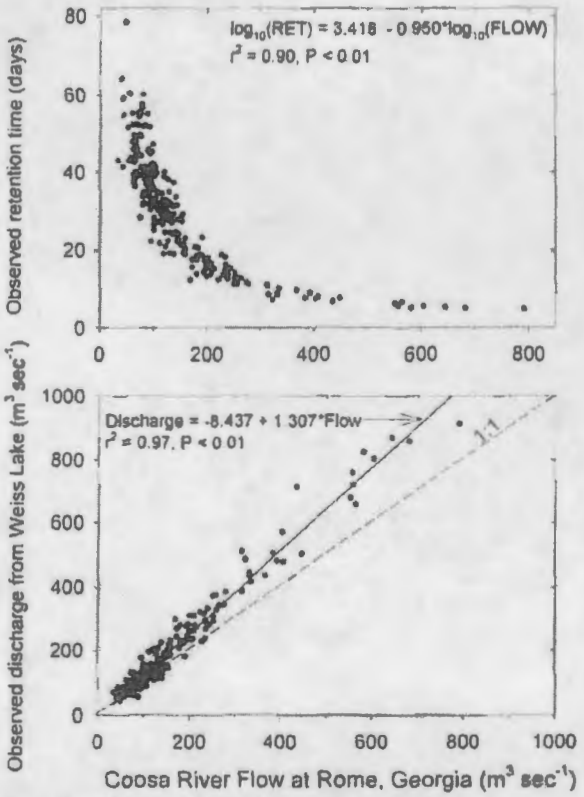

Figure 2.–The relation between Coosa River flows at Rome, Georgia and the observed retention (top) and discharge (bottom) in and from Weiss Lake. Data are from April to October, 1989 to 2000. Predicted retention at the 50 and 75% exceedences for the water reallocation and observed flows in the Coosa River at Rome were computed (top).

Lake was operated to maintain a higher summer pool elevation with less discharge, slightly longer retention would occur at these new exceedence levels.

From 1989 to 2000, CHLA concentrations were positively related to retention time in both the downstream and upstream regions of Weiss Lake (Fig. 4). Correlation analysis indicated that average retention time 11-20 days prior to CHLA sampling was the best time variable to predict CHLA among the 1-10, 11-20, and 21-30 day intervals examined. However, all 10-day intervals were significant ($P < 0.01$) correlates of CHLA. At retention times less than 20 days in the downstream region, hypereutrophic conditions (CHLA $\geq 40\ \mu g \cdot L^{-1}$) were not observed, but at longer retentions, 25% of the samples were within the hypereutrophic range.

Average retention 11-20 days prior to sampling explained from 24 to 28% of the variation in CHLA for both single $\log_{10}$ transformed linear and non-linear regression equations computed for data collected in the downstream and upstream regions of Weiss Lake. From the analyses of Maceina et al. (1996) for 32 Alabama reservoirs and inspection of the Weiss Lake data, possibly a non-linear fit between retention and CHLA existed (Fig. 4) that would more accurately describe this relation. Using a non-linear fit to the data, CHLA would still tend to increase, but proportionally less as retention increases with CHLA reaching a maximum asymptotic threshold. Although both the single $\log_{10}$ transformed linear and non-linear models showed statistically that retention explained a portion of the variation in CHLA, a great deal of variation existed that was not explained by retention. Nevertheless, both linear and non-linear fits to the data showed that on average, higher CHLA concentrations occurred in Weiss Lake when retention was longer.

From the $\log_{10}$CHLA:retention linear regression equation (Fig. 4), overall predicted CHLA concentrations in the downstream region of Weiss Lake under the reallocation proposal were slightly higher (average = 29.8 $\mu g \cdot L^{-1}$) compared with those predicted under historic conditions from 1989 to 1993 ([average = 27.5 $\mu g \cdot L^{-1}$]; Fig. 5). From 1989 to 1993, we predicted CHLA concentrations would be about 8% higher in downstream Weiss Lake with water reallocation. In a few instances with both predicted historic or water reallocation conditions, hypereutrophic conditions were observed, but the magnitude of hypereutrophic conditions was greater with reallocation (Fig. 5).

In the upstream region from 1989 to 1993, similar, but lower CHLA was predicted from the single $\log_{10}$ linear transformed regression equation presented in Fig. 4 with water reallocation and historic retention conditions (Fig. 5). Generally during longer retention time periods, we predicted that CHLA concentrations with reallocation would likely be higher than those predicted from historic retention times. From 1989 to

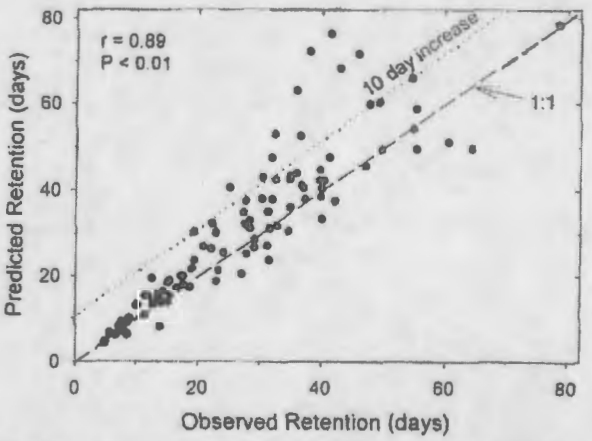

Figure 3.–Predicted retention computed with the HEC-5 model for the proposed water reallocation proposal and historic retention in Weiss Lake. Data were computed for April to October, 1989 to 1993.

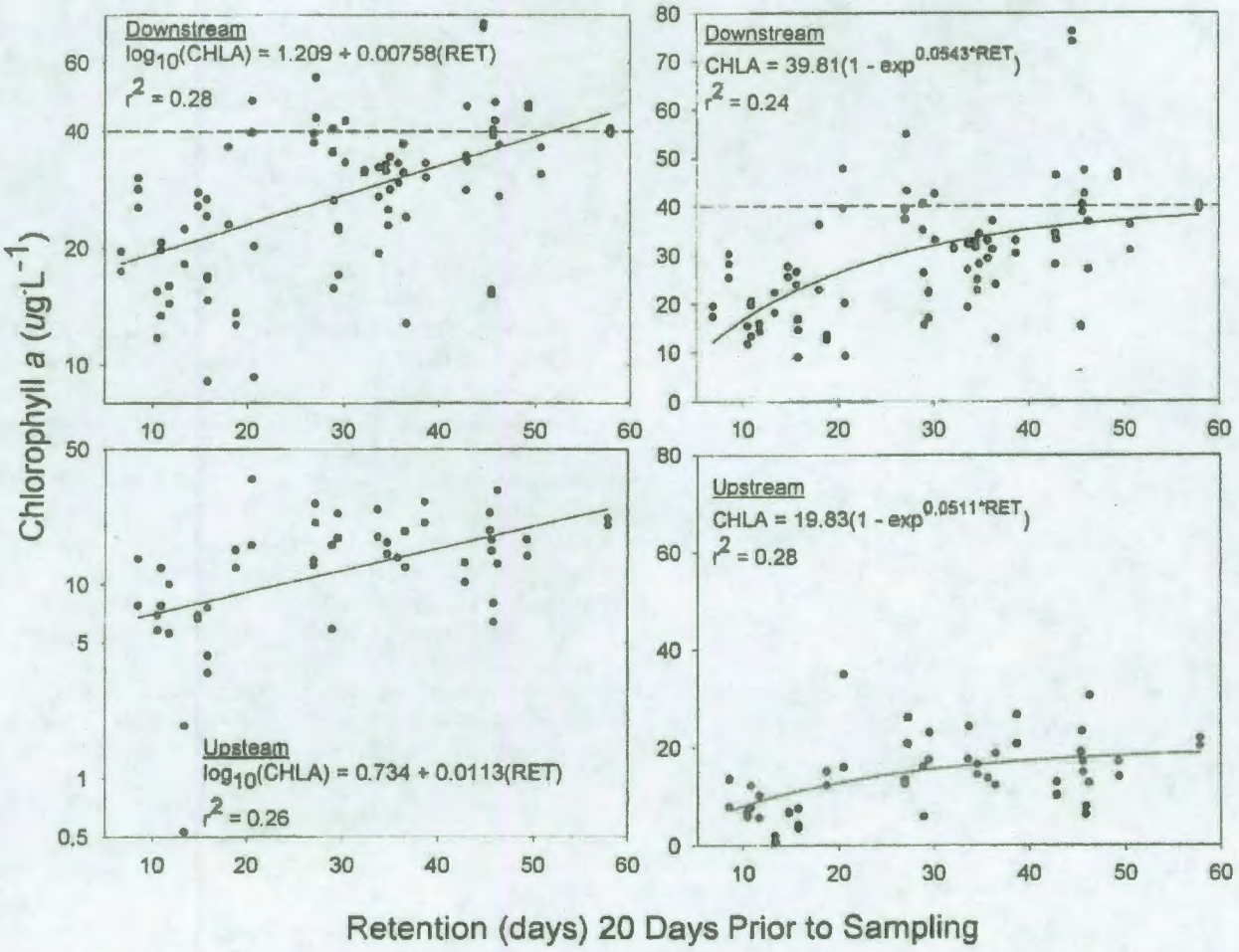

Figure 4.-The relations between chlorophyll a concentrations and average retention 20 days prior to sampling in the downstream and upstream regions of Weiss Lake. Dashed lines indicate threshold hypereutrophic conditions for chlorophyll a.

1993, predicted CHLA concentrations would be about 15% higher under the water reallocation plan in upstream Weiss Lake.

The single $\log_{10}$ linear transformed regression represents a more extreme "worst case scenario" than the non-linear regressions (Fig. 4) if retention time dramatically increases in Weiss Lake with water reallocation (Table 3). In downstream Weiss Lake, the single $\log_{10}$ linear transformed regression equation predicted a 10 and 20 day increase in retention would yield a 19 and 42% increase in average CHLA concentrations. At retention times greater than 50 days, the incidence of hypereutrophic conditions would likely be higher. However, if the critical retention:phytoplankton time period reported by Maceina et al. (1996) was accurate (35 days) and lower than reported by Søballe and Kimmel (1987), then an increase of retention from 30 to 40 days would imply an average increase of 10% in CHLA in downstream Weiss Lake using the non-linear model (Table 3). If retention should increase from 30 to 50 days with water reallocation, then average CHLA concentrations would be about 16% higher in the downstream region if the CHLA:retention relation was a non-linear asymptotic relationship. Using the linear equation between CHLA and retention for data collected in upstream Weiss Lake, each 10 day increase in retention produced 30% higher CHLA concentrations (Table 3). However, if the CHLA:retention relation was asymptotic, then predicted CHLA concentrations would only be slightly higher even if retention at times increased from 30 to 50 days with reallocation. If nitrogen is the limiting factor to phytoplankton production in Weiss Lake (Bayne et al. 1993, 1994), then possibly, the fit between CHLA and retention would be asymptotic.

Greater water clarity in Weiss Lake was not associated with lower CHLA concentrations. No correlations ($P > 0.5$) existed between untransformed and log10

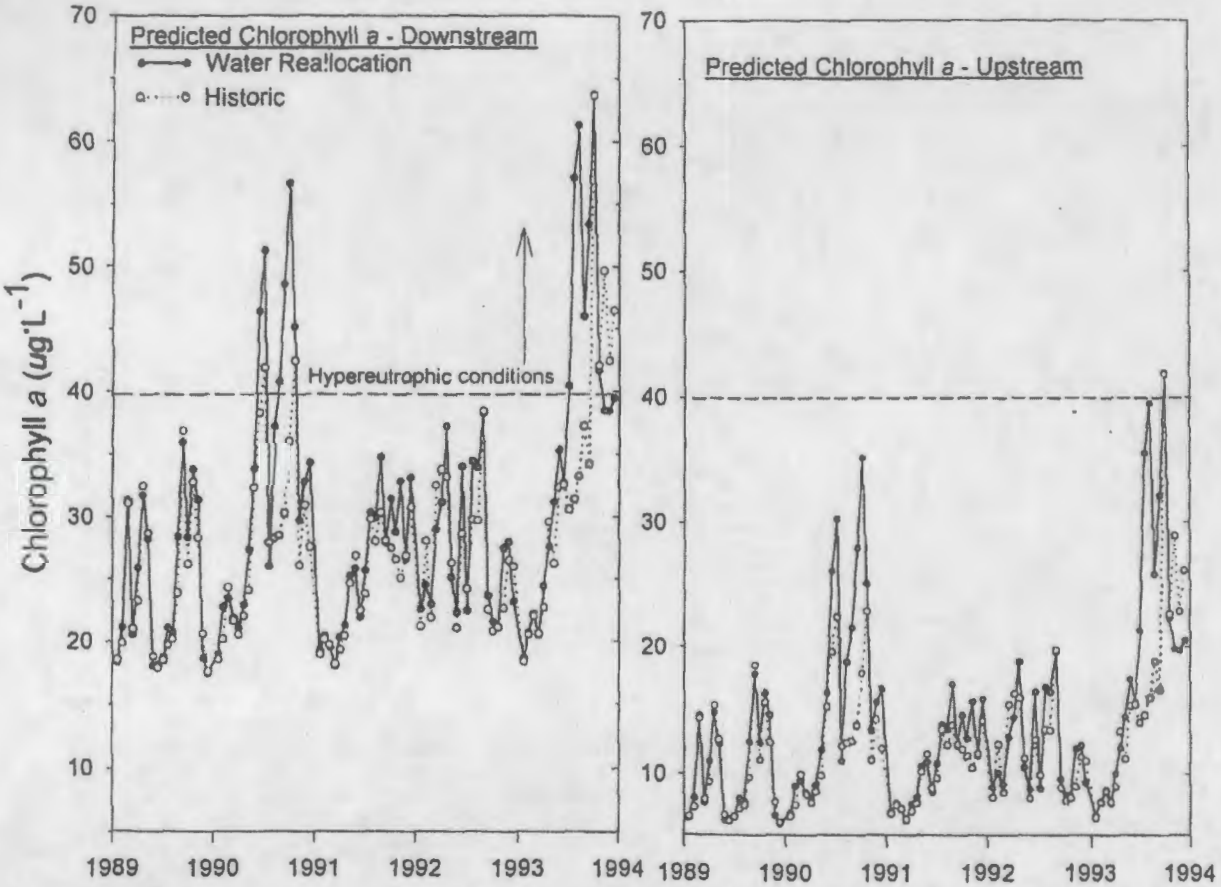

Figure 5.–Predicted chlorophyll a concentrations estimated from retention for both water reallocation and the historic retention times. The single $\log_{10}$ linear regression equations for both the lower and upper regions of Weiss Lake presented in Fig. 4 were used to predict chlorophyll a concentrations.

transformed values for Secchi transparency and CHLA in the downstream region. In the upstream region, greater Secchi transparency was in fact positively related ($r = 0.54$, $P < 0.01$) to higher CHLA concentrations. Turbidity was significantly greater ($t = 2.72$, $P < 0.01$) in the upstream than in the downstream region (Table 2) and was weakly, but negatively correlated ($r = -0.34$, $P < 0.05$) to retention in upstream areas of Weiss Lake. Likely, high non-algal or abiotic turbidity caused greater light limitation to phytoplankton in the upstream region during periods of higher flows in the Coosa River.

For simulated hydrologic conditions from 1989 to 1993 and the relation between Coosa River inflows and retention in Weiss Lake, we estimate that retention in Weiss Lake will be about 8 to 25% longer during the growing season if water reallocation occurs. Based on these predictions and the relation between CHLA and retention, then increases in CHLA in Weiss Lake will likely be less than 20-30% if the water reallocation plan is instituted. This increase would likely be statistically non-detectable under the typical annual number of CHLA samples collected each year (4 to 28), would have little or no impact on water clarity, as Secchi transparency did not increase with lower CHLA concentrations. However, during long-retention time periods, a greater frequency of hypereutrophic conditions would be expected with water reallocation. In addition, any increase in CHLA will be a concern to regulatory agencies in Alabama and Georgia as they attempt to establish Total Maximum Daily Loads (TMDL) criteria to avoid exceeding Alabama's new CHLA (20 $\mu g \cdot L^{-1}$) standard for Weiss Lake. This new CHLA standard will require that nutrient reduction be initiated whether this water reallocation plan is implemented or not.

Some uncertainty exists in the interpretation of these results. Highly variable CHLA concentrations occurred in Weiss Lake (similar to most USA reservoirs) even when considering separate reservoir regions. Whether the relation between CHLA and retention is linear or reaches an approximate maximum at a retention time of about 35 days (Maceina et al. 1996) or

Table 3.–Predicted average chlorophyll a (CHLA) concentrations from the downstream and upstream regions of Weiss Lake generated from the relations between CHLA and retention. Regression equations for the single $\log_{10}$ simple linear models and non-linear models are presented in Fig. 4.

Retention (days)	CHLA (Linear model)		CHLA (Non-linear model)	
	Downstream	Upstream	Downstream	Upstream
10	19	7	17	8
20	23	9	26	13
30	27	12	32	16
40	33	15	35	17
50	39	20	37	18

60-100 days for USA reservoirs (reviewed by Søballe and Kimmel 1987) is uncertain. This is an important consideration regarding the potential impacts of the water reallocation plan.

The water reallocation plan indicated that flows in the Coosa River at Rome, Georgia would increase compared to historic conditions during drought conditions when exceedence was greater that 90% and thus, could reduce retention in Weiss Lake. However, during these low flow conditions when inflow is less than 50 $m^3 \cdot sec^{-1}$, retention would be greater than 60 days (Fig. 2) either with water reallocation or under historic conditions. Thus, the provision for greater water releases from the two upstream Georgia reservoirs in the Coosa River Basin in the water reallocation plan during droughts (exceedence > 90%) would likely have little impact on decreasing CHLA which would tend to be higher under both scenarios.

For this analysis, we predict a 5-10 day increase in retention with water reallocation when exceedence is greater that 50% in the Coosa River upstream of Weiss Lake. If retention times in Weiss Lake with water reallocation should increase substantially by more than 15-20 days and the true relation between CHLA and retention is linear up to 60 days (Søballe and Kimmel 1987), then higher CHLA will likely occur unless existing phosphorus loads are reduced dramatically in the future.

ACKNOWLEDGMENTS: Water quality data were provided by F. Leslie with the Alabama Department of Environmental Management and hydrologic data from the results of the HEC-5 model provided from D. Johnston, Office of Water Resources, Alabama Depart-ment of Economic and Community Affairs.

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Attachment 5

Water Quality Data for Other Reservoirs in the
Coosa, Tallapoosa and Alabama River Basins
(Contained on enclosed CD)

Attachment 6

International Paper Company
Pine Hill Containerboard Mill
Alabama NPDES Permit AL0002674

LANCE R. LEFLEUR
DIRECTOR

ADEM

ROBERT J. BENTLEY
GOVERNOR

Alabama Department of Environmental Management
adem.alabama.gov

1400 Coliseum Blvd. 36110-2400 ■ Post Office Box 301463
Montgomery, Alabama 36130-1463
(334) 271-7700 ■ FAX (334) 271-7950

JULY 12, 2012

MS JANET NEIGHBORS
MILL MANAGER
INTERNATIONAL PAPER COMPANY - PINE HILL CONTAINERBOARD MILL
P O BOX 250
PINE HILL AL 36769

RE: NPDES Permit Number AL0002674

Dear Ms. Neighbors:

Attached is the issued copy of the above referenced permit. Please note the permit limitations and conditions with which the permittee must comply.

Future monitoring data should be submitted in accordance with the conditions of your permit. Please see PART I.C for your reporting requirements. To reduce the paperwork burden for both the Department and the Permittee, when submitting the required Discharge Monitoring Reports (DMRs), please **do not submit** lab worksheets, logs, reports or other paperwork not specifically required by the permit unless requested by ADEM staff.

Our records indicate that you are currently utilizing the Department's web-based electronic environmental (E2) reporting system for submittal of discharge monitoring reports (DMRs). Your E2 DMRs should automatically update to correspond with the attached permit upon the effective date of the permit.

If you have questions regarding this permit or monitoring requirements, please contact Donald Brown by email at dkbrown@adem.state.al.us or by phone at (334) 271-7812.

Sincerely,

Eric Sanderson, Chief
Industrial Section
Water Division

Enclosure: Final Permit

cc: EPA Region IV: Final Permit
Mike McCary, P & S: Final Permit
Montgomery Field Office: Final Permit

Birmingham Branch
110 Vulcan Road
Birmingham, AL 35209-4702
(205) 942-6168
(205) 941-1603 (FAX)

Decatur Branch
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(256) 340-9359 (FAX)

Mobile Branch
2204 Perimeter Road
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(251) 450-3400
(251) 479-2593 (FAX)

Mobile-Coastal
4171 Commanders Drive
Mobile, AL 36615-1421
(251) 432-6533
(251) 432-6598 (FAX)

ADEM
Alabama Department of Environmental Management

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT

PERMITTEE:	INTERNATIONAL PAPER COMPANY - PINE HILL CONTAINERBOARD MILL
FACILITY LOCATION:	ALABAMA HIGHWAY 10 PINE HILL, AL 36769
PERMIT NUMBER:	AL0002674
RECEIVING WATERS:	DSN001-DSN003 TO ALABAMA RIVER, DSN004, DSN006 & DSN007 TO UNNAMED TRIBUTARY TO ALABAMA RIVER DSN005 TO DUNNS CREEK

In accordance with and subject to the provisions of the Federal Water Pollution Control Act, as amended, 33 U.S.C. §§1251-1378 (the "FWPCA"), the Alabama Water Pollution Control Act, as amended, Code of Alabama 1975, §§ 22-22-1 to 22-22-14 (the "AWPCA"), the Alabama Environmental Management Act, as amended, Code of Alabama 1975, §§22-22A-1 to 22-22A-15, and rules and regulations adopted thereunder, and subject further to the terms and conditions set forth in this permit, the Permittee is hereby authorized to discharge into the above-named receiving waters.

ISSUANCE DATE:	JULY 12, 2012
EFFECTIVE DATE:	AUGUST 1, 2012
EXPIRATION DATE:	JULY 31, 2017

GLENNA L. DEAN
Alabama Department of Environmental Management

INDUSTRIAL SECTION
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT

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PART I DISCHARGE LIMITATIONS, CONDITIONS, AND REQUIREMENTS

A. DISCHARGE LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning on the effective date of this permit and lasting through the expiration date of this permit, the permittee is authorized to discharge from the following point source(s) outfall(s), described more fully in the permittee's application:

DSN0011: Process and sanitary wastewaters, cooling water, and stormwater runoff. 4/

Such discharge shall be limited and monitored by the permittee as specified below:

EFFLUENT CHARACTERISTIC	DISCHARGE LIMITATIONS Daily Maximum	Monthly Average	Daily Minimum	Daily Maximum	Monthly Average	MONITORING REQUIREMENTS 1/ Measurement Frequency 2/	Sample Type	Seasonal
BOD, 5-Day (20 Deg. C)	21871 lbs/day	10973 lbs/day	-	-	-	3X Weekly test	Composite	January- April
BOD, 5-Day (20 Deg. C)	13123 lbs/day	6583 lbs/day	-	-	-	3X Weekly test	Composite	July - October
BOD, 5-Day (20 Deg. C)	17497 lbs/day	8778 lbs/day	-	-	-	3X Weekly test	Composite	May – June & November- December
pH	-	-	6.0 S.U.	9.0 S.U.	-	3X Weekly test	Grab	-
Solids, Total Suspended	35104 lbs/day	17572 lbs/day	-	-	-	3X Weekly test	Composite	-
Flow, In Conduit or Thru Treatment Plant	REPORT MGD	REPORT MGD	-	-	-	Continuous	Totalizer	-

THE DISCHARGE SHALL HAVE NO SHEEN, AND THERE SHALL BE NO DISCHARGE OF VISIBLE OIL, FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.

1/ Samples collected to comply with the monitoring requirements specified above shall be collected at the following location: At the nearest accessible location just prior to discharge and after final treatment. Unless otherwise specified, composite samples shall be time composite samples collected using automatic sampling equipment or a minimum of eight (8) equal volume grab samples collected over equal time intervals. All composite samples shall be collected for the total period of discharge not to exceed 24 hours.

2/ If only one sampling event occurs during a month, the sample result shall be reported on the discharge monitoring report as both the monthly average and daily maximum value for all parameters with a monthly average limitation.

3/ See Part IV. D. for Stream Monitoring Requirements.

4/ From June 1 through October 31, the permittee shall only discharge between the hours 9:00 a.m. and 9:00 p.m. when the 48-h mean flow reported for Millers Ferry is less than 15,000 cfs., unless otherwise authorized by the Department. Discharge may occur only when effluent release will not cause the in-stream dissolved oxygen to fall below 5.0 mg/l as determined in accordance with Part IV.D of this permit.

During the period beginning on the effective date of this permit and lasting through the expiration date of this permit, the permittee is authorized to discharge from the following point source(s) outfall(s), described more fully in the permittee's application:

DSN001Q: Process and sanitary wastewaters, cooling water, and stormwater runoff.

Such discharge shall be limited and monitored by the permittee as specified below:

	DISCHARGE LIMITATIONS					MONITORING REQUIREMENTS 1/		
EFFLUENT CHARACTERISTIC	Daily Maximum	Monthly Average	Daily Minimum	Daily Maximum	Monthly Average	Measurement Frequency 2/	Sample Type	Seasonal
Nitrogen, Ammonia Total (As N)	-	-	-	REPORT mg/l	-	Quarterly	Composite	-
Nitrite Plus Nitrate Total 1 Det. (As N)	-	-	-	REPORT mg/l	-	Quarterly	Composite	-
Phosphorus, Total (As P)	-	-	-	REPORT mg/l	-	Quarterly	Composite	-
Pentachlorophenol	2.38 lbs/day	-	-	-	-	Quarterly	Composite	-
Trichlorophenol	1.76 lbs/day	-	-	-	-	Quarterly	Composite	-

THE DISCHARGE SHALL HAVE NO SHEEN, AND THERE SHALL BE NO DISCHARGE OF VISIBLE OIL, FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.

1/ Samples collected to comply with the monitoring requirements specified above shall be collected at the following location: At the nearest accessible location just prior to discharge and after final treatment. Unless otherwise specified, composite samples shall be time composite samples collected using automatic sampling equipment or a minimum of eight (8) equal volume grab samples collected over equal time intervals. All composite samples shall be collected for the total period of discharge not to exceed 24 hours.

2/ If only one sampling event occurs during a month, the sample result shall be reported on the discharge monitoring report as both the monthly average and daily maximum value for all parameters with a monthly average limitation.

3/ Limitations and monitoring are not required provided permittee certifies that these compounds are not being used. Certification of non-use shall be submitted annually by December 31 if the permittee selects this option.

During the period beginning on the effective date of this permit and lasting through the expiration date of this permit, the permittee is authorized to discharge from the following point source(s) outfall(s), described more fully in the permittee's application:

DSN001Y: Process and sanitary wastewaters, cooling water, and stormwater runoff. 3/

Such discharge shall be limited and monitored by the permittee as specified below:

EFFLUENT CHARACTERISTIC	DISCHARGE LIMITATIONS Daily Maximum	Monthly Average	Daily Minimum	Daily Maximum	Monthly Average	MONITORING REQUIREMENTS 1/ Measurement Frequency 2/	Sample Type	Seasonal
% Effect Statre 48Hr Acu Ceriodaphnia	-	-	-	10 %	-	Annually	Grab	-
% Effect Statre 48 Hr Acu Pimphales	-	-	-	10 %	-	Annually	Grab	-

THE DISCHARGE SHALL HAVE NO SHEEN, AND THERE SHALL BE NO DISCHARGE OF VISIBLE OIL, FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.

1/ Samples collected to comply with the monitoring requirements specified above shall be collected at the following location: At the nearest accessible location just prior to discharge and after final treatment. Unless otherwise specified, composite samples shall be time composite samples collected using automatic sampling equipment or a minimum of eight (8) equal volume grab samples collected over equal time intervals. All composite samples shall be collected for the total period of discharge not to exceed 24 hours.

2/ If only one sampling event occurs during a month, the sample result shall be reported on the discharge monitoring report as both the monthly average and daily maximum value for all parameters with a monthly average limitation.

3/ See Part IV.C. for additional requirements.

During the period beginning on the effective date of this permit and lasting through the expiration date of this permit, the permittee is authorized to discharge from the following point source(s) outfall(s), described more fully in the permittee's application:

DSN002S: Leachate from solid waste landfill and stormwater from landfill site.

Such discharge shall be limited and monitored by the permittee as specified below:

	DISCHARGE LIMITATIONS					MONITORING REQUIREMENTS 1/		
EFFLUENT CHARACTERISTIC	Daily Maximum	Monthly Average	Daily Minimum	Daily Maximum	Monthly Average	Measurement Frequency 2/	Sample Type	Seasonal
BOD, 5-Day (20 Deg. C)	-	-	-	REPORT mg/l	-	Semi-Annual	Grab	-
pH	-	-	6.0 S.U.	9.0 S.U.	-	Semi-Annual	Grab	-
Solids, Total Suspended	-	-	-	REPORT mg/l	-	Semi-Annual	24-Hr Composite	-
Iron Total Recoverable 3/	-	-	-	REPORT mg/l	-	Semi-Annual	24-Hr Composite	-
Zinc Total Recoverable 3/	-	-	-	REPORT mg/l	-	Semi-Annual	24-Hr Composite	-
Manganese, Total Recoverable 3/	-	-	-	REPORT mg/l	-	Semi-Annual	24-Hr Composite	-
Flow, In Conduit or Thru Treatment Plant	REPORT MGD	-	-	-	-	Semi-Annual	Instantaneous	-

THE DISCHARGE SHALL HAVE NO SHEEN, AND THERE SHALL BE NO DISCHARGE OF VISIBLE OIL, FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.

DEBRIS IS DEFINED AS WOODY MATERIAL SUCH AS BARK, TWIGS, BRANCHES, HEARTWOOD, OR SAPWOOD THAT WILL NOT PASS THROUGH A 2.54 CM (1.0 INCH) DIAMETER ROUND OPENING.

1/ Samples collected to comply with the monitoring requirements specified above shall be collected at the following location: At the nearest accessible location just prior to discharge and after final treatment. Unless otherwise specified, composite samples shall be time composite samples collected using automatic sampling equipment or a minimum of eight (8) equal volume grab samples collected over equal time intervals. All composite samples shall be collected for the total period of discharge not to exceed 24 hours.

2/ If only one sampling event occurs during a month, the sample result shall be reported on the discharge monitoring report as both the monthly average and daily maximum value for all parameters with a monthly average limitation.

3/ For the purpose of demonstration of compliance with this parameter, "Total" and "Total Recoverable" shall be considered equivalent.

During the period beginning on the effective date of this permit and lasting through the expiration date of this permit, the permittee is authorized to discharge from the following point source(s) outfall(s), described more fully in the permittee's application:

DSN003Y, DSN006Y, & DSN007Y: Stormwater associated with industrial activity. 4/ 5/

Such discharge shall be limited and monitored by the permittee as specified below:

	DISCHARGE LIMITATIONS					MONITORING REQUIREMENTS 1/		
EFFLUENT CHARACTERISTIC	Daily Maximum	Monthly Average	Daily Minimum	Daily Maximum	Monthly Average	Measurement Frequency 2/	Sample Type	Seasonal
BOD, 5-Day (20 Deg. C)	-	-	-	REPORT mg/l	REPORT mg/l	Annually	Grab	-
pH	-	-	6.0 S.U.	9.0 S.U.	-	Annually	Grab	-
Solids, Total Suspended	-	-	-	REPORT mg/l	-	Annually	Grab	-
Oil and Grease	-	-	-	15.0 mg/l	-	Annually	Grab	-
Flow, In Conduit or Thru Treatment Plant	REPORT MGD	-	-	-	-	Annually	Estimate	3/

THE DISCHARGE SHALL HAVE NO SHEEN, AND THERE SHALL BE NO DISCHARGE OF VISIBLE OIL, FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.

DEBRIS IS DEFINED AS WOODY MATERIAL SUCH AS BARK, TWIGS, BRANCHES, HEARTWOOD, OR SAPWOOD THAT WILL NOT PASS THROUGH A 2.54 CM (1.0 INCH) DIAMETER ROUND OPENING.

1/ Samples collected to comply with the monitoring requirements specified above shall be collected at the following location: At the nearest accessible location just prior to discharge and after final treatment. Unless otherwise specified, composite samples shall be time composite samples collected using automatic sampling equipment or a minimum of eight (8) equal volume grab samples collected over equal time intervals. All composite samples shall be collected for the total period of discharge not to exceed 24 hours.

2/ If only one sampling event occurs during a month, the sample result shall be reported on the discharge monitoring report as both the monthly average and daily maximum value for all parameters with a monthly average limitation.

3/ See Part IV.A. for Stormwater Sampling and Flow Measurement requirements.

4/ At least one sampling point must be selected so as to measure the influence of stormwater runoff from any sawdust, chip, or wood refuse piles on site.

5/ The above monitoring requirements shall be performed at outfalls DSN003 and DSN006 only.

During the period beginning on the effective date of this permit and lasting through the expiration date of this permit, the permittee is authorized to discharge from the following point source(s) outfall(s), described more fully in the permittee's application:

DSN004Y& DSN005Y: Stormwater associated with industrial activity.

Such discharge shall be limited and monitored by the permittee as specified below:

	DISCHARGE LIMITATIONS					MONITORING REQUIREMENTS 1/		
EFFLUENT CHARACTERISTIC	Daily Maximum	Monthly Average	Daily Minimum	Daily Maximum	Monthly Average	Measurement Frequency 2/	Sample Type	Seasonal
BOD, 5-Day (20 Deg. C)	-	-	-	REPORT mg/l	REPORT mg/l	Annually	Grab	-
pH	-	-	6.0 S.U.	9.0 S.U.	-	Annually	Grab	-
Solids, Total Suspended	-	-	-	REPORT mg/l	-	Annually	Grab	-
Oil and Grease	-	-	-	15.0 mg/l	-	Annually	Grab	-
Flow, In Conduit or Thru Treatment Plant	REPORT MGD	-	-	-	-	Annually	Estimate	3/

THE DISCHARGE SHALL HAVE NO SHEEN, AND THERE SHALL BE NO DISCHARGE OF VISIBLE OIL, FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.

DEBRIS IS DEFINED AS WOODY MATERIAL SUCH AS BARK, TWIGS, BRANCHES, HEARTWOOD, OR SAPWOOD THAT WILL NOT PASS THROUGH A 2.54 CM (1.0 INCH) DIAMETER ROUND OPENING.

1/ Samples collected to comply with the monitoring requirements specified above shall be collected at the following location: At the nearest accessible location just prior to discharge and after final treatment. Unless otherwise specified, composite samples shall be time composite samples collected using automatic sampling equipment or a minimum of eight (8) equal volume grab samples collected over equal time intervals. All composite samples shall be collected for the total period of discharge not to exceed 24 hours.

2/ If only one sampling event occurs during a month, the sample result shall be reported on the discharge monitoring report as both the monthly average and daily maximum value for all parameters with a monthly average limitation.

3/ See Part IV.A. for Stormwater Sampling and Flow Measurement requirements.

B. DISCHARGE MONITORING AND RECORD KEEPING REQUIREMENTS

1. Representative Sampling

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge and shall be in accordance with the provisions of this permit.

2. Test Procedures

For the purpose of reporting and compliance, permittees shall use one of the following procedures:

a. For parameters with an EPA established Minimum Level (ML), report the measured value if the analytical result is at or above the ML and report "0" for values below the ML. Test procedures for the analysis of pollutants shall conform to 40 CFR Part 136 and guidelines published pursuant to Section 304(h) of the FWPCA, 33 U.S.C. Section 1314(h). If more than one method for analysis of a substance is approved for use, a method having a minimum level lower than the permit limit shall be used. If the minimum level of all methods is higher than the permit limit, the method having the lowest minimum level shall be used and a report of less than the minimum level shall be reported as zero and will constitute compliance, however should EPA approve a method with a lower minimum level during the term of this permit the permittee shall use the newly approved method.

b. For pollutants parameters without an established ML, an interim ML may be utilized. The interim ML shall be calculated as 3.18 times the Method Detection Level (MDL) calculated pursuant to 40 CFR Part 136, Appendix B.

Permittees may develop an effluent matrix-specific ML, where an effluent matrix prevents attainment of the established ML. However, a matrix specific ML shall be based upon proper laboratory method and technique. Matrix-specific MLs must be approved by the Department, and may be developed by the permittee during permit issuance, reissuance, modification, or during compliance schedule.

In either case the measured value should be reported if the analytical result is at or above the ML and "0" reported for values below the ML.

c. For parameters without an EPA established ML, interim ML, or matrix-specific ML, a report of less than the detection limit shall constitute compliance if the detection limit of all analytical methods is higher than the permit limit using the most sensitive EPA approved method. For the purpose of calculating a monthly average, "0" shall be used for values reported less than the detection limit.

The Minimum Level utilized for procedures A and B above shall be reported on the permittee's DMR. When an EPA approved test procedure for analysis of a pollutant does not exist, the Director shall approve the procedure to be used.

3. Recording of Results

For each measurement or sample taken pursuant to the requirements of this permit, the permittee shall record the following information:

a. The facility name and location, point source number, date, time and exact place of sampling;

b. The name(s) of person(s) who obtained the samples or measurements;

c. The dates and times the analyses were performed;

d. The name(s) of the person(s) who performed the analyses;

e. The analytical techniques or methods used, including source of method and method number; and

f. The results of all required analyses.

4. Records Retention and Production

The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by the permit, and records of all data used to complete the above reports or the application for this permit, for a period of at least three years from the date of the sample measurement, report or application. This period may be extended by request of the Director at any time. If litigation or other enforcement action, under the AWPCA and/or the FWPCA, is ongoing which involves any of the above records, the records shall be kept until the litigation is resolved. Upon the written request of the Director or his designee, the permittee shall provide the Director with a copy of any record required to be retained by this paragraph. Copies of these records shall not be submitted unless requested.

All records required to be kept for a period of three years shall be kept at the permitted facility or an alternate location approved by the Department in writing and shall be available for inspection.

5. Monitoring Equipment and Instrumentation

All equipment and instrumentation used to determine compliance with the requirements of this permit shall be installed, maintained, and calibrated in accordance with the manufacturer's instructions or, in the absence of manufacturer's instructions, in accordance with accepted practices. The permittee shall develop and maintain quality assurance procedures to ensure proper operation and maintenance of all equipment and instrumentation. The quality assurance procedures shall include the proper use, maintenance, and installation, when appropriate, of monitoring equipment at the plant site.

C. DISCHARGE REPORTING REQUIREMENTS

1. Reporting of Monitoring Requirements

a. The permittee shall conduct the required monitoring in accordance with the following schedule:

MONITORING REQUIRED MORE FREQUENTLY THAN MONTHLY AND MONTHLY shall be conducted during the first full month following the effective date of coverage under this permit and every month thereafter.

QUARTERLY MONITORING shall be conducted at least once during each calendar quarter. Calendar quarters are the periods of January through March, April through June, July through September, and October through December. The permittee shall conduct the quarterly monitoring during the first complete calendar quarter following the effective date of this permit and is then required to monitor once during each quarter thereafter. Quarterly monitoring may be done anytime during the quarter, unless restricted elsewhere in this permit, but it should be submitted with the last DMR due for the quarter, i.e. (March, June, September and December DMRs).

SEMIANNUAL MONITORING shall be conducted at least once during the period of January through June and at least once during the period of July through December. The permittee shall conduct the semiannual monitoring during the first complete calendar semiannual period following the effective date of this permit and is then required to monitor once during each semiannual period thereafter. Semiannual monitoring may be done anytime during the semiannual period, unless restricted elsewhere in this permit, but it should be submitted with the last DMR due for the month of the semiannual period, i.e. (June and December DMRs).

ANNUAL MONITORING shall be conducted at least once during the period of January through December. The permittee shall conduct the annual monitoring during the first complete calendar annual period following the effective date of this permit and is then required to monitor once during each annual period thereafter. Annual monitoring may be done anytime during the year, unless restricted elsewhere in this permit, but it should be submitted with the December DMR.

b. The permittee shall submit discharge monitoring reports (DMRs) on the forms provided by the Department and in accordance with the following schedule:

REPORTS OF MORE FREQUENTLY THAN MONTHLY AND MONTHLY TESTING shall be submitted on a **monthly** basis. The first report is due on the **28th** day of **August.** The reports shall be submitted so that they are received by the Department no later than the 28th day of the month following the reporting period.

REPORTS OF QUARTERLY TESTING shall be submitted on a quarterly basis. The first report is due on the 28th day of **October**. The reports shall be submitted so that they are received by the Department no later than the 28th day of the month following the reporting period.

REPORTS OF SEMIANNUAL TESTING shall be submitted on a semiannual basis. The reports are due on the 28th day of JANUARY and the 28th day of JULY. The reports shall be submitted so that they are received by the Department no later than the 28th day of the month following the reporting period.

REPORTS OF ANNUAL TESTING shall be submitted on an annual basis. The first report is due on the 28th day of JANUARY. The reports shall be submitted so that they are received by the Department no later than the 28th day of the month following the reporting period.

c. The Department is utilizing a web-based electronic environmental (E2) reporting system for submittal of DMRs. The E2 DMR system allows ADEM to electronically validate, acknowledge receipt, and upload data to the state's central wastewater database. This improves the accuracy of reported compliance data and reduces costs to both the regulated community and ADEM. **If the permittee is not already participating in the e-DMR system, within 180 days of**

coverage under this permit, permittee must apply for participation in the e-DMR system unless the facility submits in writing valid justification as to why they cannot participate and the Department approves in writing utilization of hard copy DMR submittals. To participate in this program, the Permittee Participation Package may be downloaded online at https://e2.adem.alabama.gov/npdes. If the electronic environmental (E2) reporting system is down (i.e. electronic submittal of DMR data is unable to be completed due to technical problems originating with the Department's system: this could include entry/submittal issues with an entire set of DMRs or individual parameters), permittee is not relieved of their obligation to submit DMR data to the Department by the required submittal date. However, if the E2 system is down on the 28th day of the month or is down for an extended period of time as determined by the Department when a DMR is required to be submitted, the facility may submit the data in an alternate manner and format acceptable to the Department. Preapproved alternate acceptable methods include faxing, e-mailing, mailing, or hand-delivery of data such that they are received by the required reporting date. Within five calendar days of the E2 system resuming operation, the permittee shall enter the data into the E2 reporting system, unless an alternate timeframe is approved by the Department. An attachment should be included with the E2 DMR submittal verifying the original submittal date (date of the fax, copy of dated e-mail, or hand-delivery stamped date). If a permittee is allowed to submit via the US Postal Service, the DMR must be legible and bear an original signature. Photo and electronic copies of the signature are not acceptable and shall not satisfy the reporting requirements of this permit. If the permittee, using approved analytical methods as specified in Provision I.B.2 monitors any discharge from a point source for a limited substance identified in Provision I.A of this permit more frequently than required by this permit, the results of such monitoring shall be included in the calculation and reporting of values on the DMR form and the increased frequency shall be indicated on the DMR form. In the event no discharge from a point source identified in Provision I.A of this permit and described more fully in the permittee's application occurs during a monitoring period, the permittee shall report "No Discharge" for such period on the appropriate DMR form.

d. All reports and forms required to be submitted by this permit, the AWPCA and the Department's Rules and regulations, shall be electronically signed (or, if allowed by the Department, traditionally signed) by a "responsible official" of the permittee as defined in ADEM Administrative Code Rule 335-6-6-.09 or a "duly authorized representative" of such official as defined in ADEM Administrative Code Rule 335-6-6-.09 and shall bear the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

e. The permittee may certify in writing that a discharge will not occur for an extended period of time and after such certification shall not be required to submit monitoring reports. Written notification of a planned resumption of discharge shall be submitted at least 30 days prior to resumption of the discharge. If an unplanned resumption of discharge occurs, written notification shall be submitted within 7 days of the resumption. In any case, all discharges shall comply with all provisions of this permit.

f. All Discharge Monitoring Report forms required to be submitted by this permit, the AWPCA and the Department's Rules, shall be addressed to:

Alabama Department of Environmental Management
Permits and Services Division
Environmental Data Section
Post Office Box 301463
Montgomery, Alabama 36130-1463

Certified and Registered Mail containing Discharge Monitoring Reports shall be addressed to:

Alabama Department of Environmental Management
Permits and Services Division
Environmental Data Section
1400 Coliseum Boulevard
Montgomery, Alabama 36110-2059

g. All other correspondence and reports required to be submitted by this permit, the AWPCA and the Department's Rules, shall be addressed to:

Alabama Department of Environmental Management
Water Division
Post Office Box 301463
Montgomery, Alabama 36130-1463

Certified and Registered Mail shall be addressed to:

Alabama Department of Environmental Management
Water Division
1400 Coliseum Boulevard
Montgomery, Alabama 36110-2059

h. If this permit is a reissuance, then the permittee shall continue to submit DMRs in accordance with the requirements of their previous permit until such time as DMRs are due as discussed in Part I.C.1.b. above.

2. Noncompliance Notification

a. 24-Hour Noncompliance Reporting

The permittee shall report to the Director, within 24-hours of becoming aware of any noncompliance which may endanger health or the environment. This shall include but is not limited to the following circumstances:

(1) does not comply with any daily minimum or maximum discharge limitation for an effluent characteristic specified in Provision I. A. of this permit which is denoted by an "(X)".

(2) threatens human health or welfare, fish or aquatic life, or water quality standards,

(3) does not comply with an applicable toxic pollutant effluent standard or prohibition established under Section 307(a) of the FWPCA, 33 U.S.C. Section 1317(a),

(4) contains a quantity of a hazardous substance which has been determined may be harmful to public health or welfare under Section 311(b)(4) of the FWPCA, 33 U.S.C. Section 1321(b)(4),

(5) exceeds any discharge limitation for an effluent characteristic as a result of an unanticipated bypass or upset, and

(6) is an unpermitted direct or indirect discharge of a pollutant to a water of the state (unpermitted discharges properly reported to the Department under any other requirement are not required to be reported under this provision).

The permittee shall orally report the occurrence and circumstances of such discharge to the Director within 24-hours after the permittee becomes aware of the occurrence of such discharge. In addition to the oral report, the permittee shall submit to the Director or Designee a written report as provided in Part I.C.2.c. no later than five (5) days after becoming aware of the occurrence of such discharge.

b. If for any reason, the permittee's discharge does not comply with any limitation of this permit, the permittee shall submit to the Director or Designee a written report as provided in Part I.C.2.c. below, such report shall be submitted with the next Discharge Monitoring Report required to be submitted by Part I.C.1. of this permit after becoming aware of the occurrence of such noncompliance.

c. Any written report required to be submitted to the Director or Designee by Part I.C.2 a. or b. shall be submitted using a copy of the Noncompliance Notification Form provided with this permit and shall include the following information:

(1) A description of the discharge and cause of noncompliance;
(2) The period of noncompliance, including exact dates and times or, if not corrected, the anticipated time the noncompliance is expected to continue; and
(3) A description of the steps taken and/or being taken to reduce or eliminate the noncomplying discharge and to prevent its recurrence.

D. OTHER REPORTING AND NOTIFICATION REQUIREMENTS

1. Anticipated Noncompliance

The permittee shall give the Director written advance notice of any planned changes or other circumstances regarding a facility which may result in noncompliance with permit requirements.

2. Termination of Discharge

The permittee shall notify the Director, in writing, when all discharges from any point source(s) identified in Provision I. A. of this permit have permanently ceased. This notification shall serve as sufficient cause for instituting procedures for modification or termination of the permit.

3. Updating Information

a. The permittee shall inform the Director of any change in the permittee's mailing address or telephone number or in the permittee's designation of a facility contact or office having the authority and responsibility to prevent and abate violations of the AWPCA, the Department's Rules and the terms and conditions of this permit, in writing, no later than ten (10) days after such change. Upon request of the Director or his designee, the permittee shall furnish the Director with an update of any information provided in the permit application.

b. If the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Director, it shall promptly submit such facts or information with a written explanation for the mistake and/or omission.

4. Duty to Provide Information

The permittee shall furnish to the Director, within a reasonable time, any information which the Director or his designee may request to determine whether cause exists for modifying, revoking and re-issuing, suspending, or terminating this permit, in whole or in part, or to determine compliance with this permit.

5. Cooling Water and Boiler Water Additives

a. The permittee shall notify the Director in writing not later than thirty (30) days prior to instituting the use of any biocide corrosion inhibitor or chemical additive in a cooling or boiler system, not identified in the application for this permit, from which discharge is allowed by this permit. Notification is not required for additives that do not contain a heavy metal(s) as an active ingredient and that pass through a wastewater treatment system prior to discharge nor is notification required for additives that should not reasonably be expected to cause the cooling water or boiler water to exhibit toxicity as determined by analysis of manufacturer's data or testing by the permittee. Such notification shall include:

(1) name and general composition of biocide or chemical,
(2) 96-hour median tolerance limit data for organisms representative of the biota of the waterway into which the discharge will ultimately reach,
(3) quantities to be used,
(4) frequencies of use,
(5) proposed discharge concentrations, and
(6) EPA registration number, if applicable.

b. The use of a biocide or additive containing tributyl tin, tributyl tin oxide, zinc, chromium or related compounds in cooling or boiler system(s), from which a discharge regulated by this permit occurs, is prohibited except as exempted below. The use of a biocide or additive containing zinc, chromium or related compounds may be used in special circumstances if (1) the permit contains limits for these substances, or (2) the applicant demonstrates during the application process that the use of zinc, chromium or related compounds as a biocide or additive will not pose a reasonable potential to violate the applicable State water quality standards for these substances. The use of any additive, not identified in this permit or in the application for this permit or not exempted from notification under this permit is prohibited, prior to a determination by the Department that permit modification to control discharge of the additive is not required or prior to issuance of a permit modification controlling discharge of the additive.

6. Permit Issued Based On Estimated Characteristics

a. If this permit was issued based on estimates of the characteristics of a process discharge reported on an EPA NPDES Application Form 2D (EPA Form 3510-2D), the permittee shall complete and submit an EPA NPDES Application Form 2C (EPA Form 3510-2C) no later than two years after the date that discharge begins. Sampling required for completion of the Form 2C shall occur when a discharge(s) from the process(s) causing the new or increased discharge is occurring. If this permit was issued based on estimates concerning the composition of a stormwater discharge(s), the permittee shall perform the sampling required by EPA NPDES Application Form 2F (EPA Form 3510-2F) no later than one year after the industrial activity generating the stormwater discharge has been fully initiated.

b. This permit shall be reopened if required to address any new information resulting from the completion and submittal of the Form 2C and or 2F.

E. SCHEDULE OF COMPLIANCE

1. The permittee shall achieve compliance with the discharge limitations specified in Provision I. A. in accordance with the following schedule:

COMPLIANCE SHALL BE ATTAINED ON THE EFFECTIVE DATE OF THIS PERMIT

2. No later than 14 calendar days following a date identified in the above schedule of compliance, the permittee shall submit either a report of progress or, in the case of specific actions being required by identified dates, a written notice of compliance or noncompliance. In the latter case, the notice shall include the cause of noncompliance, any remedial actions taken, and the probability of meeting the next scheduled requirement.

PART II OTHER REQUIREMENTS, RESPONSIBILITIES, AND DUTIES

A. OPERATIONAL AND MANAGEMENT REQUIREMENTS

1. Facilities Operation and Maintenance

The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of the permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities only when necessary to achieve compliance with the conditions of the permit.

2. Best Management Practices

a. Dilution water shall not be added to achieve compliance with discharge limitations except when the Director or his designee has granted prior written authorization for dilution to meet water quality requirements.

b. The permittee shall prepare, implement, and maintain a Spill Prevention, Control and Countermeasures (SPCC) Plan in accordance with 40 C.F.R. Section 112 if required thereby.

c. The permittee shall prepare, submit for approval and implement a Best Management Practices (BMP) Plan for containment of any or all process liquids or solids, in a manner such that these materials do not present a significant potential for discharge, if so required by the Director or his designee. When submitted and approved, the BMP Plan shall become a part of this permit and all requirements of the BMP Plan shall become requirements of this permit.

3. Spill Prevention, Control, and Management

The permittee shall provide spill prevention, control, and/or management sufficient to prevent any spills of pollutants from entering a water of the state or a publicly or privately owned treatment works. Any containment system used to implement this requirement shall be constructed of materials compatible with the substance(s) contained and which shall prevent the contamination of groundwater and such containment system shall be capable of retaining a volume equal to 110 percent of the capacity of the largest tank for which containment is provided.

B. OTHER RESPONSIBILITIES

1. Duty to Mitigate Adverse Impacts

The permittee shall promptly take all reasonable steps to mitigate and minimize or prevent any adverse impact on human health or the environment resulting from noncompliance with any discharge limitation specified in Provision I. A. of this permit, including such accelerated or additional monitoring of the discharge and/or the receiving waterbody as necessary to determine the nature and impact of the noncomplying discharge.

2. Right of Entry and Inspection

The permittee shall allow the Director, or an authorized representative, upon the presentation of proper credentials and other documents as may be required by law to:

a. enter upon the permittee's premises where a regulated facility or activity or point source is located or conducted, or where records must be kept under the conditions of the permit;

b. have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit;

c. inspect any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under the permit; and

d. sample or monitor, for the purposes of assuring permit compliance or as otherwise authorized by the AWPCA, any substances or parameters at any location.

C. BYPASS AND UPSET

1. Bypass

a. Any bypass is prohibited except as provided in b. and c. below:

b. A bypass is not prohibited if:

(1) It does not cause any discharge limitation specified in Provision I. A. of this permit to be exceeded;

(2) It enters the same receiving stream as the permitted outfall and;

(3) It is necessary for essential maintenance of a treatment or control facility or system to assure efficient operation of such facility or system.

c. A bypass is not prohibited and need not meet the discharge limitations specified in Provision I. A. of this permit if:

(1) It is unavoidable to prevent loss of life, personal injury, or severe property damage;

(2) There are no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime (this condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance); and

(3) The permittee submits a written request for authorization to bypass to the Director at least ten (10) days prior to the anticipated bypass (if possible), the permittee is granted such authorization, and the permittee complies with any conditions imposed by the Director to minimize any adverse impact on human health or the environment resulting from the bypass.

d. The permittee has the burden of establishing that each of the conditions of Provision II.C.1.b. or c. have been met to qualify for an exception to the general prohibition against bypassing contained in a. and an exemption, where applicable, from the discharge limitations specified in Provision I. A. of this permit.

2. Upset

a. A discharge which results from an upset need not meet the discharge limitations specified in Provision I. A. of this permit if:

(1) No later than 24-hours after becoming aware of the occurrence of the upset, the permittee orally reports the occurrence and circumstances of the upset to the Director or his designee; and

(2) No later than five (5) days after becoming aware of the occurrence of the upset, the permittee furnishes the Director with evidence, including properly signed, contemporaneous operating logs, or other relevant evidence, demonstrating that (i) an upset occurred; (ii) the permittee can identify the specific cause(s) of the upset; (iii) the permittee's facility was being properly operated at the time of the upset; and (iv) the permittee promptly took all reasonable steps to minimize any adverse impact on human health or the environment resulting from the upset.

b. The permittee has the burden of establishing that each of the conditions of Provision II. C.2.a. of this permit have been met to qualify for an exemption from the discharge limitations specified in Provision I.A. of this permit.

D. DUTY TO COMPLY WITH PERMIT, RULES, AND STATUTES

1. Duty to Comply

a. The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the AWPCA and the FWPCA and is grounds for enforcement action, for permit termination, revocation and reissuance, suspension, modification; or denial of a permit renewal application.

b. The necessity to halt or reduce production or other activities in order to maintain compliance with the conditions of the permit shall not be a defense for a permittee in an enforcement action.

c. The discharge of a pollutant from a source not specifically identified in the permit application for this permit and not specifically included in the description of an outfall in this permit is not authorized and shall constitute noncompliance with this permit.

d. The permittee shall take all reasonable steps, including cessation of production or other activities, to minimize or prevent any violation of this permit or to minimize or prevent any adverse impact of any permit violation.

e. Nothing in this permit shall be construed to preclude and negate the permittee's responsibility or liability to apply for, obtain, or comply with other ADEM, Federal, State, or Local Government permits, certifications, licenses, or other approvals.

2. Removed Substances

Solids, sludges, filter backwash, or any other pollutant or other waste removed in the course of treatment or control of wastewaters shall be disposed of in a manner that complies with all applicable Department Rules.

3. Loss or Failure of Treatment Facilities

Upon the loss or failure of any treatment facilities, including but not limited to the loss or failure of the primary source of power of the treatment facility, the permittee shall, where necessary to maintain compliance with the discharge limitations specified in Provision I. A. of this permit, or any other terms or conditions of this permit, cease, reduce, or otherwise control production and/or all discharges until treatment is restored. If control of discharge during loss or failure of the primary source of power is to be accomplished by means of alternate power sources, standby generators, or retention of inadequately treated effluent, the permittee must furnish to the Director within six months a certification that such control mechanisms have been installed.

4. Compliance with Statutes and Rules

a. This permit has been issued under ADEM Administrative Code, Chapter 335-6-6. All provisions of this chapter, that are applicable to this permit, are hereby made a part of this permit. A copy of this chapter may be obtained for a small charge from the Office of General Counsel, Alabama Department of Environmental Management, 1400 Coliseum Blvd., Montgomery, AL 36130.

b. This permit does not authorize the noncompliance with or violation of any Laws of the State of Alabama or the United States of America or any regulations or rules implementing such laws. FWPCA, 33 U.S.C. Section 1319, and Code of Alabama 1975, Section 22-22-14.

E. PERMIT TRANSFER, MODIFICATION, SUSPENSION, REVOCATION, AND REISSUANCE

1. Duty to Reapply or Notify of Intent to Cease Discharge

a. If the permittee intends to continue to discharge beyond the expiration date of this permit, the permittee shall file a complete permit application for reissuance of this permit at least 180 days prior to its expiration. If the permittee does not intend to continue discharge beyond the expiration of this permit, the permittee shall submit written notification of this intent which shall be signed by an individual meeting the signatory requirements for a permit application as set forth in ADEM Administrative Code Rule 335-6-6-.09.

b. Failure of the permittee to apply for reissuance at least 180 days prior to permit expiration will void the automatic continuation of the expiring permit provided by ADEM Administrative Code Rule 335-6-6-.06 and should the permit not be reissued for any reason any discharge after expiration of this permit will be an unpermitted discharge.

2. Change in Discharge

a. The permittee shall apply for a permit modification at least 180 days in advance of any facility expansion, production increase, process change, or other action that could result in the discharge of additional pollutants or increase the quantity of a discharged pollutant such that existing permit limitations would be exceeded or that could result in an additional discharge point. This requirement applies to pollutants that are or that are not subject to discharge limitations in this permit. No new or increased discharge may begin until the Director has authorized it by issuance of a permit modification or a reissued permit.

b. The permittee shall notify the Director as soon as it is known or there is reason to believe:

(1) That any activity has occurred or will occur which would result in the discharge on a routine or frequent basis, of any toxic pollutant which is not limited in this permit, if that discharge will exceed the highest of the following notification levels:

(a) one hundred micrograms per liter;

(b) two hundred micrograms per liter for acrolein and acrylonitrile; five hundred micrograms per liter for 2,4-dinitrophenol and for 2-methyl-4.6-dini-trophenol; and one milligram per liter for antimony;

(c) five times the maximum concentration value reported for that pollutant in the permit application; or

(2) That any activity has occurred or will occur which would result in any discharge, on a non-routine or infrequent basis, of a toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following notification levels:

(a) five hundred micrograms per liter;

(b) one milligram per liter for antimony;

(c) ten times the maximum concentration value reported for that pollutant in the permit application.

3. Transfer of Permit

This permit may not be transferred or the name of the permittee changed without notice to the Director and subsequent modification or revocation and reissuance of the permit to identify the new permittee and to incorporate any other changes as may be required under the FWPCA or AWPCA. In the case of a change in name, ownership or control of the permittee's premises only, a request for permit modification in a format acceptable to the Director is required at least 30 days prior to the change. In the case of a change in name, ownership or control of the permittee's premises accompanied by a change or proposed change in effluent characteristics, a complete permit application is required to be submitted to the Director at least 180 days prior to the change. Whenever the Director is notified of a change in name, ownership or control, he may decide not to modify the existing permit and require the submission of a new permit application.

4. Permit Modification and Revocation

a. This permit may be modified or revoked and reissued, in whole or in part, during its term for cause, including but not limited to, the following:

(1) If cause for termination under Provision II. E. 5. of this permit exists, the Director may choose to revoke and reissue this permit instead of terminating the permit;

(2) If a request to transfer this permit has been received, the Director may decide to revoke and reissue or to modify the permit; or

(3) If modification or revocation and reissuance is requested by the permittee and cause exists, the Director may grant the request.

b. This permit may be modified during its term for cause, including but not limited to, the following:

(1) If cause for termination under Provision II. E. 5. of this permit exists, the Director may choose to modify this permit instead of terminating this permit;

(2) There are material and substantial alterations or additions to the facility or activity generating wastewater which occurred after permit issuance which justify the application of permit conditions that are different or absent in the existing permit;

(3) The Director has received new information that was not available at the time of permit issuance and that would have justified the application of different permit conditions at the time of issuance;

(4) A new or revised requirement(s) of any applicable standard or limitation is promulgated under Sections 301(b)(2)(C), (D), (E), and (F), and 307(a)(2) of the FWPCA;

(5) Errors in calculation of discharge limitations or typographical or clerical errors were made;

(6) To the extent allowed by ADEM Administrative Code, Rule 335-6-6-.17, when the standards or regulations on which the permit was based have been changed by promulgation of amended standards or regulations or by judicial decision after the permit was issued;

(7) To the extent allowed by ADEM Administrative Code, Rule 335-6-6-.17, permits may be modified to change compliance schedules;

(8) To agree with a granted variance under 301(c), 301(g), 301(h), 301(k), or 316(a) of the FWPCA or for fundamentally different factors;

(9) To incorporate an applicable 307(a) FWPCA toxic effluent standard or prohibition;

(10) When required by the reopener conditions in this permit;

(11) When required under 40 CFR 403.8(e) (compliance schedule for development of pretreatment program);

(12) Upon failure of the state to notify, as required by Section 402(b)(3) of the FWPCA, another state whose waters may be affected by a discharge permitted by this permit;

(13) When required to correct technical mistakes, such as errors in calculation, or mistaken interpretations of law made in determining permit conditions; or

(14) When requested by the permittee and the Director determines that the modification has cause and will not result in a violation of federal or state law, regulations or rules; or

5. Permit Termination

This permit may be terminated during its term for cause, including but not limited to, the following:

a. Violation of any term or condition of this permit;

b. The permittee's misrepresentation or failure to disclose fully all relevant facts in the permit application or during the permit issuance process or the permittee's misrepresentation of any relevant facts at any time;

c. Materially false or inaccurate statements or information in the permit application or the permit;

d. A change in any condition that requires either a temporary or permanent reduction or elimination of the permitted discharge;

e. The permittee's discharge threatens human life or welfare or the maintenance of water quality standards;

f. Permanent closure of the facility generating the wastewater permitted to be discharged by this permit or permanent cessation of wastewater discharge;

g. New or revised requirements of any applicable standard or limitation that is promulgated under Sections 301(b)(2)(C), (D), (E), and (F), and 307(a)(2) of the FWPCA that the Director determines cannot be complied with by the permittee.

h. Any other cause allowed by the ADEM Administrative Code, Chapter 335-6-6.

6. Permit Suspension

This permit may be suspended during its term for noncompliance until the permittee has taken action(s) necessary to achieve compliance.

7. Request for Permit Action Does Not Stay Any Permit Requirement

The filing of a request by the permittee for modification, suspension or revocation of this permit, in whole or in part, does not stay any permit term or condition.

F. COMPLIANCE WITH TOXIC POLLUTANT STANDARD OR PROHIBITION

If any applicable effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is established under Section 307(a) of the FWPCA, 33 U.S.C. Section 1317(a), for a toxic pollutant discharged by the permittee and such standard or prohibition is more stringent than any discharge limitation on the pollutant specified in Provision I. A. of this permit, or controls a pollutant not limited in Provision I. A. of this permit, this permit shall be modified to conform to the toxic pollutant effluent standard or prohibition and the permittee shall be notified of such modification. If this permit has not been modified to conform to the toxic pollutant effluent standard or prohibition before the effective date of such standard or prohibition, the permittee shall attain compliance with the requirements of the standard or prohibition within the time period required by the standard or prohibition and shall continue to comply with the standard or prohibition until this permit is modified or reissued.

G. DISCHARGE OF WASTEWATER GENERATED BY OTHERS

The discharge of wastewater, generated by any process, facility, or by any other means not under the operational control of the permittee or not identified in the application for this permit or not identified specifically in the description of an outfall in this permit is not authorized by this permit.

PART III OTHER PERMIT CONDITIONS

A. CIVIL AND CRIMINAL LIABILITY

1. Tampering

Any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained or performed under the permit shall, upon conviction, be subject to penalties as provided by the AWPCA.

2. False Statements

Any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance shall, upon conviction, be subject to penalties as provided by the AWPCA.

3. Permit Enforcement

a. Any NPDES permit issued or reissued by the Department is a permit for the purpose of the AWPCA and the FWPCA and as such any terms, conditions, or limitations of the permit are enforceable under state and federal law.

b. Any person required to have a NPDES permit pursuant to ADEM Administrative Code Chapter 335-6-6 and who discharges pollutants without said permit, who violates the conditions of said permit, who discharges pollutants in a manner not authorized by the permit, or who violates applicable orders of the Department or any applicable rule or standard of the Department, is subject to any one or combination of the following enforcement actions under applicable state statutes.

(1) An administrative order requiring abatement, compliance, mitigation, cessation, clean-up, and/or penalties;

(2) An action for damages;

(3) An action for injunctive relief; or

(4) An action for penalties.

c. If the permittee is not in compliance with the conditions of an expiring or expired permit the Director may choose to do any or all of the following provided the permittee has made a timely and complete application for reissuance of the permit:

(1) initiate enforcement action based upon the permit which has been continued;

(2) issue a notice of intent to deny the permit reissuance. If the permit is denied, the owner or operator would then be required to cease the activities authorized by the continued permit or be subject to enforcement action for operating without a permit;

(3) reissue the new permit with appropriate conditions; or

(4) take other actions authorized by these rules and AWPCA.

4. Relief from Liability

Except as provided in Provision II. C. 1. (Bypass) and Provision II. C. 2. (Upset), nothing in this permit shall be construed to relieve the permittee of civil or criminal liability under the AWPCA or FWPCA for noncompliance with any term or condition of this permit.

B. OIL AND HAZARDOUS SUBSTANCE LIABILITY

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities or penalties to which the permittee is or may be subject under Section 311 of the FWPCA, 33 U.S.C. Section 1321.

C. PROPERTY AND OTHER RIGHTS

This permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to persons or property or invasion of other private rights, trespass, or any infringement of federal, state, or local laws or regulations, nor does it authorize or approve the construction of any physical structures or facilities or the undertaking of any work in any waters of the state or of the United States.

D. AVAILABILITY OF REPORTS

Except for data determined to be confidential under Code of Alabama 1975, Section 22-22-9(c), all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Department. Effluent data shall not be considered confidential.

E. EXPIRATION OF PERMITS FOR NEW OR INCREASED DISCHARGES

1. If this permit was issued for a new discharger or new source, this permit shall expire eighteen months after the issuance date if construction of the facility has not begun during the eighteen-month period.

2. If this permit was issued or modified to allow the discharge of increased quantities of pollutants to accommodate the modification of an existing facility and if construction of this modification has not begun during the eighteen month period after issuance of this permit or permit modification, this permit shall be modified to reduce the quantities of pollutants allowed to be discharged to those levels that would have been allowed if the modification of the facility had not been planned.

3. Construction has begun when the owner or operator has:

   a. begun, or caused to begin as part of a continuous on-site construction program:

      (1) any placement, assembly, or installation of facilities or equipment; or

      (2) significant site preparation work including clearing, excavation, or removal of existing buildings, structures, or facilities which is necessary for the placement, assembly, or installation of new source facilities or equipment; or

   b. entered into a binding contractual obligation for the purpose of placement, assembly, or installation of facilities or equipment which are intended to be used in its operation within a reasonable time. Options to purchase or contracts which can be terminated or modified without substantial loss, and contracts for feasibility, engineering, and design studies do not constitute a contractual obligation under the paragraph. The entering into a lease with the State of Alabama for exploration and production of hydrocarbons shall also be considered beginning construction.

F. COMPLIANCE WITH WATER QUALITY STANDARDS

1. On the basis of the permittee's application, plans, or other available information, the Department has determined that compliance with the terms and conditions of this permit should assure compliance with the applicable water quality standards.

2. Compliance with permit terms and conditions notwithstanding, if the permittee's discharge(s) from point sources identified in Provision I. A. of this permit cause or contribute to a condition in contravention of state water quality standards, the Department may require abatement action to be taken by the permittee in emergency situations or modify the permit pursuant to the Department's Rules, or both.

3. If the Department determines, on the basis of a notice provided pursuant to this permit or any investigation, inspection or sampling, that a modification of this permit is necessary to assure maintenance of water quality standards or compliance with other provisions of the AWPCA or FWPCA, the Department may require such modification and, in cases of emergency, the Director may prohibit the discharge until the permit has been modified.

G. GROUNDWATER

Unless specifically authorized by a permit issued by the Department, the discharge of pollutants to groundwater is prohibited. Should a threat of groundwater contamination occur, the Director may require groundwater monitoring to properly assess the degree of the problem and the Director may require that the permittee undertake measures to abate any such discharge and/or contamination.

H. DEFINITIONS

1. Average monthly discharge limitation - means the highest allowable average of "daily discharges" over a calendar month, calculated as the sum of all "daily discharges" measured during a calendar month divided by the number of "daily discharges" measured during that month (zero discharge days shall not be included in the number of "daily discharges" measured and a less than detectable test result shall be treated as a concentration of zero if the most sensitive EPA approved method was used).

2. Average weekly discharge limitation - means the highest allowable average of "daily discharges" over a calendar week, calculated as the sum of all "daily discharges" measured during a calendar week divided by the number of "daily discharges" measured during that week (zero discharge days shall not be included in the number of "daily discharges" measured and a less than detectable test result shall be treated as a concentration of zero if the most sensitive EPA approved method was used).

3. Arithmetic Mean – means the summation of the individual values of any set of values divided by the number of individual values.

4. AWPCA - means the Alabama Water Pollution Control Act.

5. BOD – means the five-day measure of the pollutant parameter biochemical oxygen demand.

6. Bypass - means the intentional diversion of waste streams from any portion of a treatment facility.

7. CBOD – means the five-day measure of the pollutant parameter carbonaceous biochemical oxygen demand.

8. Daily discharge - means the discharge of a pollutant measured during any consecutive 24-hour period in accordance with the sample type and analytical methodology specified by the discharge permit.

9. Daily maximum - means the highest value of any individual sample result obtained during a day.

10. Daily minimum - means the lowest value of any individual sample result obtained during a day.

11. Day - means any consecutive 24-hour period.

12. Department - means the Alabama Department of Environmental Management.

13. Director - means the Director of the Department.

14. Discharge - means "[t]he addition, introduction, leaking, spilling or emitting of any sewage, industrial waste, pollutant or other wastes into waters of the state". Code of Alabama 1975, Section 22-22-1(b)(8).

15. Discharge Monitoring Report (DMR) - means the form approved by the Director to accomplish reporting requirements of an NPDES permit.

16. DO – means dissolved oxygen.

17. 8HC – means 8-hour composite sample, including any of the following:

    a. The mixing of at least 5 equal volume samples collected at constant time intervals of not more than 2 hours over a period of not less than 8 hours between the hours of 6:00 a.m. and 6:00 p.m. If the sampling period exceeds 8 hours, sampling may be conducted beyond the 6:00 a.m. to 6:00 p.m. period.

    b. A sample continuously collected at a constant rate over period of not less than 8 hours between the hours of 6:00 a.m. and 6:00 p.m. If the sampling period exceeds 8 hours, sampling may be conducted beyond the 6:00 a.m. to 6:00 p.m. period.

18. EPA - means the United States Environmental Protection Agency.

19. FC – means the pollutant parameter fecal coliform.

20. Flow – means the total volume of discharge in a 24-hour period.

21. FWPCA - means the Federal Water Pollution Control Act.

22. Geometric Mean – means the Nth root of the product of the individual values of any set of values where N is equal to the number of individual values. The geometric mean is equivalent to the antilog of the arithmetic mean of the logarithms of the individual values. For purposes of calculating the geometric mean, values of zero (0) shall be considered one (1).

23. Grab Sample – means a single influent or effluent portion which is not a composite sample. The sample(s) shall be collected at the period(s) most representative of the discharge.

24. Indirect Discharger – means a nondomestic discharger who discharges pollutants to a publicly owned treatment works or a privately owned treatment facility operated by another person.

25. Industrial User – means those industries identified in the Standard Industrial Classification manual, Bureau of the Budget 1967, as amended and supplemented, under the category "Division D – Manufacturing" and such other classes of significant waste producers as, by regulation, the Director deems appropriate.

26. MGD – means million gallons per day.

27. Monthly Average – means, other than for fecal coliform bacteria, the arithmetic mean of all the composite or grab samples taken for the daily discharges collected in one month period. The monthly average for fecal coliform

bacteria is the geometric mean of daily discharge samples collected in a one month period. The monthly average for flow is the arithmetic mean of all flow measurements taken in a one month period.

28. New Discharger – means a person, owning or operating any building, structure, facility or installation:

    a. from which there is or may be a discharge of pollutants;

    b. that did not commence the discharge of pollutants prior to August 13, 1979, and which is not a new source; and

    c. which has never received a final effective NPDES permit for dischargers at that site.

29. NH3-N – means the pollutant parameter ammonia, measured as nitrogen.

30. Permit application - means forms and additional information that is required by ADEM Administrative Code Rule 335-6-6-.08 and applicable permit fees.

31. Point source - means "any discernible, confined and discrete conveyance, including but not limited to any pipe, channel, ditch, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, . . . from which pollutants are or may be discharged." Section 502(14) of the FWPCA, 33 U.S.C. Section 1362(14).

32. Pollutant - includes for purposes of this permit, but is not limited to, those pollutants specified in Code of Alabama 1975, Section 22-22-1(b)(3) and those effluent characteristics specified in Provision 1. A. of this permit.

33. Privately Owned Treatment Works – means any devices or system which is used to treat wastes from any facility whose operator is not the operator of the treatment works, and which is not a "POTW".

34. Publicly Owned Treatment Works – means a wastewater collection and treatment facility owned by the State, municipality, regional entity composed of two or more municipalities, or another entity created by the State or local authority for the purpose of collecting and treating municipal wastewater.

35. Receiving Stream – means the "waters" receiving a "discharge" from a "point source".

36. Severe property damage - means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

37. Significant Source – means a source which discharges 0.025 MGD or more to a POTW or greater than five percent of the treatment work's capacity, or a source which is a primary industry as defined by the U.S. EPA or which discharges a priority or toxic pollutant.

38. TKN – means the pollutant parameter Total Kjeldahl Nitrogen.

39. TON – means the pollutant parameter Total Organic Nitrogen.

40. TRC – means Total Residual Chlorine.

41. TSS – means the pollutant parameter Total Suspended Solids.

42. 24HC – means 24-hour composite sample, including any of the following:

    a. the mixing of at least 12 equal volume samples collected at constant time intervals of not more than 2 hours over a period of 24 hours;

    b. a sample collected over a consecutive 24-hour period using an automatic sampler composite to one sample. As a minimum, samples shall be collected hourly and each shall be no more than one twenty-fourth (1/24) of the total sample volume collected;

    c. a sample collected over a consecutive 24-hour period using an automatic composite sampler composited proportional to flow.

43. Upset - means an exceptional incident in which there is an unintentional and temporary noncompliance with technology-based permit discharge limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

44. Waters - means "[a]ll waters of any river, stream, watercourse, pond, lake, coastal, ground or surface water, wholly or partially within the state, natural or artificial. This does not include waters which are entirely confined and retained completely upon the

property of a single individual, partnership or corporation unless such waters are used in interstate commerce." Code of Alabama 1975, Section 22-22-1(b)(2). Waters "include all navigable waters" as defined in Section 502(7) of the FWPCA, 22 U.S.C. Section 1362(7), which are within the State of Alabama.

45. Week - means the period beginning at twelve midnight Saturday and ending at twelve midnight the following Saturday.

46. Weekly (7-day and calendar week) Average – is the arithmetic mean of all samples collected during a consecutive 7-day period or calendar week, whichever is applicable. The calendar week is defined as beginning on Sunday and ending on Saturday. Weekly averages shall be calculated for all calendar weeks with Saturdays in the month. If a calendar week overlaps two months (i.e., the Sunday is in one month and the Saturday in the following month), the weekly average calculated for the calendar week shall be included in the data for the month that contains the Saturday.

SEVERABILITY

The provisions of this permit are severable, and if any provision of this permit or the application of any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

PART IV ADDITIONAL REQUIREMENTS, CONDITIONS, AND LIMITATIONS

A. STORMWATER FLOW MEASUREMENT AND SAMPLING REQUIREMENTS

1. Stormwater Flow Measurement

   a. All stormwater samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches.

   b. The total volume of stormwater discharged for the event must be monitored, including the date and duration (in hours) and rainfall (in inches) for storm event(s) sampled. The duration between the storm event sampled and the end of the previous measurable (greater than 0.1 inch rainfall) storm event must be a minimum of 72 hours. This information must be recorded as part of the sampling procedure and records retained according to Part I.B.4.b. of this permit.

   c. The volume may be measured using flow measuring devices, or estimated based on a modification of the Rational Method using total depth of rainfall, the size of the drainage area serving a stormwater outfall, and an estimate of the runoff coefficient of the drainage area. This information must be recorded as part of the sampling procedure and records retained according to Part I.B.4.b. of this permit.

2. Stormwater Sampling

   a. A grab sample, if required by this permit, shall be taken during the first thirty minutes of the discharge (or as soon thereafter as practicable); and a flow-weighted composite sample, if required by this permit, shall be taken for the entire event or for the first three hours of the event.

   b. All test procedures will be in accordance with part I.B.2. of this permit.

B. BEST MANAGEMENT PRACTICES (BMP) PLAN REQUIREMENTS

1. BMP Plan

   The permittee shall develop and implement a Best Management Practices (BMP) Plan which prevents, or minimizes the potential for, the release of pollutants from ancillary activities, including material storage areas; plant site runoff; in-plant transfer, process and material handling areas; loading and unloading operations, and sludge and waste disposal areas, to the waters of the State through plant site runoff; spillage or leaks; sludge or waste disposal; or drainage from raw material storage.

2. Plan Content

   The permittee shall prepare and implement a best management practices (BMP) plan, which shall:

   a. Establish specific objectives for the control of pollutants:

      (1) Each facility component or system shall be examined for its potential for causing a release of significant amounts of pollutants to waters of the State due to equipment failure, improper operation, natural phenomena such as rain or snowfall, etc.
      (2) Where experience indicates a reasonable potential for equipment failure (e.g., a tank overflow or leakage), natural condition (e.g. precipitation), or circumstances to result in significant amounts of pollutants reaching surface waters, the plan should include a prediction of the direction, rate of flow, and total quantity of pollutants which could be discharged from the facility as a result of each condition or circumstance.

   b. Establish specific best management practices to meet the objectives identified under paragraph a. of this section, addressing each component or system capable of causing a release of significant amounts of pollutants to the waters of the State, and identifying specific preventative or remedial measures to be implemented;

   c. Establish a program to identify and repair leaking equipment items and damaged containment structures, which may contribute to contaminated stormwater runoff. This program must include regular visual inspections of equipment, containment structures and of the facility in general to ensure that the BMP is continually implemented and effective.

d. Prevent the spillage or loss of fluids, oil, grease, gasoline, etc. from vehicle and equipment maintenance activities and thereby prevent the contamination of stormwater from these substances;

e. Prevent or minimize stormwater contact with material stored on site;

f. Designate by position or name the person or persons responsible for the day to day implementation of the BMP;

g. Provide for routine inspections, on days during which the facility is manned, of any structures that function to prevent stormwater pollution or to remove pollutants from stormwater and of the facility in general to ensure that the BMP is continually implemented and effective;

h. Provide for the use and disposal of any material used to absorb spilled fluids that could contaminate stormwater;

i. Develop a solvent management plan, if solvents are used on site. The solvent management plan shall include as a minimum lists of the total organic compounds on site; the method of disposal used instead of dumping, such as reclamation, contract hauling; and the procedures for assuring that toxic organics do not routinely spill or leak into the stormwater;

j. Provide for the disposal of all used oils, hydraulic fluids, solvent degreasing material, etc. in accordance with good management practices and any applicable state or federal regulations;

k. Include a diagram of the facility showing the locations where stormwater exits the facility, the locations of any structures or other mechanisms intended to prevent pollution of stormwater or to remove pollutants from stormwater, the locations of any collection and handling systems;

l. Provide control sufficient to prevent or control pollution of stormwater by soil particles to the degree required to maintain compliance with the water quality standard for turbidity applicable to the waterbody(s) receiving discharge(s) under this permit;

m. Provide spill prevention, control, and/or management sufficient to prevent or minimize contaminated stormwater runoff. Any containment system used to implement this requirement shall be constructed of materials compatible with the substance(s) contained and shall prevent the contamination of groundwater. The containment system shall also be capable of retaining a volume equal to 110 percent of the capacity of the largest tank for which containment is provided;

n. Provide and maintain curbing, diking or other means of isolating process areas to the extent necessary to allow segregation and collection for treatment of contaminated stormwater from process areas;

o. Be reviewed by plant engineering staff and the plant manager; and

p. Bear the signature of the plant manager.

3. Compliance Schedule

The permittee shall have reviewed (and revised if necessary) and fully implemented the BMP plan as soon as practicable but no later than six months after the effective date of this permit.

4. Department Review

a. When requested by the Director or his designee, the permittee shall make the BMP available for Department review.

b. The Director or his designee may notify the permittee at any time that the BMP is deficient and require correction of the deficiency.

c. The permittee shall correct any BMP deficiency identified by the Director or his designee within 30 days of receipt of notification and shall certify to the Department that the correction has been made and implemented.

5. Administrative Procedures

a. A copy of the BMP shall be maintained at the facility and shall be available for inspection by representatives of the Department.

b. A log of the routine inspection required above shall be maintained at the facility and shall be available for inspection by representatives of the Department. The log shall contain records of all inspections performed for the last three years and each entry shall be signed by the person performing the inspection.

c. The permittee shall provide training for any personnel required to implement the BMP and shall retain documentation of such training at the facility. This documentation shall be available for inspection by representatives of the Department. Training shall be performed prior to the date that implementation of the BMP is required.

d. BMP Plan Modification. The permittee shall amend the BMP plan whenever there is a change in the facility or change in operation of the facility which materially increases the potential for the ancillary activities to result in a discharge of significant amounts of pollutants.

d. BMP Plan Review. The permittee shall complete a review and evaluation of the BMP plan at least once every three years from the date of preparation of the BMP plan. Documentation of the BMP Plan review and evaluation shall be signed and dated by the Plant Manager.

C. EFFLUENT TOXICITY LIMITATIONS AND BIOMONITORING REQUIREMENTS FOR ACUTE TOXICITY

1. The permittee shall perform 48-hour acute toxicity tests on the wastewater discharges required to be tested for acute toxicity by Part I of this permit.

   a. Test Requirements (Screening Test)

      (1) The samples shall be diluted, using an appropriate control water, to the Instream Waste Concentration (IWC) which is 28% effluent. The IWC is the actual concentration of effluent, within the mixing zone, in the receiving stream during a 1-day, 10-year flow period.

      (2) Any test where survival in the effluent concentration is less than 90% and statistically lower than the control indicates acute toxicity and constitutes noncompliance with this permit.

   b. General Test Requirements:

      (1) A grab sample shall be obtained for use in above biomonitoring tests. The holding time for each sample shall not exceed 36 hours. The control water shall be a water prepared in the laboratory in accordance with the EPA procedure described in EPA 821-R-02-012 or most current edition or another control water selected by the permittee and approved by the Department.

      (2) Effluent toxicity tests in which the control survival is less than 90% or in which the other requirements of the EPA Test Procedure are not met shall be unacceptable and the permittee shall rerun the tests as soon as practical within the monitoring period.

      (3) In the event of an invalid test, upon subsequent completion of a valid test, the results of all tests, valid and invalid, are reported with an explanation of the tests performed and results.

   c. Reporting Requirements:

      (1) The permittee shall notify the Department in writing within 48 hours after toxicity has been demonstrated by the scheduled test(s).

      (2) Biomonitoring test results obtained during each monitoring period shall be summarized and reported using the appropriate Discharge Monitoring Report (DMR) form approved by the Department. In accordance with Section 2. of this part, an effluent toxicity report containing the information in Section 2. shall be included with the DMR. Two copies of the test results must be submitted to the Department no later than 28 days after the month in which the tests were performed.

d. Additional Testing Requirements:

(1) If acute toxicity is indicated (noncompliance with permit limit), the permittee shall perform four additional valid acute toxicity tests in accordance with these procedures to determine the extent and duration of the toxic condition. The toxicity tests shall be performed once per week and shall be performed during the first four calendar weeks following the date on which the permittee became aware of the permit noncompliance and the results of these tests shall be submitted no later than 28 days following the month in which the tests were performed.

(2) After evaluation of the results of the follow-up tests, the Department will determine if additional action is appropriate and may require additional testing and/or toxicity reduction measures. The permittee may be required to perform a Toxicity Identification Evaluation (TIE) and/or a Toxicity Reduction Evaluation (TRE). The TIE/TRE shall be performed in accordance with the most recent protocols/guidance outlined by EPA (e.g., EPA/600/2-88/062, EPA/600/R-92/080, EPA/600/R-92/081, EPA/833/B-99/022 and/or EPA/600/6-91/005F, etc.).

e. Test Methods:

(1) The tests shall be performed in accordance with the latest edition of the "EPA Methods for Measuring the Acute Toxicity of Effluents to Freshwater and Marine Organisms" and shall be performed using the fathead minnow (*Pimephales promelas*) and the cladoceran (*Ceriodaphnia dubia*).

2. EFFLUENT TOXICITY TESTING REPORTS

The following information shall be submitted with each discharge monitoring report unless otherwise directed by the Department. The Department may at any time suspend or reinstate this requirement or may increase or decrease the frequency of submittals.

a. Introduction

(1) Facility Name, location and county
(2) Permit number
(3) Toxicity testing requirements of permit
(4) Name of receiving water body
(5) Contract laboratory information (if tests are performed under contract)

(a) Name of firm
(b) Telephone number
(c) Address

(6) Objective of test

b. Plant Operations

(1) Discharge operating schedule (if other than continuous)
(2) Volume of discharge during sample collection to include Mean daily discharge on sample collection date (MGD, CFS, GPM)
(3) Design flow of treatment facility at time of sampling

c. Source of Effluent and Dilution Water

(1) Effluent samples

(a) Sampling point
(b) Sample collection dates and times (to include composite sample start and finish times)
(c) Sample collection method
(d) Physical and chemical data of undiluted effluent samples (water temperature, pH, alkalinity, hardness, specific conductance, total residual chlorine (if applicable), etc.)
(e) Sample temperature when received at the laboratory
(f) Lapsed time from sample collection to delivery

(g) Lapsed time from sample collection to test initiation

(2) Dilution Water Samples

(a) Source
(b) Collection date(s) and time(s) (where applicable)
(c) Pretreatment
(d) Physical and chemical characteristics (pH, hardness, water temperature, alkalinity, specific conductance, etc.)

d. Test Conditions

(1) Toxicity test method utilized
(2) End point(s) of test
(3) Deviations from referenced method, if any, and reason(s)
(4) Date and time test started
(5) Date and time test terminated
(6) Type and volume of test chambers
(7) Volume of solution per chamber
(8) Number of organisms per test chamber
(9) Number of replicate test chambers per treatment
(10) Test temperature, pH and dissolved oxygen as recommended by the method (to include ranges)
(11) Feeding frequency, and amount and type of food
(12) Light intensity (mean)

e. Test Organisms

(1) Scientific name
(2) Life stage and age
(3) Source
(4) Disease treatment (if applicable)

f. Quality Assurance

(1) Reference toxicant utilized and source
(2) Date and time of most recent acute reference toxicant test(s), raw data, and current cusum chart(s)
(3) Dilution water utilized in reference toxicant test
(4) Results of reference toxicant test(s) (LC50, etc.), report concentration-response relationship and evaluate test sensitivity. The most recent reference toxicant test shall be conducted within 30-days of the routine.
(5) Physical and chemical methods utilized

g. Results

(1) Provide raw toxicity data in tabular form, including daily records of affected organisms in each concentration (including controls) and replicate
(2) Provide table of endpoints: LC50, NOAEC, Pass/Fail (as required in the applicable NPDES permit)
(3) Indicate statistical methods used to calculate endpoints
(4) Provide all physical and chemical data required by method
(5) Results of test(s) (LC50, NOAEC, Pass/Fail, etc.), report concentration-response relationship (definitive test only), report percent minimum significant difference (PMSD).

h. Conclusions and Recommendations

(1) Relationship between test endpoints and permit limits
(2) Action to be taken

1/ Adapted from "Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms", Fifth Edition, October 2002 (EPA 821-R-02-012), Section 12, Report Preparation

D. STREAM MONITORING

1. Between June 1 and October 31, the permittee shall conduct stream monitoring at station "C" mile 121.8 and evaluate Miller's Ferry Lock and Dam 48-hr mean river flows five days per discharge week.
2. Stream monitoring parameters shall be:
   A. Dissolved oxygen and 5' depth
   B. Water temperature
   C. pH
3. Stream monitoring shall not be required on days that the permittee does not discharge effluent from DSN001 to the Alabama River, or on days when weather conditions or high river flows do not allow stream monitoring to be completed safely.
4. If D.O. values at station "C" (river mile 121.8) are found to be less than 5.4 mg/l, but greater than or equal to 5.0 mg/l, the permittee shall re-measure the DO at station "C" within two hours. If the DO continues to be below 5.4 mg/l the permittee shall cease discharge from DSN001 within one hour.
   a. The permittee may continue to monitor DO levels at station "C" (river mile 121.8) during the discharge day until a DO reading of 5.4 mg/l or greater is recorded, at which time discharge from DSN001 may resume for the remainder of the discharge day in accordance with all other applicable permit limitations.

   Or

   b. Continue to discharge from DSN001 and conduct a river survey in accordance with specific condition 8 of this section.
5. During periods of time when the dissolved oxygen level in the receiving stream as measured at the five (5) foot depth at station "C" (river mile 121.8) is less than 5.3 mg/l the maximum discharge of BOD_5 from DSN001shall be governed by the following equation, to a level not to exceed that limit in Part I of this permit.

   Maximum BOD_5 (ppd) = 2.04 (Q)(DO-5)

   Where Q = 24-hr flow cfs determined for Millers Ferry for the prior day

   DO = Dissolved Oxygen in mg/l at the five (5) foot depth, as measured at station "C" (river mile 121.8)
6. In the event that the permittee measures DO values less than 5.0 mg/l at station "C" (river mile 121.8) after discharging at DSN001 has commenced, the permittee shall discontinue discharging from DSN001 within one hour and until measured DO values at station "C" (river mile 121.8) exceed 5.0 mg/l.
7. For any discharge week, June 1 to October 31, that the mean 48-hr Alabama River flow falls below 15000 cfs as measured at Miller's Ferry Lock and Dam, the permittee shall conduct a river survey in accordance with specific condition 8 of this permit.
8. River surveys shall constitute sampling at the following locations and shall include the parameters specified in 8a. River survey sampling locations shall be Stations "A" (river mile 124.6), "B" (river mile 123.3), "C" (river mile 121.8), "1" (river mile 121.2), "2" (river mile 120.5), "3" (river mile 118.2), "4" (river mile116.0), and "5" (river mile 112.0). If the measured DO value at station "5" (river mile 112.0) is less than 5.4 mg/l, the permittee shall continue to survey river stations "6" (river mile 107.8), "7" (river mile 104.8), "8" (river mile 100.2), "9" (river mile 96.0), and "10" (river mile 91.1), or until a measured DO reading of 5.4 mg/l or greater is observed, or until a recovery of 0.1 mg/l DO is recorded.
   a. Stream Monitoring Parameters shall be:
      1. Dissolved oxygen at the 5' depth
      2. Water temperature
      3. pH
      4. BOD_5
9. For any discharge week, June 1 to October 31, which the mean 48-hr Alabama River flow falls below 6000 cfs as measured at Millers Ferry Lock and Dam for one or more days on which it is evaluated, the permittee shall conduct two river surveys in accordance with specific condition 8 of this permit.

10. Data from monitoring shall be reported to the Department not later than 28 days following the last day of the reporting period. The report shall be submitted electronically.

Definitions

1. Permit Day; 0900 to 0900.
2. Discharge Day; June 1 to October 31 is 0900 to 2100 when the Alabama River 48 hour mean is less than 15000 cfs.
3. Discharge Week; Sunday 0001 to Saturday 2359.
4. Stream Monitoring Season; June 1 to October 31.
5. DSN001; The permittee discharge point into the Alabama River.
6. Station "C"; is Alabama River Mile 121.8, including the International Paper oil dock and all viable sample points at mile 121.8.
7. DO; Dissolved Oxygen.
8. PPM; Parts Per Million, mg/l milligrams per liter.
9. cfs; cubic feet per second.

E. 316(B) REQUIREMENTS

Section 316 (b) of the Clean Water Act requires that facilities minimize adverse environmental impacts resulting from the operation of cooling water intake structure (CWIS) by using the "Best Technology Available" (BTA). All of those facilities including those not specifically addressed by rules, must be evaluated for 316 (b) compliance. For those facilities not addressed in Phase I, II, or III rules, a BTA determination must be made using "Best Professional Judgment" (BPJ) under the authority of 40 CFR §§ 125.90(b) and 401.14.

The cooling water intake structure (CWIS) used by the permittee has been evaluated using available information. At this time, the Department has determined that the cooling water intake structure represents the best technology available (BTA) to minimize adverse environmental impact in accordance with Section 316 (b) of the Federal Clean Water Act (33 U.S.C section 1326).

Clarified Cooling Water Intake Requirements

1. The permittee shall submit the following information at least 180 days prior to permit expiration of this permit:

   - design intake flow of the CWIS;
   - percentage of intake flow , based on highest monthly average in last 5 years, used for cooling purposes;
   - an estimate of the intake flow reduction at the facility based upon the use of a 100 percent (or some lesser percentage) closed-cycle re-circulating cooling water system compared to a conventional once-through cooling water system;
   - through screen design intake flow velocity;
   - any impingement and entrainment data that may have been collected based on the operation of the facility's CWIS, collected since the effective date of this NPDES permit; and,
   - a detailed description of any changes in the operation of the CWIS, or changes in the type of technologies used at the CWIS such as screens or other technologies affecting the rates of impingement and/or entrainment of fish and shellfish.

2. The permittee is required to operate and maintain the CWIS in a manner that minimizes impingement and entrainment levels. Documentation detailing the steps that have and are being taken to minimize the impingement and entrainment levels shall be maintained on-site.

ALABAMA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
WATER DIVISION – INDUSTRIAL AND MUNICIPAL SECTIONS
NONCOMPLIANCE NOTIFICATION FORM

PERMITTEE NAME: _____ PERMIT NO: _____

FACILITY LOCATION: _____

DMR REPORTING PERIOD: _____

1. DESCRIPTION OF DISCHARGE: (Include outfall number (s))

2. DESCRIPTION OF NON-COMPLIANCE: (Attach additional pages if necessary):

LIST EFFLUENT VIOLATIONS (If applicable)			
Outfall Number (s)	NONCOMPLIANCE PARAMETER(S)	Result Reported (Include units)	Permit Limit (Include units)
LIST MONITORING / REPORTING VIOLATIONS (If applicable)			
Outfall Number (s)	NONCOMPLIANCE PARAMETER(S)	Monitoring / Reporting Violation (Provide description)	

3. CAUSE OF NON-COMPLIANCE (Attach additional pages if necessary):

4. PERIOD OF NONCOMPLIANCE: (Include exact date(s) and time(s) or, if not corrected, the anticipated time the noncompliance is expected to continue):

5. DESCRIPTION OF STEPS TAKEN AND/OR BEING TAKEN TO REDUCE OR ELIMINATE THE NONCOMPLYING DISCHARGE AND TO PREVENT ITS RECURRENCE (attach additional pages if necessary):

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

_____
NAME AND TITLE OF RESPONSIBLE OFFICIAL (type or print)

_____ / _____
SIGNATURE OF RESPONSIBLE OFFICIAL / DATE SIGNED

ADEM Form 421 09/05

LANCE R. LEFLEUR
DIRECTOR

ROBERT J. BENTLEY
GOVERNOR

Alabama Department of Environmental Management
adem.alabama.gov
1400 Coliseum Blvd. 36110-2400 ■ Post Office Box 301463
Montgomery, Alabama 36130-1463
(334) 271-7700 ■ FAX (334) 271-7950

FACT SHEET

APPLICATION FOR NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT TO DISCHARGE TREATED WASTEWATERS TO WATERS OF THE STATE OF ALABAMA

Date: June 4, 2011 **Prepared By: Donald Brown**

NPDES Permit No. AL0002674

1. SYNOPSIS OF APPLICATION

a. Name and Address of Applicant and Location if Different From Mailing Address

Applicant Name and Address:	Facility Location:
INTERNATIONAL PAPER COMPANY - PINE HILL CONTAINERBOARD MILL P O BOX 250 PINE HILL AL 36769	Pine Hill Containerboard Mill Alabama Highway 10 Pine Hill, Alabama 36769

b. Description of Applicant's Facility or Activity Generating the Discharge

For the Outfall latitude and longitude see the permit application

c. Applicant's Receiving Waters

Receiving Waters	Classification
Alabama River	F&W
UT to Alabama River	F&W
Dunns Creek	F&W

d. Quantitative Description of Proposed Discharges

See attached draft permit and permit application

2. PROPOSED DISCHARGE LIMITATIONS

See attached draft permit

3. STATEMENT OF BASIS FOR PERMIT LIMITATIONS

See attached permit rationale

Birmingham Branch
110 Vulcan Road
Birmingham, AL 35209-4702
(205) 942-6168
(205) 941-1603 (FAX)

Decatur Branch
2715 Sandlin Road, S. W.
Decatur, AL 35603-1333
(256) 353-1713
(256) 340-9359 (FAX)

Mobile Branch
2204 Perimeter Road
Mobile, AL 36615-1131
(251) 450-3400
(251) 479-2593 (FAX)

Mobile-Coastal
4171 Commanders Drive
Mobile, AL 36615-1421
(251) 432-6533
(251) 432-6598 (FAX)

4. PROCEDURES FOR THE FORMULATION OF FINAL DETERMINATIONS

a. Comment Period

The Alabama Department of Environmental Management proposes to issue an NPDES permit to this applicant subject to the effluent limitations and special conditions outlined above. These determinations are tentative.

Interested persons are invited to submit written comments on the permit application or on proposed determinations to the following address:

Russell A. Kelly, Chief
Permits and Services Division
Alabama Department of Environmental Management
1400 Coliseum Blvd
(Mailing Address: Post Office Box 301463; Zip 36130-1463)
Montgomery, Alabama 36110-2059
(334) 271-7714

All comments received prior to the closure of the public notice period (see attached public notice) will be considered in the formulation of final determinations with regard to this application.

b. Public Hearing

A written request for a public hearing may also be filed with the public notice period and must state the nature of the issues proposed to be raised in the hearing. The Director shall hold a public hearing whenever it is found, on the basis of hearing requests, that there exists a significant degree of public interest in the permit application or draft permit or group of permits. A request for a hearing should be filed with the Department at the following address:

Russell A. Kelly, Chief
Permits and Services Division
Alabama Department of Environmental Management
1400 Coliseum Blvd
(Mailing Address: Post Office Box 301463; Zip 36130-1463)
Montgomery, Alabama 36110-2059
(334) 271-7714

The Director may hold a public hearing if he determines that useful information and data may be obtained thereby. Public notice of such a hearing will be published at least 30 days prior to the hearing in a newspaper having general circulation in the geographical area of the discharge and will be sent to those on the ADEM mailing list at least thirty days prior to the hearing.

c. Issuance of the Permit

Upon the expiration of the comment period and, if applicable, completion of the public hearing process a response to all significant comments will be prepared. After consideration of all comments received during the notice period or as the result of a public hearing, the response to comments, and of the requirements of the Alabama Water Pollution Control Act and appropriate regulations, the Director will make a final decision regarding permit issuance. **The permit record, including the response to comments, will be available to the public and an appointment to review the record may be made by writing the Permits and Services Division at the above address.**

Unless a request for a stay of a permit or permit provision is granted, the proposed permit contained in the Director's determination shall be issued and effective; and will be the final action of the Alabama Department of Environmental Management.

d. Appeal Procedures

Any person adversely affected by the Director's final decision may submit an appeal or a request for a stay of the permit or one or more provisions of the permit. Such requests should be received by the

Environmental Management Commission within thirty days of issuance of the permit. Requests should be submitted to the Chairperson at the following address:

Alabama Environmental Management Commission
1400 Coliseum Blvd
(Mailing Address: Post Office Box 301463; Zip 36130-1463)
Montgomery, Alabama 36110-2059

All requests must:

(i) State the name, mailing address and telephone number of the person making such request;

(ii) Identify the interest of the appellant which is affected by the proposed issuance, denial or modification of the permit contained in the determination of the Director, and explain how and to what extent that interest would be directly and adversely affected by such determination;

(iii) Identify any persons whom the request represents;

(iv) State with particularity the issues proposed to be considered at the hearing;

(v) Include any terms and conditions with which the appellant proposes to revise or replace the determinations of the Director;

(vi) State the name, mailing address and telephone number of the attorney for the person making the request, if represented by an attorney; and

(vii) An original signature of the person making the request or such person's attorney.

The Commission may rule on the appeal or may hold an appeals hearing prior to making a ruling.

ADEM PERMIT RATIONAL

Prepared By: Donald Brown

Date: June 2, 2011

Facility Name: International Paper – Pine Hill Containerboard Mill

Facility Location: 7600 State Highway 10 West

Pine Hill, Alabama

Permit Number: AL0002674

PERMIT IS RE-ISSUANCE TO EXPERATION

Discharge Serial Numbers And Descriptions; See OUTFALL Descriptions Provided Below.

IP- Pine Hill is considered a NPDES major facility. Its principle receiving stream is the Alabama River which at the discharge point is classified as Fish and Wildlife with a $7Q_{10}$ of 4850 cfs, a $1Q_{10}$ of 3637.5 cfs, and a average annual flow of 31,170 cfs. This portion of the Alabama River is currently listed on the 303(d) list of impaired waterbodies. The cause is nutrients and organic enrichment and industrial activity is listed as a contributor. DSN005 discharges to Dunn's Creek, also classified as Fish & Wildlife with a $7Q_{10}$ of 0.0 cfs and a $1Q_{10}$ of 0.0 cfs, and an average annual flow of 15.51 cfs respectively.

ADEM Administrative Rule 335-6-10-.12 requires applicants to new or expanded dischargers to Tier II waters demonstrate that the proposed discharge is necessary for important economic or social development in the area in which the waters are located. The application submitted by the facility is not for a new or expanded discharge, so the applicant is not required to demonstrate that the discharge is necessary for economic and social development.

DSN001 – Process and sanitary wastewaters, cooling water, and storm water runoff

This discharge is regulated by the U.S. Environmental Protection Agency (EPA) effluent guidelines for Pulp, Paperboard, and Paper Point Source Category (40 CFR 430) and by Alabama Water Quality Standards. For calculation of the guideline limitations, I.P. Pinehill reported the following reasonable measure of production:

Unbleached Kraft (Subpart C)---------- 1,442.4 air dried tons/day

Controlled Soda Semi-Chemical Pulp (Subpart C)-------- 591.7 air dried tons/day

Secondary Fiber-Non-Corrugate (Subpart J)---------- 146.1 air dried tons/day

Secondary Fiber-Corrugate (Subpart J)---------- 365.2 air dried tons/day

The permit's BOD5 limits will be continued as in the previous permit. These Limits are shown below:

Months	BOD5 Monthly Average (ppd)	BOD5 Daily Maximum (ppd)
January-April	10,973	21,871
May-June, November-December	8,778	17,497
July-October	6,583	13,123

To further protect water quality, the permittee will continue to be required to perform stream monitoring during the period of June through October. Sampling may be required at additional stations on occasions when the D.O. has not recovered at the last station.

The permit also includes the requirement that the allowable quantity of BOD5 that can be discharged during periods of low D.O. in the receiving stream (< 5.3 ppm) will continue to be controlled by the following equation:

BOD5 (ppd) = 2.04 Q(D.O. – 5.0) where

Q = stream flow in cfs

D.O = instream D.O. in mg/l at 5 foot depth

2.04 is a conversion factor as shown below

2.04 = (8.34)/(1.55)(3.0) where

8.34 is the conversion of mg/l and MGD to lbs/day

1.55 is the conversion of cfs to MGD

3.0 is the ratio of 5 day to ultimate BOD.

In accordance with this equation, no discharge will be allowed when the instream D.O. falls below 5.0 mg/l.

Limits based on Guidelines:

BOD5	Monthly Average (ppd)	Daily Max (ppd)
Unbleached Kraft (Subpart C)	8,077	16,154
CSSC (Subpart C)	3,314	6,628
Secondary Fiber – Non-Corrugate (Subpart J)	438	877
Secondary Fiber – Corrugate (Subpart J) NSPS	2,045	4,163
Totals	13,874	27,822

TSS	Monthly Average (ppd)	Daily Max (ppd)
Unbleached Kraft (Subpart C)	17,308	34,616
CSSC (Subpart C)	7,101	14,202
Secondary Fiber – Non-Corrugate (Subpart J)	731	1,462
Secondary Fiber – Corrugate (Subpart J) NSPS	3,359	6,719
Totals	28,499	56,999

Comparison of BOD5 guideline-based limits to existing water quality limits:

Limits	Guideline-Based	Existing WQ
BOD5 (avg/max)----------	13,874/27,822	10,973/21,871

The existing water quality limits will be continued in this re-issuance because they are more stringent. Additional loading to the river cannot occur during these critical times due to the impaired status of downstream sections of the river.

Comparison of TSS guideline-based limits to existing limits:

	Guideline-Based	Existing Limits
TSS (avg/max)----------	28,499/56,999	17,572/35,104

The existing BPJ limits will be continued because the facility has shown the ability to meet these parameters and any reduction in the requirements would be considered backsliding.

TCP	Daily Max (ppd)	PCP	Daily Max (ppd)
Unbleached Kraft (Subpart C)	1.53	Unbleached Kraft (Subpart C)	1.67
CSSC (Subpart C)	0.70	CSSC (Subpart C)	0.76
Secondary Fiber – Non-Corrugate (Subpart J)	0.09	Secondary Fiber – Non-Corrugate (Subpart J)	0.25
Secondary Fiber – Corrugate (Subpart J) NSPS	0.22	Secondary Fiber – Corrugate (Subpart J) NSPS	0.64
Totals	2.53	**Totals**	3.32

The facility has demonstrated compliance with the existing PCP daily max limit of 2.38 ppd and the TCP daily max limit of 1.76 ppd, therefore, to avoid backsliding, the existing limits will remain. The permittee will not be required to sample TCP or PCP as long as annual certification of non-use is submitted to the department.

Acute biomonitoring requirements shall be continued in the permit. Testing will be required at the instream waste concentration within the mixing zone. This was previously determined by computer model to be 28%. Testing is proposed to be continued to be on a annual basis. The permit limit will be no more than 10% mortality using a 48 hr. acute testing using 2 species. The acute testing is due to the dilution ratio being greater than 100/1. Monitoring shall continue to be once per year.

The permittee shall be continued to test for nutrients due to the current impairment of downstream sections of the river that are attributed to this parameter. These parameters include Ammonia as Nitrogen, Nitrates as Nitrogen, and Total Phosphorus as P. The limits shall be continued as monitor only and the frequency shall be quarterly. Results will be utilized to develop the TMDL and limits should the Department deem it necessary.

Limits for pH will be limited to 6.0-9.0 based on guideline requirements. In view of the dilution provided by the receiving stream, these limits should protect water quality. Monitoring is proposed to be 3/week.

DSN0011:

AL0002674 -- 229859.1

	DISCHARGE LIMITATION REQUIREMENTS					MONITORING REQUIREMENTS		
Effluent Characteristic	**LD1**	**LD2**	**C1**	**C2**	**C3**	**Sample Frequency**	**Sample Type**	**Seasonal**
BOD, 5-Day (20 Deg. C) 00310	10973 lbs/day	21871 lbs/day	-	-	-	3X Weekly test	Composite	January - April
BOD, 5-Day (20 Deg. C) 00310	6583 lbs/day	13123 lbs/day	-	-	-	3X Weekly test	Composite	July - October
BOD, 5-Day (20 Deg. C) 00310	8778 lbs/day	17497 lbs/day	-	-	-	3X Weekly test	Composite	May – June, November-December
pH 00400	-	-	6.0 S.U.	-	9.0 S.U.	3X Weekly test	Grab	-
Solids, Total Suspended 00530	17572 lbs/day	35104 lbs/day	-	-	-	3X Weekly test	Composite	-
Flow, In Conduit or Thru Treatment Plant 50050	REPORT MGD	REPORT MGD	-	-	-	Continuous	Totalizer	-

DSN001Q:

AL0002674 -- 229859.1

	DISCHARGE LIMITATION REQUIREMENTS					MONITORING REQUIREMENTS		
Effluent Characteristic	**LD1**	**LD2**	**C1**	**C2**	**C3**	**Sample Frequency**	**Sample Type**	**Seasonal**
Nitrogen, Ammonia Total (As N) 00610	-	-	-	-	REPORT mg/l	Quarterly	Composite	-
Nitrite Plus Nitrate Total 1 Det. (As N) 00630	-	-	-	-	REPORT mg/l	Quarterly	Composite	-
Phosphorus, Total (As P) 00665	-	-	-	-	REPORT mg/l	Quarterly	Composite	-
Pentachlorophenol 39032	-	2.38 lbs/day	-	-	-	Quarterly	Composite	-
Trichlorophenol 81848	-	1.76 lbs/day	-	-	-	Quarterly	Composite	-

DSN001Y:

AL0002674 -- 229859.1	DISCHARGE LIMITATION REQUIREMENTS					MONITORING REQUIREMENTS		
Effluent Characteristic	**LD1**	**LD2**	**C1**	**C2**	**C3**	**Sample Frequency**	**Sample Type**	**Seasonal**
% Effect Statre 48Hr Acu Ceriodaphnia TCM3B	-	-	-	-	10 %	Annually	Grab	-
% Effect Statre 48 Hr Acu Pimphales TCM6C	-	-	-	-	10 %	Annually	Grab	-

DSN002S:

AL0002674 -- 229859.1

Effluent Characteristic	DISCHARGE LIMITATION REQUIREMENTS LD1	LD2	C1	C2	C3	MONITORING REQUIREMENTS Sample Frequency	Sample Type	Seasonal
BOD, 5-Day (20 Deg. C) 00310	-	-	-	-	REPORT mg/l	Semi-Annual	Grab	-
pH 00400	-	-	6.0 S.U.	-	9.0 S.U.	Semi-Annual	Grab	-
Solids, Total Suspended 00530	-	-	-	-	REPORT mg/l	Semi-Annual	24-Hr Composite	-
Iron Total Recoverable 00980	-	-	-	-	REPORT mg/l	Semi-Annual	24-Hr Composite	-
Zinc Total Recoverable 01094	-	-	-	-	REPORT mg/l	Semi-Annual	24-Hr Composite	-
Manganese, Total Recoverable 11123	-	-	-	-	REPORT mg/l	Semi-Annual	24-Hr Composite	-
Flow, In Conduit or Thru Treatment Plant 50050	-	REPORT MGD	-	-	-	Semi-Annual	Instantaneous	-

DSN003Y:

AL0002674 -- 229859.1	DISCHARGE LIMITATION REQUIREMENTS					MONITORING REQUIREMENTS		
Effluent Characteristic	**LD1**	**LD2**	**C1**	**C2**	**C3**	**Sample Frequency**	**Sample Type**	**Seasonal**
BOD, 5-Day (20 Deg. C) 00310	-	-	-	REPORT mg/l	REPORT mg/l	Annually	Grab	-
pH 00400	-	-	6.0 S.U.	-	9.0 S.U.	Annually	Grab	-
Solids, Total Suspended 00530	-	-	-	-	REPORT mg/l	Annually	Grab	-
Oil and Grease 03582	-	-	-	-	15 mg/l	Annually	Grab	-
Flow, In Conduit or Thru Treatment Plant 50050	-	REPORT MGD	-	-	-	Annually	Estimate	-

DSN004Y:

AL0002674 -- 229859.1	DISCHARGE LIMITATION REQUIREMENTS					MONITORING REQUIREMENTS		
Effluent Characteristic	**LD1**	**LD2**	**C1**	**C2**	**C3**	**Sample Frequency**	**Sample Type**	**Seasonal**
BOD, 5-Day (20 Deg. C) 00310	-	-	-	REPORT mg/l	REPORT mg/l	Annually	Grab	-
pH 00400	-	-	6.0 S.U.	-	9.0 S.U.	Annually	Grab	-
Solids, Total Suspended 00530	-	-	-	-	REPORT mg/l	Annually	Grab	-
Oil and Grease 03582	-	-	-	-	15 mg/l	Annually	Grab	-
Flow, In Conduit or Thru Treatment Plant 50050	-	REPORT MGD	-	-	-	Annually	Estimate	-

DSN005Y:

AL0002674 -- 229859.1

Effluent Characteristic	LD1	LD2	C1	C2	C3	Sample Frequency	Sample Type	Seasonal
	DISCHARGE LIMITATION REQUIREMENTS					MONITORING REQUIREMENTS		
BOD, 5-Day (20 Deg. C) 00310	-	-	-	REPORT mg/l	REPORT mg/l	Annually	Grab	-
pH 00400	-	-	6.0 S.U.	-	9.0 S.U.	Annually	Grab	-
Solids, Total Suspended 00530	-	-	-	-	REPORT mg/l	Annually	Grab	-
Oil and Grease 03582	-	-	-	-	15 mg/l	Annually	Grab	-
Flow, In Conduit or Thru Treatment Plant 50050	-	REPORT MGD	-	-	-	Annually	Estimate	-

DSN006Y:

AL0002674 -- 229859.1

Effluent Characteristic	DISCHARGE LIMITATION REQUIREMENTS LD1	LD2	C1	C2	C3	MONITORING REQUIREMENTS Sample Frequency	Sample Type	Seasonal
BOD, 5-Day (20 Deg. C) 00310	-	-	-	REPORT mg/l	REPORT mg/l	Annually	Grab	-
pH 00400	-	-	6.0 S.U.	-	9.0 S.U.	Annually	Grab	-
Solids, Total Suspended 00530	-	-	-	-	REPORT mg/l	Annually	Grab	-
Oil and Grease 03582	-	-	-	-	15 mg/l	Annually	Grab	-
Flow, In Conduit or Thru Treatment Plant 50050	-	REPORT MGD	-	-	-	Annually	Estimate	-

DSN007Y:

AL0002674 -- 229859.1

	DISCHARGE LIMITATION REQUIREMENTS					MONITORING REQUIREMENTS		
Effluent Characteristic	**LD1**	**LD2**	**C1**	**C2**	**C3**	**Sample Frequency**	**Sample Type**	**Seasonal**
BOD, 5-Day (20 Deg. C) 00310	-	-	-	REPORT mg/l	REPORT mg/l	Annually	Grab	-
pH 00400	-	-	6.0 S.U.	-	9.0 S.U.	Annually	Grab	-
Solids, Total Suspended 00530	-	-	-	-	REPORT mg/l	Annually	Grab	-
Oil and Grease 03582	-	-	-	-	15 mg/l	Annually	Grab	-
Flow, In Conduit or Thru Treatment Plant 50050	-	REPORT MGD	-	-	-	Annually	Estimate	-

Waste Load Allocation Summary

Comments Included: [x] Yes [ ] No

General Information

Information Verified By: JEH

Receiving Stream Name	Alabama River
Year File Was Created	2000
Previous File Name	
OR: Local Name (if applicable)	
Facility Name	Weyerhaeuser Company
Previous Discharger Name	Weyerhaeuser
Or-AKA (includes previous file name)	
11 Digit HUC Code	03150203210
12 Digit HUC Code	031502030805
River Basin	Alabama
County	Wilcox
Use Classification	F&W
Discharge Latitude	31.97523
Discharge Longitude	-87.4599
Site Visit Completed?	[ ] Yes [x] No
Date of Site Visit	
Waterbody Impaired?	[x] Yes [ ] No
Antidegradation	[ ] Yes [x] No
Waterbody Tier Level	
Use Support Category	
Other Point Sources?	[ ] Yes [x] No

Print Record | Close Form

Date of WLA Response: 3/3/2006

Lat/Long Method:

Approved TMDL? [ ] Yes [x] No

Approval Date of TMDL:

Sources Included in Model:

Permit Information

Permit Number	AL0002674
Permit Status	Active

Type of Discharger:

- [ ] Municipal
- [x] Industrial
- [ ] Semipublic/Private
- [ ] Mining

Waste Load Allocation Information

Modeled Reach Length	58 Miles	Date of Allocation	3/3/2006
Name of Model Used	QUAL2E	Allocation Type	Annual
Model Completed by	CH2M Hill	Type of Model Used	Desk-top
Allocation Developed by	Consultant		

Waste Load Allocation Summary

Annual Effluent Limits

Qw 18.5 MGD

CBOD5

NH3-N

TKN

D.O.

Conventional Parameters

Qw MGD

Season

From

Through

CBOD5

NH3-N

TKN

D.O.

Qw MGD

Season

From

Through

CBOD5

NH3-N

TKN

D.O.

Other Parameters

Qw MGD

Season

From

Through

TP

TN

TSS

Qw MGD

Season

From

Through

TP

TN

TSS

"Monitor Only" Parameters for Effluent:

Parameter	Frequency	Parameter	Frequency

Water Quality Characteristics Immediately Upstream of Discharge

Parameter	Summer		Winter	
CBODu		mg/l		mg/l
NH3-N		mg/l		mg/l
Temperature		°C		°C
pH		su		su

Hydrology at Discharge Location

Drainage Area Qualifier

			Method Used to Calculate
Drainage Area		sq mi	
Stream 7Q10	4361	cfs	USGS Estimate
Stream 1Q10		cfs	
Stream 7Q2		cfs	
Annual Average		cfs	

Comments and/or Notations

Discharge @ rm - 121.2 // Sec 27, T 12 N, R 6 E // 78 NW COY // Design flow of 18.5 is AV5 for January '01 - July '03 BOD from TMDL. This file contains a review of CH2M Hill's model, however, the memo in the file dated 3/3/06 in file does not indicate which documents were reviewed.

If comments are made, check the "yes" box at the top of page one.

Last Revision: 07/15/09

DSN002 – Leachate from solid waste landfill and stormwater from landfill site

Parameters of concern are flow, pH, BOD, TSS, iron, manganese, and zinc. The pH parameter should continue to be protective of water quality due to the size of the receiving stream. The facility has requested that the monitoring frequency be reduced from once per quarter to a semiannual basis. This request has been granted based on historical monitoring data from the facility's discharge.

DSN003, 006, 007 – Stormwater associated with industrial activity

Parameters of concern are flow, pH, BOD, TSS, and O&G. The existing O&G daily maximum of 15 mg/l will be continued to prevent the occurrence of a sheen in the receiving stream. As in the previous permit, since the storm water runoff from outfalls DSN003, 006, and 007 are similar, testing will be required at 003 & 006 only. The facility has requested that the monitoring frequency be reduced from a semiannual basis to a once per year basis. This request has been granted based on historical monitoring data from the facility's discharge.

The permit will require that the permittee operate under a BMP plan to control/prevent the contamination of stormwater runoff. Results of the monitoring required by this permit will be used to evaluate the effectiveness of the BMP plan and should be adequate to protect water quality.

DSN004 – 005 – Stormwater associated with industrial activity

The parameters of concern are flow, pH, BOD, TSS, and O&G. The existing O&G daily maximum of 15 mg/l will be continued to prevent the occurrence of a sheen in the receiving stream. The facility has requested that the monitoring frequency be reduced from a semiannual basis to a once per year basis. This request has been granted based on historical monitoring data from the facility's discharge.

The permit will require that the permittee operate under a BMP plan to control/prevent the contamination of stormwater runoff. Results of the monitoring required by this permit will be used to evaluate the effectiveness of the BMP plan and should be adequate to protect water quality.

Portions of this permit are based on BPJ which is considered equivalent to BCT/BAT.

Cooling Water Intake Structure (CWIS)

Section 316 (b) of the Clean Water Act requires that facilities minimize adverse environmental impacts resulting from the operation of cooling water intake structure (CWIS) by using the "Best Technology Available" (BTA).All of those facilities including those not specifically addressed by rules, must be evaluated for 316 (b) compliance. For those facilities not addressed in Phase I, II, or III rules, a BTA determination must be made using "Best Professional Judgment" (BPJ) under the authority of 40 CFR §§ 125.90(b) and 401.14.

The cooling water intake structure (CWIS) used by the permittee has been evaluated using available information. At this time, the Department has determined that the cooling water intake structure represents the best technology available (BTA) to minimize adverse environmental impact in accordance with Section 316 (b) of the Federal Clean Water Act (33 U.S.C section 1326).

Clarified Cooling Water Intake Requirements

1. The permittee shall submit the following information at least 180 days prior to permit expiration of this permit:

- design intake flow of the CWIS;
- percentage of intake flow , based on highest monthly average in last 5 years, used for cooling purposes;
- an estimate of the intake flow reduction at the facility based upon the use of a 100 percent (or some lesser percentage) closed-cycle re-circulating cooling water system compared to a conventional once-through cooling water system;
- through screen design intake flow velocity;
- any impingement and entrainment data that may have been collected based on the operation of the facility's CWIS, collected since the effective date of this NPDES permit; and,
- a detailed description of any changes in the operation of the CWIS, or changes in the type of technologies used at the CWIS such as screens or other technologies affecting the rates of impingement and/or entrainment of fish and shellfish.

2. The permittee is required to operate and maintain the CWIS in a manner that minimizes impingement and entrainment levels. Documentation detailing the steps that have and are being taken to minimize the impingement and entrainment levels shall be maintained on-site.

	Categorical Limits (lbs per 1,000 lbs)					Allowable Limits (PPD)			
	Daily Max		Monthly Average		Average Production (lbs per 1,000 lbs)	Daily Max		Monthly Average	
Description	**BOD5**	**TSS**	**BOD5**	**TSS**		**BOD5**	**TSS**	**BOD5**	**TSS**
Unbleached Kraft Pulp (Subpart C)	5.6	12	2.8	6.0	2884.7	16154	34616	8077	17308
Unbleached CSSC Pulp (Subpart C)	5.6	12	2.8	6.0	1183.5	6628	14202	3314	7101
Secondary Fiber Non-Deink (Non-Corrugated) (Subpart J)	3.0	5.0	1.5	2.5	292.3	877	1462	438	731
Secondary Fiber Non-Deink (Corrugated)(Subpart J)	5.7	9.2	2.8	4.6	730.3	4163	6719	2045	3359
				Totals	5090.8	27822	56999	13874	28499

	Categorical Limits (lbs per 1,000 lbs)					Allowable Limits (PPD)			
	Daily Max				Average Production (lbs per 1,000 lbs)	Daily Max			
Description	**PCP**	**TCP**				**PCP**	**TCP**		
Unbleached Kraft Pulp (Subpart C)	0.00058	0.00053			2884.7	1.67	1.53		
Unbleached CSSC Pulp	0.00064	0.00059			1183.5	0.76	0.70		
Secondary Fiber Non-Deink (Non-Corrugated) (Subpart J)	0.00087	0.00030			292.3	0.25	0.09		
Secondary Fiber Non-Deink (Corrugated)(Subpart J)	0.00087	0.00030			730.3	0.64	0.22		
				Totals	5090.8	3.32	2.53		

LANCE R. LEFLEUR
DIRECTOR

ROBERT J. BENTLEY
GOVERNOR

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Montgomery, Alabama 36130-1463
(334) 271-7700 ■ FAX (334) 271-7950

June 21, 2011

MEMORANDUM

To: Donald Brown
Industrial/Municipal FAC Branch

From: Brian Haigler BcH
Water Quality Branch

Subject: International Paper NPDES Permit AL0002674 – Monitoring Plan

Condition No. IV D of NPDES Permit AL0002674 requires water quality monitoring to be conducted on the Alabama River between the dates of June 1 and October 31. International Paper (NPDES permit AL0002674), as part of the permit renewal, request changing the monitoring requirements language in the permit. The Water Quality Branch agrees that the stream monitoring language may be changed as detailed in the request. This change in monitoring language should adequately represent the water quality conditions of the Alabama River, as well as, verify that water quality standards are being attained during critical conditions.

BH/nf

Birmingham Branch
110 Vulcan Road
Birmingham, AL 35209-4702
(205) 942-6168
(205) 941-1603 (FAX)

Decatur Branch
2715 Sandlin Road, S. W.
Decatur, AL 35603-1333
(256) 353-1713
(256) 340-9359 (FAX)

Mobile Branch
2204 Perimeter Road
Mobile, AL 36615-1131
(251) 450-3400
(251) 479-2593 (FAX)

Mobile-Coastal
4171 Commanders Drive
Mobile, AL 36615-1421
(251) 432-6533
(251) 432-6598 (FAX)

NPDES & SID Fee Sheet
Municipal, Industrial and Mining

Base Application	Initial Issuance Reissuance or Modification (effluent limit change) (injection zone change or compatibility study)	Modification (No effluent limit change) (No injection zone change or no compatibility study)	Fee Total
Action Type: Reissuance			
Payment Type: Water NPDES Industrial Major Fee			$8875.00
Major Industrial Discharger	$8400	$1840	
Minor Industrial Discharger	$2620	$1460	
Commercial/Industrial General	$ 645	$ 375	
Major Municipal & Private Domestic	$3300	$1530	
Minor Municipal & Private Domestic	$2005	$1050	
Municipal Storm Water	$3300	$1530	
Municipal & Private Sludge Only	$1260	$ 850	
Minor NPDES Modification	----	$ 375	
SID	$1800	$990	
SID with EPA established Categorical Effluent Guidelines	$2040	$1225	
Name Change/Transfer	$ 375	-----	
Mineral/Resource Extraction Mining, Storage, Transloading, Dry Processing	$2720	$1595	
Wet Preparation, Processing, Beneficial	$3200	$1840	
Coalbed Methane	$3200	$1840	

Master ID No: 0000007779
Applicant: International Paper Company - Pine Hill Containerboard Mill
Contact: Janet Neighbors
Mailing Address: P O Box 250
Pine Hill, AL 36769
County: Wilcox
Facility:
Location: Alabama Highway 10
Facility City: Pine Hill
Facility/Permit No: AL0002674
Application Receive Date: September 2, 2010

ADDITIVE FEES:	
Modeling with Data Collection (10 Stations)	$42290
Modeling with Data Collection (5 Stations)	$34535
Desktop	$ 3400
Review Model Done by Others	$ 1895
Seasonal Limits (per additional Season)	$ 3400
Biomonitoring & Toxicity Limits	$ 475
316b Phase I & II Facility (Re-issue Only)	$ 2365
Review Comp Demo Study [(316b Phase I (Track 2) & Phase II (Alt 2, 3, 4, 5)]	$18920
Public Hearing	$ 3945
Green Field Fee	$ 750

Entered to Permit Tracking: _____
By: _____
Total Fee Due: $8875.00
Amount Submitted with Appl: $8875.00
Amount to be Billed: $0.00
Date and Amt Received: _____
Amount to be Refunded: $
Prepared by: Donald Brown
Reviewed by: EV

Attachment 7

ER 1110-2-8154

Department of the Army
US Army Corps of Engineers

CECW-E Regulation No. 1110-2-8154	Department of the Army U.S. Army Corps of Engineers Washington, DC 20314-1000	ER 1110-2-8154 31 May 1995
	Engineering and Design WATER QUALITY AND ENVIRONMENTAL MANAGEMENT FOR CORPS CIVIL WORKS PROJECTS (REPORTS CONTROL SYMBOL DAEN-CWH-4)	
	Distribution Restriction Statement Approved for public release; distribution is unlimited.	

DEPARTMENT OF THE ARMY
U.S. Army Corps of Engineers
Washington, DC 20314-1000

ER 1110-2-8154

CECW-E

Regulation
No. 1110-2-8154

31 May 1995

Engineering and Design
WATER QUALITY AND ENVIRONMENTAL MANAGEMENT FOR CORPS CIVIL WORKS PROJECTS
(Reports Control Symbol DAEN-CWH-4)

1. Purpose

This regulation establishes a policy for the water quality management program at Corps civil works projects.

2. Applicability

This regulation applies to HQUSACE elements, major subordinate commands, districts, laboratories, and field operating activities (FOAs) having civil works responsibilities.

3. References

a. Public Law 80-845, Federal Water Pollution Control Act of 1948, as amended in 1956, 1961, 1965, 1970, 1972, 1977, and 1987.

b. Water Resources Development Act of 1986, 1988, 1990, and 1992.

c. Executive Order 12088, 13 October 1978 (3 C.F.R.).

d. ER 1105-2-100, Guidance for Conducting Civil Works Planning Studies.

e. ER 1110-1-261, Quality Assurance of Laboratory Testing Procedures.

This regulation supersedes ER 1130-2-334 dated 30 April 1986, ER 1130-2-415 dated 28 October 1976, and ER 1110-2-1402 dated 15 September 1978.

f. ER 1110-1-263, Chemical Data Quality Management for Hazardous Waste Remedial Activities.

g. ER 1110-1-8100, Laboratory Investigations and Materials Testing.

h. ER 1110-2-240, Water Control Management.

i. ER 1110-2-1150, Engineering and Design for Civil Works Projects.

j. ER 1110-2-1462, Water Quality and Water Control Considerations for Non-Federal Hydropower Development at Corps of Engineers Projects.

k. EM 1110-2-1201, Reservoir Water Quality Analysis.

4. Authorities

a. The U.S. Army Corps of Engineers' water quality management authority is founded on the Federal Water Pollution Control Act (FWPCA) of 1948 and its amendments including the Clean Water Act of 1977 and the Water Quality Act of 1987. The FWPCA Amendment of 1972 (PL 92-500) strongly affirms the Federal interest in water quality. Executive Order 12088, Federal Compliance With Pollution Control Standards, dated 13 October 1978, requires compliance by Federal facilities and activities with applicable pollution control standards in the same manner as any non-Federal entity. To ensure project compliance, the Federal Facilities Compliance Act of 1990 provides for EPA and/or States to inspect Federally owned or Federally operated facilities that are subject to the Clean Water Act of 1977.

b. Water control management authority is contained in specific project authorizations and other enabling legislation. The ultimate responsibility to control water quantity and quality at all Corps projects rests with the Corps.

5. Definitions

The following definitions apply to the use of these terms in this regulation.

a. Water - The surface and ground waters of the United States, its territories and protectorates, including estuaries and coastal waters.

b. Quality - The chemical, physical, and biological condition of water.

c. Water quality - The physical, chemical, and biological characteristics of water as it occurs on or beneath the surface of the earth including its quantity, distribution, movement, sediments, and biological community (including transients).

d. Water quality management - The management of water resources by the Corps of Engineers to improve, restore, conserve, and protect the physical, chemical, and biological quality of the water for natural and human use.

e. Operation - Same as regulation, pertains to the operation of water control structures for adjustment of flow quantity and quality.

6. Policy

a. It is national policy that the Federal government, in the design, construction, management, operation, and maintenance of its facilities, shall provide leadership in the nationwide effort to protect and enhance the quality of our air, water, and land resources. Federal facilities shall comply with all Federal, state, interstate, and local requirements in the same manner and extent as other entities. Federal antidegradation policy maintains and protects existing high quality waters where they constitute an outstanding national resource. Where the quality of a water resource supports a diverse, productive, and ecologically sound habitat, those waters will be maintained and protected unless there is compelling evidence that to do so will cause significant national economic and social harm. No degradation is allowed without substantial proof that the integrity of the stream will not diminish. In all cases, the existing instream water uses and the water quality necessary to protect them will be maintained. This national policy is founded on the overall objective established in the Clean Water Act to restore and maintain the chemical, physical, and biological integrity of the nation's waters. The thrust of this policy is to protect all existing and future uses including assimilative capacity, aquatic life, water supply, recreation, industrial use, hydropower, etc. Where uses are degraded, it is the national goal to restore those degraded waters to more productive conditions.

b. The Corps' policy is to take a leadership role in carrying out the goals and objectives of the national policy by managing the nation's water resources that are under our control so that they are protected, maintained, and restored. As steward of project resources, the Corps will not allow degradation of the aquatic resource except as noted in paragraph 6*a* above. In cases where degradation has occurred, it is the Corps' policy to restore the resource to a biologically productive, diverse, and ecologically robust condition. Corps management responsibilities extend throughout the area influenced by and influencing the water we manage. Because the management of our projects affects environments distant from our property boundaries and is influenced by actions of others also distant from our properties, the Corps must actively pursue a management philosophy committed to partnering with a wide range of resource organizations and interested individuals. It is Corps policy to develop and implement a holistic, environmentally sound water quality management strategy for each project. This strategy must be developed in concert with other authorized project purposes. However, the environment will be addressed as equal in value and importance to other project purposes when developing or carrying out management strategies. The Corps will, at least, manage its projects in accordance with all applicable Federal and state environmental laws, criteria, and standards. It is the goal of the Corps to responsibly manage our projects to maximize their environmental potential. The four pillars of the Army environmental strategy (conservation, prevention, restoration, and compliance) will help guide the Corps policy for water quality management.

c. Current budget guidance encourages districts to program funds for environmental restoration of aquatic wetland and upland habitat where Corps projects or their operation have caused quantifiable damage to these resources and where project modifications would result

in a cost-effective solution. Such restoration projects can be initiated using the General Investigation feasibility procedures which require Congressional authorization and non-Federal cost-sharing partner. Other authorities can be used to restore environmental resources such as Section 1135 of the Water Resources Development Act (WRDA) of 1986, Section 204 of WRDA 1992, and Section 216 of the Flood Control Act of 1970.

7. Commitment

a. Corps water control projects (dams, local protection, levee systems, and navigation projects) store, regulate, divert, constrict, or convey most of the surface waters in the United States. As water moves through Corps projects, the projects alter the physical, chemical, and biological character of much of that water. Consequently, Corps projects determine or significantly influence the ecological integrity of a large percentage of the riverine and estuarine environment in the United States. Corps water control decisions determine or significantly influence whether or not Corps projects have a positive or negative impact on the environmental value and human usefulness of much of the nation's water resources. As stewards of a significant percentage of the nation's aquatic environment, the Corps has a responsibility to preserve, protect, and where necessary restore that portion of the environment altered by Corps projects. The Corps is fully committed to environmentally sound project management and operation. It is the policy of the Corps that the environment be given equal standing not simply consideration in all aspects of project management and the operational decision-making process.

b. The water quality program and the Corps are committed to holistic watershed ecosystem based resource management. This requires a comprehensive understanding of the interactions of the uses and users of the aquatic environment and the impact of Corps structures and their operation on the aquatic environment. The continued development of ecological management skills within the Corps is essential for the development, protection, and restoration of the resources in our charge. Understanding the physical, chemical, and biological processes allows the Corps the opportunity to operate, maintain, and modify projects in ways that provide for sustainable human uses while protecting, restoring, and conserving the environmental value of the resource. The factors that determine the persistence, resilience, and robustness of ecosystems are often counter-intuitive processes and lack of understanding complicates attempts to manage them.

c. The water quality program provides one of the greatest opportunities for the Corps to demonstrate its commitment to environmental leadership, conservation, restoration, and stewardship. By planning, designing, constructing, and operating water projects in a manner that achieves project purposes while preserving, protecting, and restoring the ecological integrity of the aquatic resources, the Corps can demonstrate its leadership role in responsible environmental engineering. Environmental success will not be measured by production of single or limited numbers of species, or enhanced recreational opportunities, but by expertise in reestablishing flow regimes, rehabilitating wetlands and riparian areas, managing sediment delivery, controlling the chemical and physical aspects of the aquatic systems, and overall ability to restore a dynamic, self-sustaining aquatic ecosystem. This approach will make a significant contribution toward the achievement of the sustainable development goals of the nation.

8. Management

Division-wide water quality management programs are required. Specific water quality management objectives must be developed by the districts for each project, and procedures must be outlined and implemented to meet those objectives. These objectives will be included in the project water control plans. These plans must be reviewed and updated as needed but not less than every 10 years. The plans must achieve environmentally sustainable overall use of the resource. The water quality management plans should be scoped to include all areas influencing and influenced by the project. Divisions must ensure that water quality management is an integral part of the water control management program. Division water control/quality elements are responsible for approval of deviations from water control manuals and should provide guidance in developing water quality data collection activities. Divisions should adopt and implement the following general water quality management objectives for all Corps water resources projects:

a. Ensure that water quality, as affected by the project and its operation, is suitable for project purposes, existing water uses, and public health and safety and is in compliance with applicable Federal and state water quality standards.

b. Define baseline water quality conditions for each project. A preproject water quality evaluation, and/or a description of the postconstruction water quality characteristics must be developed at the earliest time in which data collection and evaluation are practical.

c. Establish and maintain a water quality monitoring and data evaluation program that ensures achievement of water quality management objectives and to evaluate project performance and water quality trends.

d. Identify existing and potential water quality problems, and develop and implement appropriate solutions. Identify opportunities for water quality improvements to projects or receiving waters and initiate management actions that accomplish those improvements.

e. Integrate water quality considerations into all water control management decisions.

f. Maintain coordination and communication among division and district elements involved in environmental and water quality matters.

g. Maintain close coordination and, where possible, collaboration with all interested governmental and nongovernmental entities with regard to activities that may affect or be affected by the water quality or water control decisions associated with Corps projects.

h. Use an interdisciplinary team approach to develop objectives, establish priorities, and execute the water quality management program.

i. Develop an understanding and continuing awareness of the water quality factors and processes in the project, in the watershed, and in the area influenced by project operation.

j. Where degraded conditions exist, develop a plan for restoration that will restore the aquatic environment to a desirable, biologically diverse, productive, and robust condition. This plan should normally be coordinated with appropriate local, state, and other Federal agencies.

k. Ensure that the project and its operation offer the lowest stress possible to the aquatic environment.

l. Ensure that Corps projects are managed to accentuate the projects' potential to play a positive role in the conservation and preservation of natural and cultural resources.

m. Document the water quality management activities of the program and individual projects to record trends, identify problems and accomplishments, and provide guidance to program managers.

n. Recognize that some problems and opportunities are of short duration and demand rapid response. The district water managers should be empowered to react in a time frame commensurate with the event and with best available information and judgment. Long-term situations provide for more comprehensive study and refined response.

o. As appropriate, promote and develop cost-sharing partnerships in accordance with authorities outlined in paragraph 6*c*.

9. Water Quality Data Collection Program

A continuing water quality data collection program is necessary for each Corps project. This data collection is essential in order to understand and manage the environmental resources of the Corps' water projects effectively. Data collection activities should be guided by the following general rules:

a. Data collection efforts will be determined on a project-specific basis. Local conditions, specific project characteristics, and program objectives will be used to determine parameters to be measured, sampling and analytical methods, frequency of sampling, number and location of data collection stations, and data analysis techniques to be employed.

b. Sample collection and handling shall be accomplished using scientifically sound and commonly accepted procedures.

c. Biological monitoring programs are encouraged. Biological data are often the most important component of a water quality data collection effort, are especially useful in identifying pollution spikes or other forms of environmental stress, and often are more cost effective than more conventional chemical and physical data. In most cases an integration of physical, chemical, and biological data is needed to understand the performance and behavior of a project. A component of a monitoring program should be determining if threatened or

endangered species may be adversely affected or if there are opportunities to improve the habitat of these species.

d. Partnering of data collection efforts with other governmental and nongovernmental entities is encouraged and is cost effective. Use of appropriately trained volunteers for observers and data collection is encouraged.

e. A quality assurance/quality control (QA/QC) program covering all aspects of data collection and analysis is required to ensure validity of the data. Analytical procedures accepted by the U.S. Environmental Protection Agency (EPA) should be utilized as appropriate.

f. Data collection programs must be evaluated and modified as necessary to satisfy established objectives, eliminate unnecessary sampling, and address changes in priorities.

10. Water Quality Data Collection Objectives

a. Water quality data collection activities will be carried out to support one or more of the following objectives as appropriate for a given project or system of projects:

(1) Establish baseline conditions and identify trends, opportunities, and problems.

(2) Assess compliance with applicable Federal, state, and local water quality standards.

(3) Provide an adequate database for understanding project conditions and facilitate coordination with Federal and state agencies with regard to watershed activities influencing water quality.

(4) Investigate special problems, design and implement modifications, and improve water management procedures.

(5) Provide data to support reservoir regulation elements for effective management and control of water quality and environmental problems.

(6) Provide water quality data required for real-time project regulation.

(7) Evaluate water/sediment interactions and their effects on overall water quality.

(8) Engineer aquatic environments and ecosystems.

(9) Develop and maintain the environmental awareness and sensitivity essential for sound stewardship for the resource.

(10) Monitor swimming beaches and water supplies for priority pollutants.

b. Other objectives or special needs for water quality data may occur. District offices must take the initiative in determining data needs, identifying problems or opportunities, proposing solutions, justifying resources, implementing approved actions, and reporting results.

c. When designing water quality studies or developing or revising water control plans, the views of other Federal, state, and local agencies regarding data requirements must be fully considered. Data collection is costly and labor-intensive; therefore, every opportunity to share data and partner the data collection effort must be exercised. Coupling water quality data with hydrologic and other environmental data is essential.

11. Engineering and Design

During engineering and design it is necessary that certain studies and evaluations be accomplished to determine appropriate project management objectives and ensure a product that will accomplish those objectives.

a. For interstate waters, describe/cite Federal-state water quality standards as approved by the EPA. For intrastate waters, describe/cite water quality standards established by the state.

b. Present an up-to-date analysis and interpretation of a watershed-based, aquatic ecosystem evaluation of the preproject conditions. This evaluation must include an evaluation of all physical, chemical, and biological factors that influence or are likely to be influenced by the project or its operation. The assessment should include economic and social components as a part of the overall ecosystem analysis. This analysis must identify early on the data needs and data availability to successfully develop a comprehensive report.

c. Develop watershed-based ecosystem management tools and practices that will achieve required quality standards and sustainably maintain an ecosystem that can support the social, economic, and environmental goals set for the project. The presentation should include optimum and allowable variation of water quality and quantity and identify seasonal objectives and goals for environmental ecosystem management. The evaluation should include expected postproject conditions.

d. Develop typically predictive models of the physical, chemical, and biological response to the project and its operation to allow design feedback and the development of adequate operating plans. These efforts typically must be complete before final design can be accomplished.

e. Obtain assistance in the development of these studies and models from the Corps' Committee on Water Quality if needed.

12. Water Quality Data Application

a. Water quality data must be applied to understand and manage water resources effectively. Application of appropriate mathematical models promotes efficient and effective use of data. Models are powerful tools for guiding project operations, refining water quality sampling programs, planning project modifications, evaluating management scenarios, improving project benefits, and illuminating new or understanding complex phenomena. Models should be used to the maximum extent practicable.

b. Use of automated data management systems (collection, interpretation, and storage) contributes to the efficiency. Divisions and districts must utilize automated information systems appropriate to their needs. In order to make water quality data widely available, data should be transferred to the EPA Storage and Retrieval System (STORET).

13. Reporting

The diversity and magnitude of impacts Corps projects and water management activities have on natural resources are very significant. Corps projects and their mode of operation often determine the fate of ecosystems, usefulness of the water resource, and overall benefit derived from a project. The impacts of projects and their operation are often far reaching, affecting the environment and resource usefulness quite distant from the project. This makes effective monitoring and reporting essential to responsible management. Various reports are required to ensure that adequate information is available to HQUSACE, divisions, districts, other agencies, and the public. Reports are not limited to reservoir projects but encompass all civil works projects that influence the physical, chemical, or biological condition of the aquatic environment. Reports are prepared for the following general objectives:

a. To provide information needed to manage the water quality program.

b. To ensure a review of division and district water quality management programs.

c. To disseminate information to the public, other agencies, academia, the media, and within the Corps.

d. To direct research and development (R&D), program R&D resources to meet identified needs, and establish new or terminate existing R&D programs.

e. To evaluate the design, management, and operation of each project.

f. To document identified opportunities, problems, and solutions.

g. To serve as a basis for developing technical guidance.

h. To provide a base for formulation of Corps-wide programs.

i. To store institutional knowledge and provide historical documentation.

j. To provide feedback to improve project planning, design, and operation and maintenance.

14. Reports Types

Accomplishment of the reporting objectives requires several types of reports. Each type should be tailored to address the specific characteristics of the project and meet the information needs of the report user.

a. Project-specific reports. Project-specific reports provide basic information on all pertinent factors affecting water quality and the aquatic environment. These reports should be prepared for each project and be updated as needed. These technical reports should contain: a general project description; watershed characteristics; physical project elements affecting water quality; water quality management objectives; data collection activities; evaluation of water quality conditions; effect of water control operations on water quality; and a description of the physical, chemical, and biological processes that take place in the project, affect the project, or are affected by the project. The report should comprehensively describe project water quality and the project's impact on water quality. It should identify specific concerns, problems, or opportunities. Project-specific reports describe historical and current water quality conditions and are developed along the lines of an owner's manual for the project. These technical reports are extremely useful to HQUSACE, divisions, and districts. The reports may also be useful to other resource agencies so they can better understand and appreciate the project and the effect and influence of the project on the water quality environment.

b. Needs assessment reports. Needs assessment reports are similar to project-specific reports and can often be incorporated into them. They describe a project based on the needs of the project and the investment of resources required to meet those needs. For example, a needs assessment report should identify all the needs of a project related to its water quality and the management thereof. The report should identify problems (sedimentation, eutrophication, watershed management, erosion, fisheries, wetlands, etc.), causes, appropriate solutions and alternatives, and the costs and benefits of implementation. The reports are useful for scheduling and allocating dollar resources for their maximum impact. These reports are primarily for project managers and division and district water control\water quality managers, project operations, environmental and project offices, and interested Federal, state, and local agencies. Needs assessment reports are encouraged for all civil works projects. Care should be taken to ensure that sensitive cost information, which may be contained in these reports, is not distributed to non-Corps offices.

c. Special situation reports. Special situation reports summarize unique events that occur which warrant upward reporting. Examples would include fish kills, hazardous waste spills, operational emergencies, health emergencies, unscheduled endangered species actions, etc. The report must include adequate detail to explain the event, actions taken, monitoring activities, and plans for additional action to address the event and to prevent future occurrences and an indication if there will be follow-up reports. These reports are brief, factual accounts of the situation and must be forwarded to division and HQUSACE as the situation unfolds. Districts are *required* to report on the nature and extent of special situations as they occur. Because of their time-sensitive nature, these reports must be forwarded by the fastest means available.

d. Special study reports. Special study reports are detailed reports that describe a special topic or specific issue and delve in depth into the significance, character, and solution of that issue. Special study reports are prepared for all activities that affect project operation or water quality performance. Typically these reports address new operating plans, changes in or new management objectives, modeling results, or other activities that may impact project performance or benefits. These reports should be coordinated with division and HQUSACE as appropriate and forwarded for information as soon as they are completed.

e. Annual water quality reports.

(1) The annual water quality report summarizes the water quality management program for the past fiscal year and highlights specific project information and activities of the division and districts.

(2) The report describes the goals and objectives of each division's overall water quality management program, progress made toward meeting division-wide water quality management goals, and activities that are planned for out years. Other items include changes in technical capabilities in the division and district offices, relationships between water quality and water control management activities, pertinent division regulations, laboratory facilities, data management systems, and training needs. The report must include a discussion of research and development needs, special studies completed or required, water quality coordination with other agencies, scheduling for detailed project evaluations, and problems encountered with contracted work. The divisions should identify any hindrances to meeting their goals and objectives and should propose solutions for removing them. The report should highlight special assistance from the Committee on Water Quality, from the Water Operations Technology Support Program, from the Corps laboratories, or from HQUSACE, CECW-EH-W. Other information, as requested by HQUSACE, may also be required.

(3) The report should provide a project-by-project summary of water quality conditions, problems encountered and how addressed at each project, opportunities identified and how addressed, and innovative techniques utilized to improve water quality. Special regulation activities, new or modified data collection programs, plans to address identified problems, possible Corps-wide applications of available data (e.g. R&D), and ongoing applied research should also be included. Any changes to basic information, such as project water quality objectives, regulation/operation modifications for water quality, or modifications to sampling programs and objectives, should be summarized. Tabular format is encouraged for summarizing this information.

(4) This report is mandatory. Division commanders will prepare an annual water quality report for the preceding fiscal year. This report must reach HQUSACE (CECW-EH-W) by 1 February each year.

f. HQUSACE report. CECW-EH-W will prepare an annual report summarizing Corps-wide efforts and accomplishments. An annual report on Corps-wide water quality management activities wilt be prepared by CECW-EH-W and sent to division commanders by 1 April each year. This report will discuss division activities during the previous fiscal year. In addition, information will be included on policy and technical guidance, status of relevant R&D efforts, Corps-wide training, newly issued ERs, ETLs, and EMs, and water quality activities. This report will be distributed to the divisions, who in turn are responsible for distributing copies to the districts.

15. Funding

Many of the necessary water quality related activities for completed projects are clearly chargeable and should be charged to Operation and Maintenance funds. However, special studies for use in design of specific projects should be funded with planning, engineering, or construction funds.

FOR THE COMMANDER:

James D. Craig

JAMES D. CRAIG
Colonel, Corps of Engineers
Chief of Staff

IN THE MATTER OF:)
)
US ARMY CORPS OF ENGINEERS OPERATIONAL MANUAL)
FOR COOSA, TALLAPOOSA AND ALABAMA RIVER'S)
ENVIRONMENTAL IMPACT STATEMENT)

COUNTY OF MONTGOMERY)
)
STATE OF ALABAMA)

AFFIDAVIT OF LYNN SISK

1) My name is Lynn Sisk. I am a resident of Wetumpka, Alabama, am over the age of 19, and am competent to give this affidavit.

2) I am Chief of ADEM's Water Quality Branch. I have worked as Chief of the Water Quality Branch for 12 years. I have worked in the Water Quality Branch for a total of 29 years. I consider myself knowledgeable about water quality issues in Alabama. The following opinions are based upon my knowledge and experience about water quality issues in Alabama. Those opinions are drawn from chemical and physical data collected and maintained by ADEM for the purpose of assessing water quality in Alabama.

3) The USACOE states on page 6-58 in Volume 1 of the DEIS that "Operational changes at upstream Corps projects included as part of the Proposed Action Alternative, particularly the water management measure to reduce hydropower generation at Allatoona Lake during the fall drawdown period, would somewhat shift releases in time over the period from September through December. However, on the basis of model runs over the 70-year period of record, those adjustments result in slightly lower flow in the Coosa River at Rome, Georgia, during the September to November period." The USACOE concludes that this lowering of flow in the Coosa River would be insignificant. However, that conclusion is based on a faulty analysis of impacts to downstream water quality resulting from the proposed water management changes at Allatoona Lake. Most significantly, the analyses performed by the USACOE do not include the use of a calibrated water quality model but rely instead on predictions by the HEC-5Q water quality model (with flow input from the HEC-ResSim reservoir operations model) of the 5^{th} percentile, 95^{th} percentile, and median conditions under historical and alternative operations.

4) The monthly 7-day low flows that would occur under drought conditions with the reservoir system operated under the proposed alternative (Plan G) compared with the historical baseline monthly 7-day low flows would be significantly less during certain

critical months. Specifically, the monthly 10 percentile exceedance value for 7-day average flow in June is 16% less under Plan G operations than under the historical model flows (No Action Alternative). In July the monthly 10 percentile exceedance value for 7-day average flow is 12% less under Plan G operations for the period 1980 through 2008. When monthly 7-day 10-year recurrence low flows (7Q10) are calculated for the same period (1980 – 2008) using the Pearson Type III methodology, the monthly 7Q10 is 8% less in August and 15% less in September under Plan G operations compared to historical modeled flow. Regardless of which method is used as the basis for comparison, these declines in 7-day average flow are significant given the water quality considerations in downstream reservoirs during drought conditions.

5) The USACOE's response to the lower flows during drought conditions under the proposed alternative is to state on page 6-112 of the DEIS and page ES-48 of the Executive Summary that "[w]ater management activities may affect water quality under low flow conditions such that the state regulatory agencies may consider reevaluation of NPDES permits to confirm the system's assimilative capacity." However, the USACOE does not consider the viability of or potential costs of compliance with more restrictive permit limitations by NPDES permit holders.

6) Further, the Corps' discussion of the effects of reduced flows on fish and wildlife is inadequate to allow comment upon flow regimens for purposes of protecting endangered species, including but not limited to federally listed endangered aquatic species in the Coosa River. In my professional opinion, these reductions of water quality may affect aquatic life, included but not limited to endangered aquatic species.

7) On page ES-49 under the discussion of the proposed action's impact on oxygen demand, the DEIS states: "During low-flow conditions, some NPDES permits limit point source discharges, and permit conditions may be temporarily changed during extreme low-flow conditions." Again, however, the USACOE does not evaluate what those temporary changes to NPDES permit limits might include or what the cost of complying with those conditions might be. Nor does it consider changes to Georgia NPDES permit holders that must and should be made during these conditions to avoid disparate impacts on Alabama NPDES permit holders located downstream.

8) Under the discussion of Mitigation on page 6-196 of the DEIS, the USACOE states: "Reevaluation of wasteload allocations from point sources in the upper Coosa River and Alabama River may be appropriate to ensure that current discharge permits do not violate water quality standards when in-stream flow changes from the No Action Alternative. Georgia EPD and ADEM base discharge permits on 7Q10 conditions; the system's 7-day minimum flow from the previous 10-year period. In some permits, restrictions are placed

on discharges during low-flow conditions. Georgia EPD and ADEM may determine that it would be appropriate to reevaluate stream flows in the upper Coosa River and Alabama River to ensure that NPDES permitted facilities do not violate water quality standards under extreme low-flow conditions. Some current NPDES permits limit or restrict discharges during low-flow conditions similar to what occurred in 2007. The water quality model developed during this EIS made assumptions regarding point source discharges that might not apply during low-flow conditions. The states may elect to update NPDES permits to limit discharges during certain in-stream flow conditions." This reevaluation of 7Q10 flows is clearly within the responsibility of the USACOE as a part of their evaluation of the alternatives under NEPA. The cost of this evaluation should not be placed on the State of Alabama and the cost of any subsequent changes in NPDES permits must be considered as a part of the alternatives analysis.

9) Weiss Lake, the first reservoir on the Coosa River downstream of the USACOE-operated Allatoona Lake on the Etowah River and Carters Lake on the Coosawattee River, is currently listed as impaired by ADEM due to excessive nutrient loading. In 2001, the State of Alabama adopted numeric nutrient criteria in the form of a growing season average chlorophyll *a* concentration for two locations within Weiss Lake. Historic measurements of chlorophyll *a* in Weiss Lake show that the adopted criteria have been exceeded during a number of years and particularly during drought years. The following figures depict growing season (April – October) mean chlorophyll *a* concentrations in the dam forebay of Weiss Lake (station WEIC-1), near the mid-reservoir upstream of Alabama Highway 9 (station WEIC-2), and near the Alabama-Georgia state line at the upstream end of Weiss Lake (station WEIC-12).

10) Figures 2 and 3 below highlight Weiss Lake's susceptibility to increased algal productivity during periods of drought (i.e., 2000, 2007) as a result of the reservoir's increased residence time.

Figure 1.

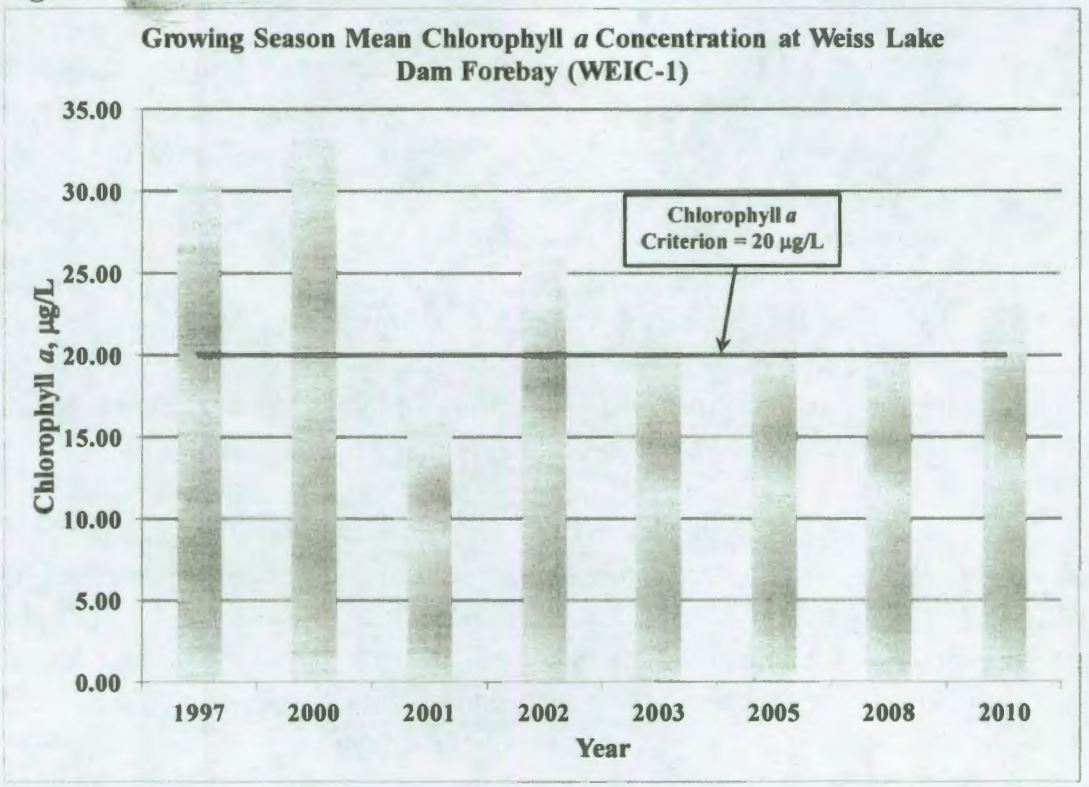


Figure 2.

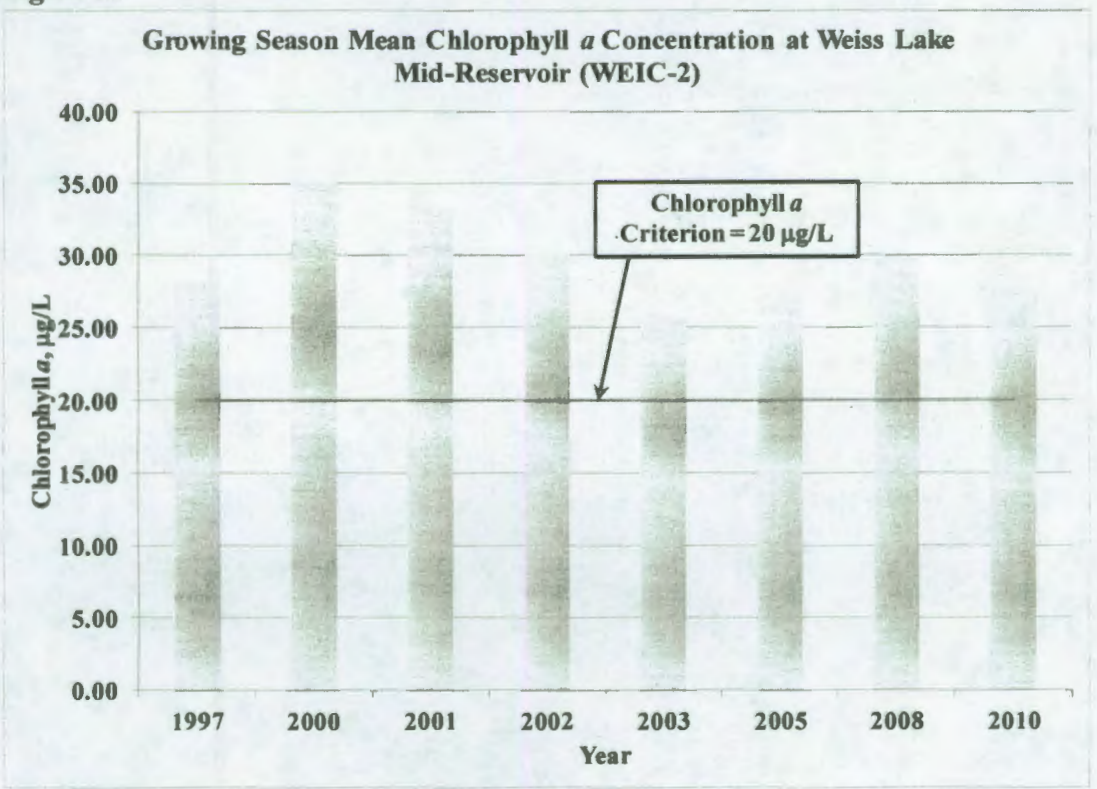
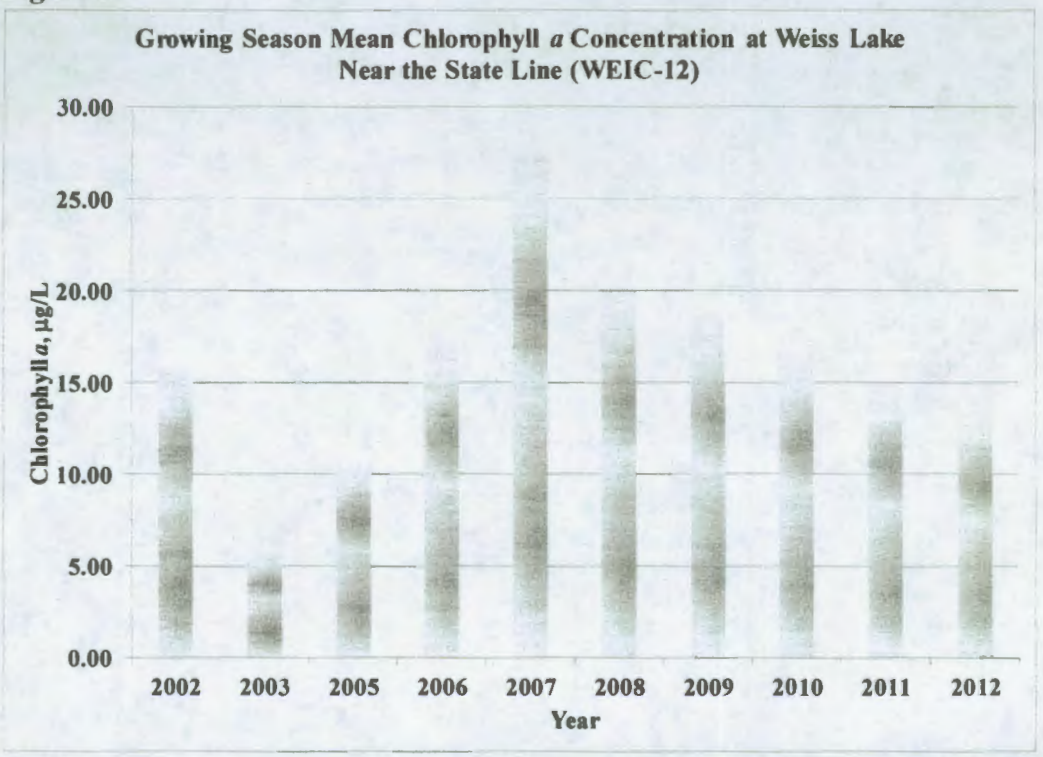


Figure 3.



11) The reduced flows under the Corps' preferred alternative are going to exacerbate chlorophyll *a* concentrations at Weiss Lake. The DEIS concedes this on page 6-117: "In periods of dry weather, with low inflows, the Proposed Action Alternative would be expected to increase algal growth in Weiss Lake, and resulting potential updates to discharge permits may have an adverse impact on upstream dischargers."

12) Other water quality parameters are also significantly affected by reduced flow into Weiss Lake and the resulting increase in residence time. These include dissolved oxygen (DO), temperature, and pH. While Alabama's water quality criteria for chlorophyll *a* are expressed as a growing season average concentration, criteria for DO, temperature, and pH are applied instantaneously and not as a daily, weekly, or growing season average. For DO, the criterion is further applied at a depth of five feet below the water surface when the total depth is ten feet or greater. At locations where the water depth is less than ten feet, the criterion is applied at mid-depth. Since DO and pH are both influenced by algal productivity, these parameters often reflect hypereutrophic conditions in the photic zone of the reservoir through an increased diurnal change. Elevated temperatures resulting from decreased flow and increased residence time can further impact DO by decreasing the saturation concentration and increasing biochemical reaction rates. The following figures illustrate the impact of low inflow on pH, DO, and temperature at

several locations in Weiss Lake between the dam forebay and the state line. The figures illustrate the fact that Weiss Lake is already experiencing problems with these water quality criteria, especially in times of drought. Just as with chlorophyll *a*, lower flows into Weiss Lake as proposed under the Corps' preferred alternative will only serve to exacerbate these problems.

Figure 4.

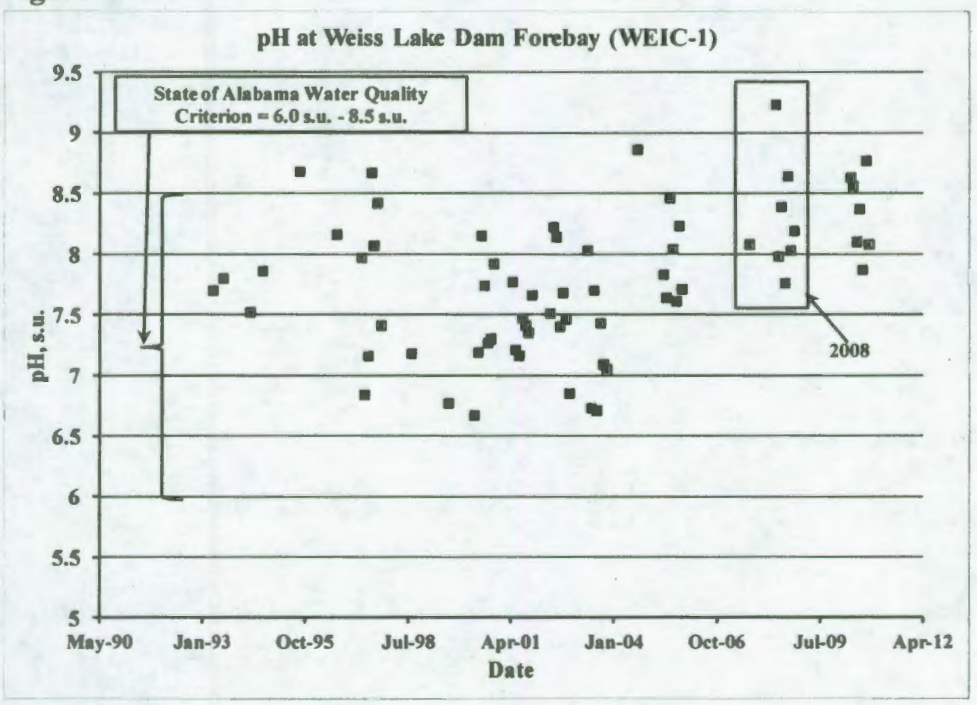


Figure 5.

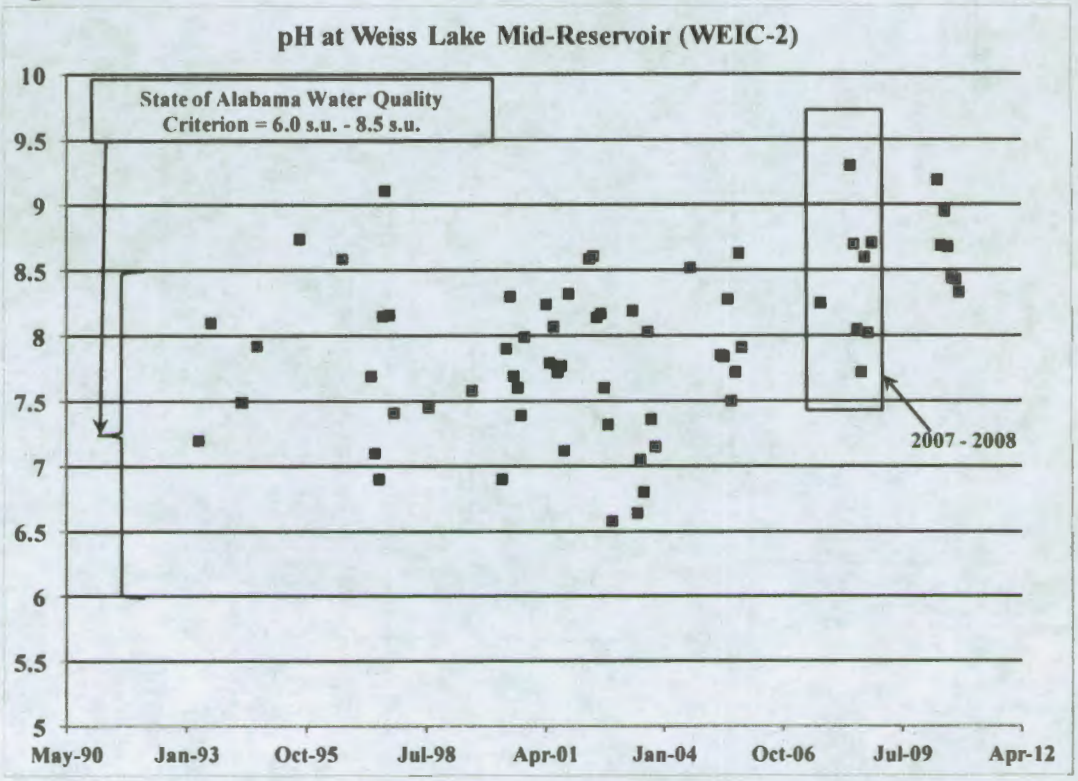


Figure 6.

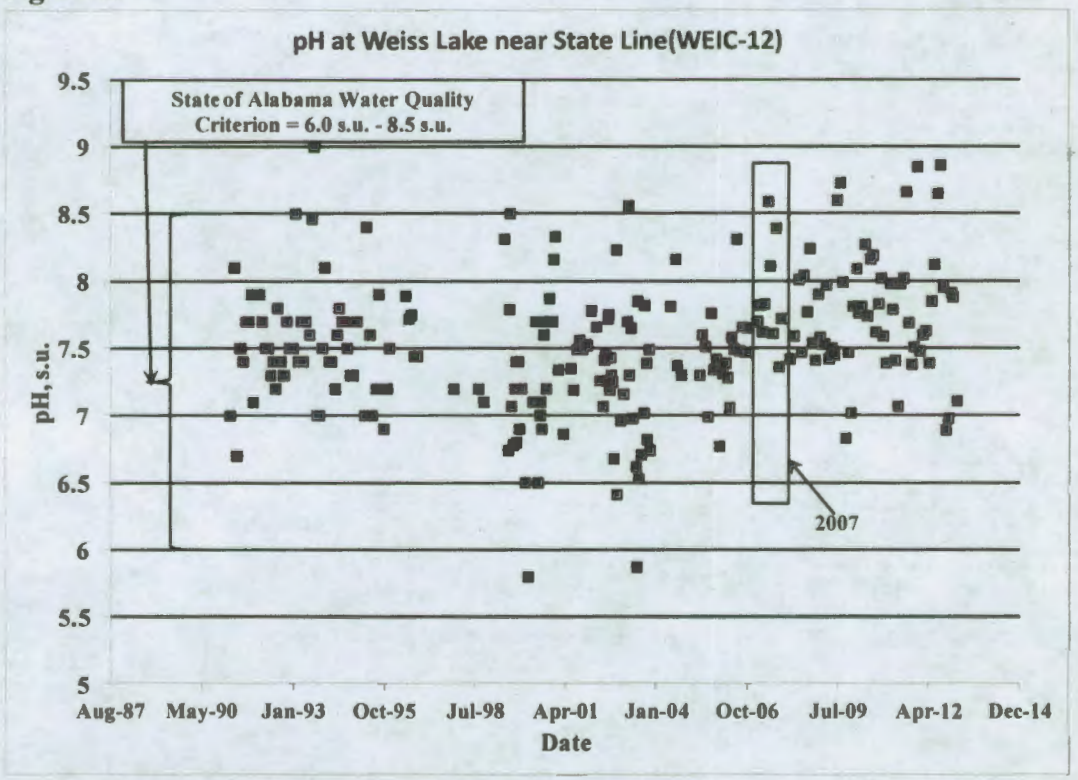


Figure 7.

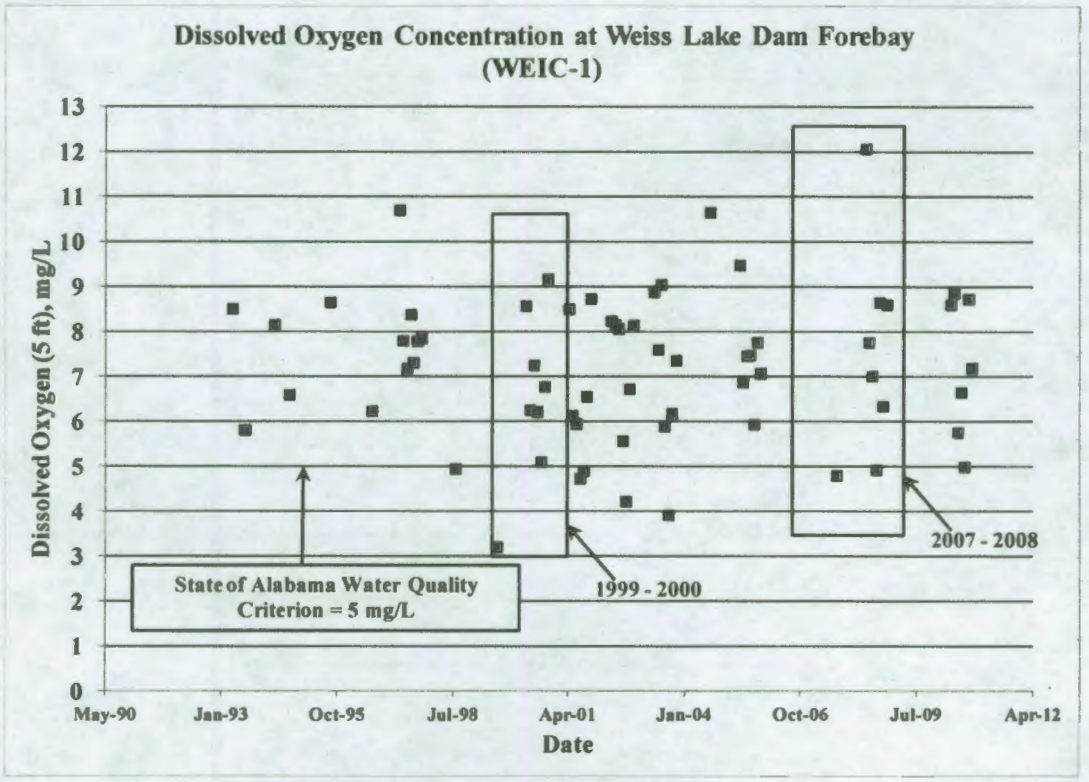


Figure 8.

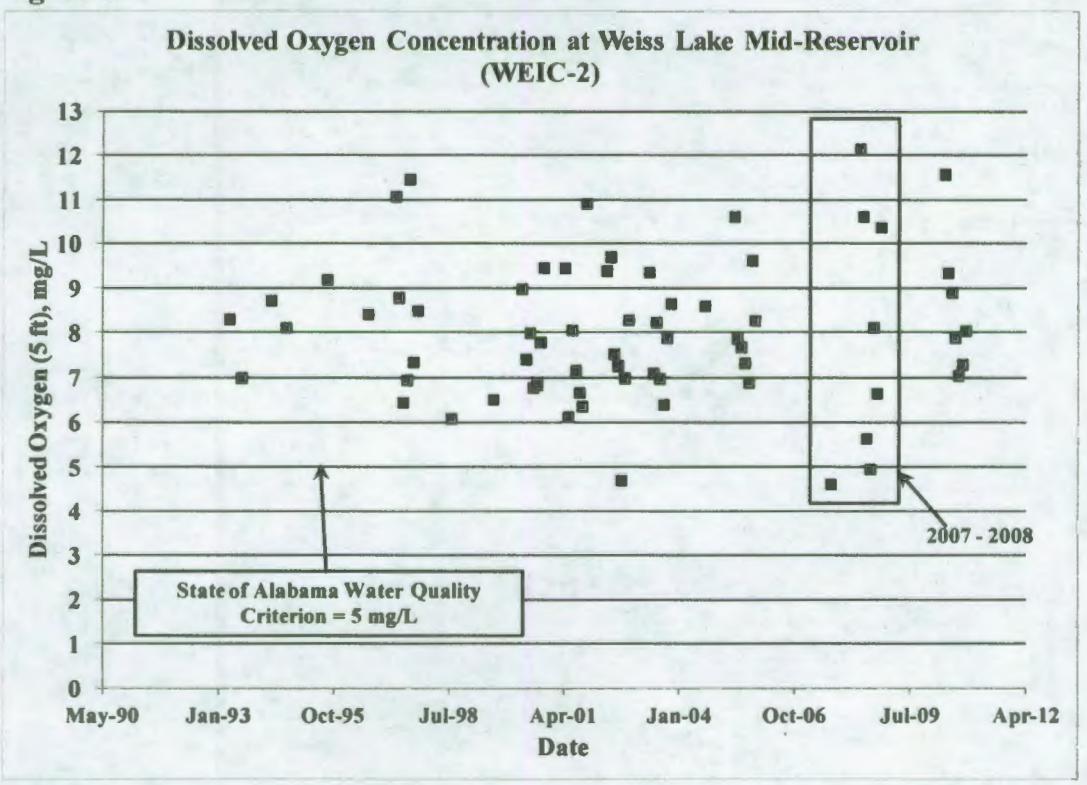


Figure 9.

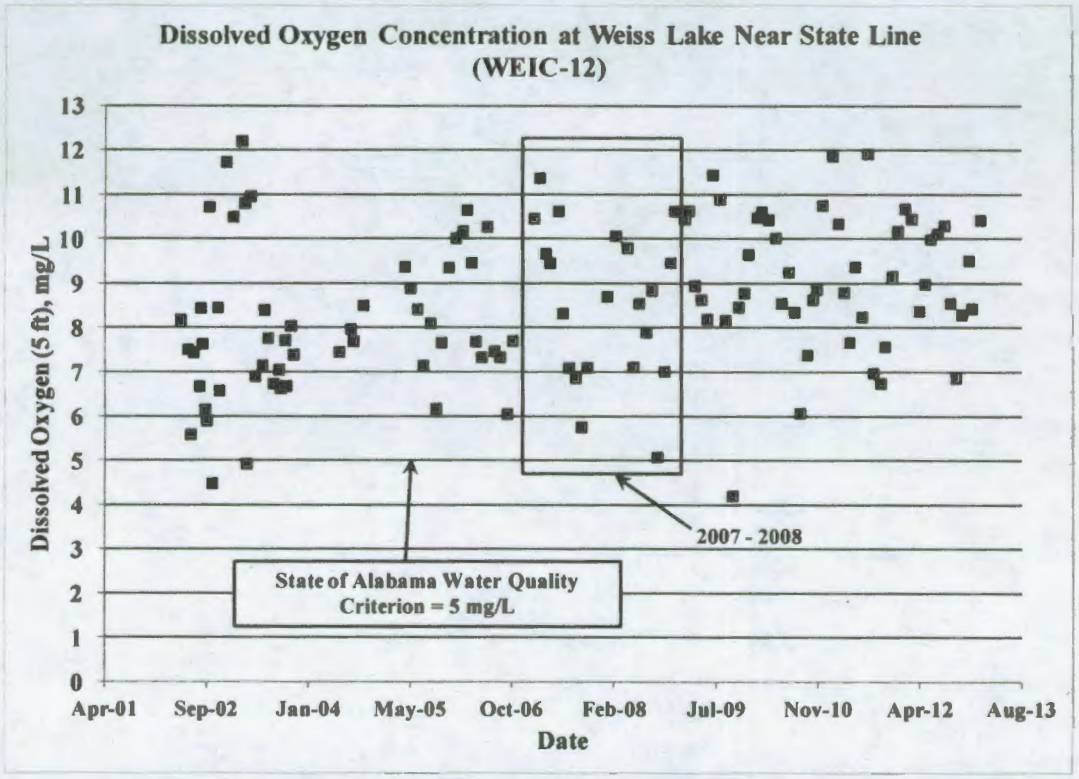


Figure 10.

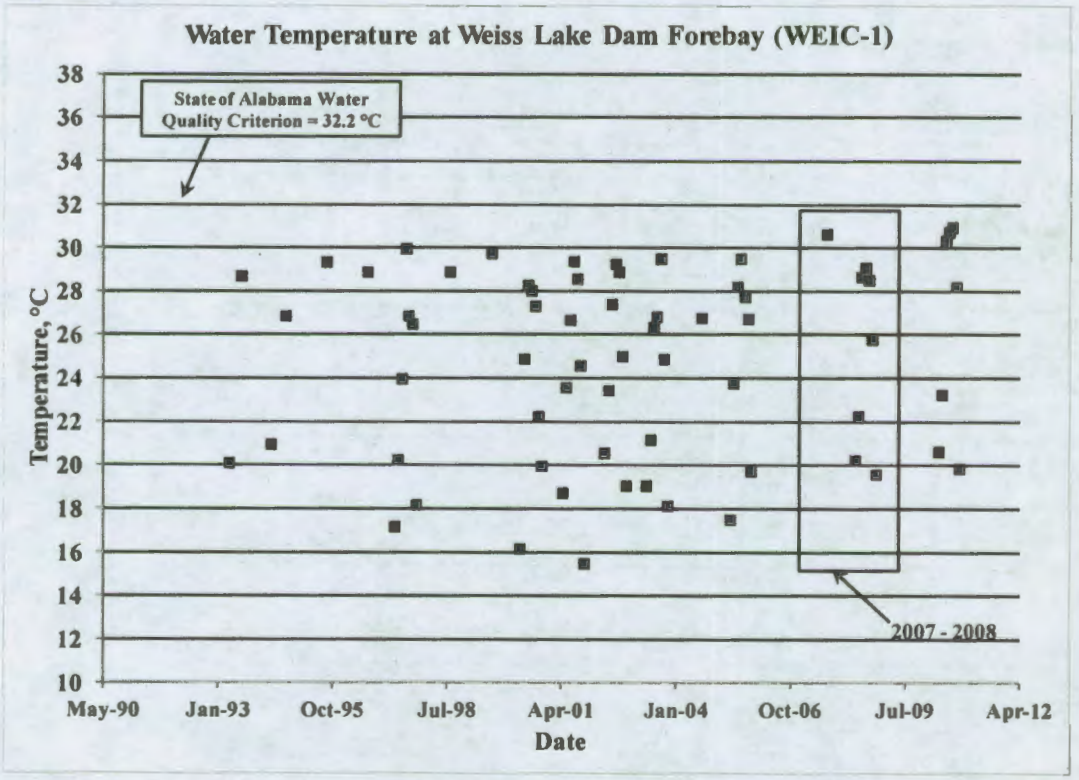


Figure 11.

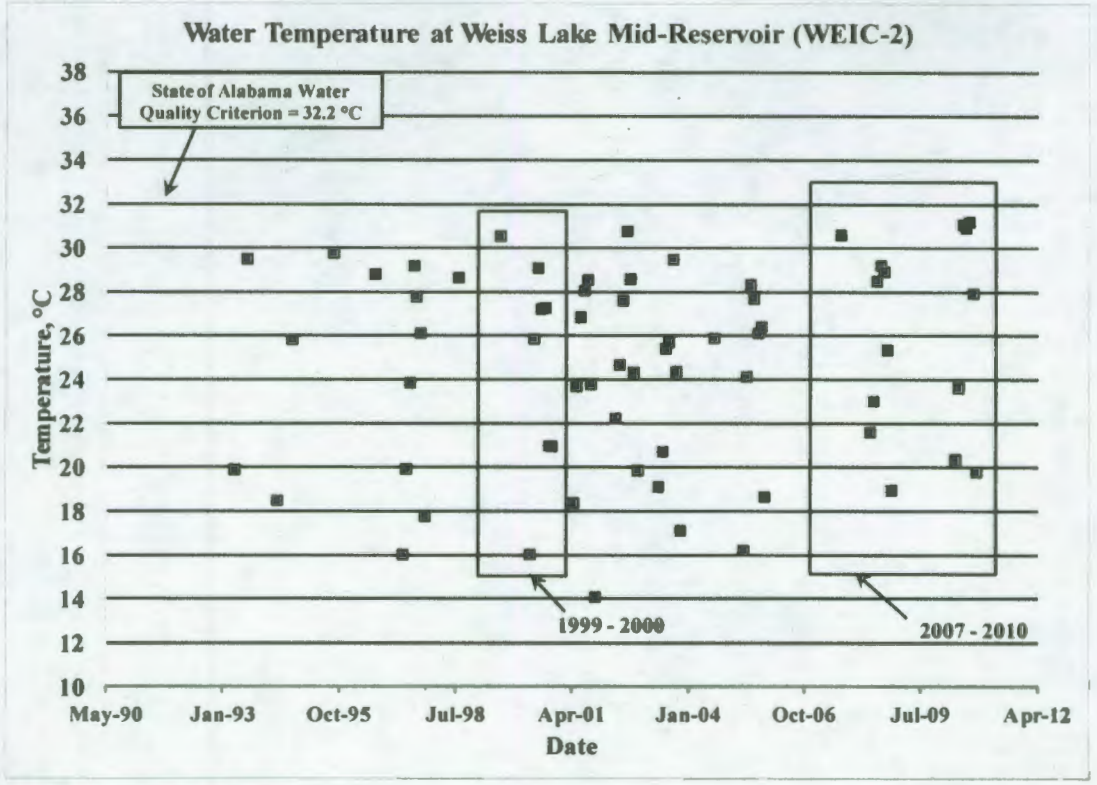
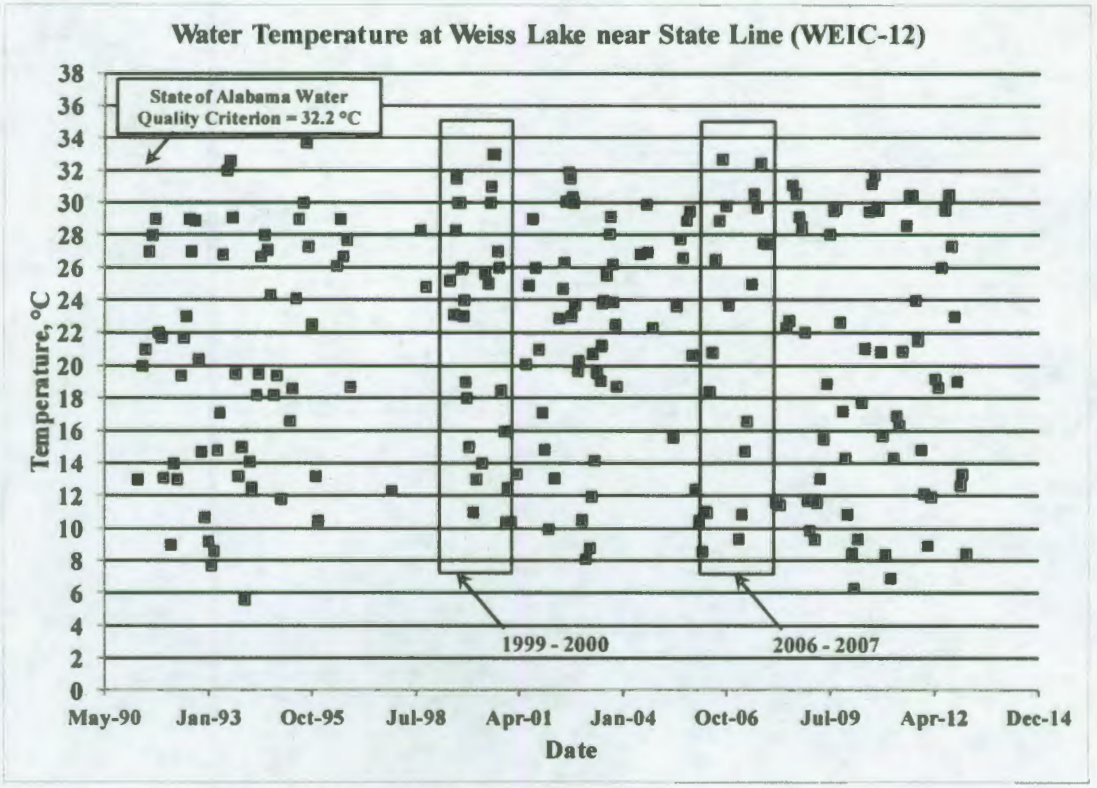


Figure 12.



13) A true and accurate CD containing the data from which the above graphs were drawn was made by me and is attached as Attachment 3 to ADEM's comments on the Draft Environmental Impact Statement for the proposed modifications to the Water Control Manual for the Alabama-Coosa-Tallapoosa River Basin.

14) The historical water quality data demonstrates that reductions in flows as proposed under the preferred alternative are likely to adversely impact downstream water quality and result in violations of water quality standards. The DEIS concedes this point at pages 6-112 through 6-118. The Corps is thereby violating its obligation under ER 1110-2-8154 to "[e]nsure that the project and its operation offer the lowest stress possible to the aquatic environment" and to "[e]nsure that water quality, as affected by the project and its operation, is suitable for project purposes, existing water uses, and public health and safety and is in compliance with applicable Federal and state water quality standards."

15) The importance of a routine water quality monitoring and reporting program was highlighted during the 2007 drought when water quality concerns on the Alabama River below the Millers Ferry Lock and Dam resulted in changes to the USACOE's operation of the hydropower facility.

16) These changes became necessary after low dissolved oxygen conditions in the Alabama River upstream of the International Paper mill threatened to require the mill to curtail operations pursuant to requirements in the facility's NPDES permit. (Dissolved oxygen data collected by International Paper during 2007 are shown in Figure 13). If the USACOE had been routinely monitoring water quality conditions (DO and temperature) in the Millers Ferry Dam tailrace during the summer of 2007, a more complete understanding of the factors affecting DO resources in the downstream river segment would have been possible, and management actions could have been initiated sooner.

17) The USACOE has proposed no water quality monitoring plan (as required by ER 1110-2-8154) to ensure that Plan G does not cause or contribute to violations of Alabama's water quality standards or otherwise result in adverse downstream environmental impacts.

18) Although the DEIS recognizes that changing conditions may necessitate updates to the Water Control Manual for the ACT, there is no mention of specific monitoring plans to detect these changes. USACOE regulations at ER 1110-2-8154 (Water Quality and Environmental Management for Corps Civil Works Projects) describe specific management objectives for all USACOE projects, including the development and implementation of a water quality data collection program for each project.

Section 8 of the regulation provides:

> Division-wide water quality management programs are required. Specific water quality management objectives must be developed by the districts for each project, and procedures must be outlined and implemented to meet those objectives. These objectives will be included in the project water control plans. These plans must be reviewed and updated as needed but not less than every 10 years. The plans must achieve environmentally sustainable overall use of the resource. The water quality management plans should be scoped to include all areas influencing and influenced by the project. Divisions must ensure that water quality management is an integral part of the water control management program. Division water control/quality elements are responsible for approval of deviations from water control manuals and should provide guidance in developing water quality data collection activities. Divisions should adopt and implement the following general water quality management objectives for all Corps water resource projects:
>
> > a. Ensure that water quality, as affected by the project and its operation, is suitable for project purposes, existing water uses, and public health and safety and is in compliance with applicable Federal and state water quality standards."
> >
> > ...
> >
> > k. Ensure that the project and its operation offer the lowest stress possible to the aquatic environment.

19) This regulation provides additional detail on the necessary elements of a water quality data collection program and states: "A continuing water quality data collection program is necessary for each Corps project. This data collection is essential in order to understand and manage the environmental resources of the Corps' water projects effectively." *Id.* at 4. Objectives of the water quality data collection program are detailed in Section 10. *Id.* at 4-5. The Corps' preferred alternative fails to include an adequate water quality management program as Corps regulations require. *Id.* at 3.

Further the deponent sayeth not.

Executed this the 29th day of May, 2013.

Lynn Sisk, Chief
ADEM's Water Quality Branch

STATE OF ALABAMA)
)
COUNTY OF MONTGOMERY)

I, Gisele H Echols, a Notary Public in and for the State of Alabama At-Large, hereby certify that Lynn Sisk, whose name is signed to the foregoing Affidavit, and who is known to me, acknowledged before me on this day that, being informed of the contents of such instrument, she executed the same voluntarily on the day the same bears date.

Sworn to and subscribed before me this 29th day of May, 2013.

Gisele H. Echols
Notary Public
My Commission Expires: 6.21.2015

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

May 31, 2013

Inland Environment Team
Planning and Environmental Division
Environment and Resources Branch
U.S. Army Corps of Engineers, Mobile District
P.O. Box 2288, Mobile, AL 36628–0001;

Attention: Mr. Chuck Sumner - Biologist

Subject: EPA Comments on the Draft Environmental Impact Statement (DEIS) for the Update of the Water Control Manual for the Alabama-Coosa-Tallapoosa (ACT) River Basin; Alabama and Georgia.
CEQ #: 20130045; ERP #: COE-39188-00

Dear Mr. Sumner:

Pursuant to Section 309 of the Clean Air Act (CAA) and Section 102(2)(C) of the National Environmental Policy Act (NEPA), the U.S. Environmental Protection Agency (EPA) reviewed the Draft Environmental Impact Statement (DEIS) Update of the Water Control Manual (WCM) for the proposed project. EPA participated in a public scoping and public meeting held on October 22, 2008, and March 25, 2013, respectively, as well as two interagency webinars on September 11, 2008, and April 2, 2013. This letter is intended to provide EPA's comments on the proposed project.

The purpose of the project is to update the WCM for the Alabama-Coosa-Tallapoosa (ACT) River Basin. The operations at each federal reservoir managed by the U.S. Army Corps of Engineers (USACE) are described in a WCM, which includes WCMs for the operation of the ACT Basin and for the individual USACE projects within that system. The WCM describes how federal projects within the basin should operate in order to meet their authorized purposes. The WCM should provide for operations that meet state water quality standards, particularly where the authorized purpose of the project is water quality.

The updates to the WCM are intended to reflect conditions that have changed since the previous WCM was completed in 1951, and before many of the reservoir projects in the system were completed. These conditions may include changes due to current basin hydrology, legal mandates, environmental considerations or alterations due to structural features. Some individual reservoir manuals have been updated, but the master WCM has not been comprehensively updated. The WCM includes a new drought contingency plan to address water management issues during periods of drought.

According to the DEIS, the ACT Basin provides water resources for multiple purposes and encompasses a 22,800 square mile area in Alabama and Georgia. There are 17 major dams located in the Basin. The USACE owns and operates six of these dams (Allatoona Dam on Allatoona Lake on the Etowah River in Georgia; Carters Dam and Carters Reregulation Dam on Carters Lake on the Coosawattee River in Georgia; Robert F. Henry Lock and Dam and on R.E Woodruff Lake, Millers Ferry Lock and Dam on William Dannelly Lake, and Claiborne Lock and Dam on the Alabama River in Alabama). The USACE also has flood risk management responsibilities at four Alabama Power Company reservoirs (Weiss, H. Neely Henry, and Logan Martin Lakes on the Coosa River; and Harris Lake on the Tallapoosa River).

The authorized project purposes at the USACE dams include flood risk management, hydropower, navigation, water supply, water quality, fish and wildlife conservation, and recreation. Other non-Federal dams located on the Coosa and Tallapoosa Rivers include 11 projects owned and operated by the Alabama Power Company. Operations between the Alabama Power Company (APC) projects and the federal projects are coordinated as necessary to meet flood control, water quality and quantity, and water supply demands. For example, in order for the USACE to develop an effective drought contingency plan for the basin, APC projects had to be incorporated into the plan since these project store 78 percent of the water resources.

Impoundments can fragment aquatic ecosystems, with impacts on many aspects of environmental integrity, particularly when the cumulative effects of multiple impoundments across a system are taken into account. Although the projects subject to the WCM are already in place, the allocations and uses allowed and established through the WCM revision can have significant influence on overall ACT system health by preventing or minimizing further fragmentation.

Based on the review of the DEIS, EPA's comments relate primarily to the potential water resource, biological resource and socioeconomic impacts associated with the proposed action. In summary, EPA recommends that consideration be given to maximizing the use of existing infrastructure in the ACT Basin in an effort to minimize aquatic resource impacts including impacts to wetlands and streams within the basin; requiring the implementation of water efficiency or conservation measures as the primary alternative before commitments are made for supply or storage uses; and ensuring the WCM operations meet water quality standards, including downstream uses and adequate flows to maintain the physical integrity of the habitat. Climate change also has the potential to impact water supply, water quality, flood risk, wastewater, aquatic ecosystems, and energy production. The Final Environmental Impact Statement should consider the impact of dam operations in the Basin on greenhouse gases and climate change, as well as the impacts of climate change on WCM operations. An adaptive management approach would most effectively address climate related issues.

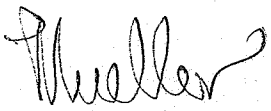
EPA appreciates the consideration of environmental and socioeconomic impacts on children, and low-income and minority populations. According to the DEIS, significant environmental justice (EJ) concerns were not identified during the scoping process. In an effort to adequately ensure that the proposed project does not affect these communities, it is important to meaningfully engage them throughout the decision-making process and to ascertain whether resources of importance may be affected. Efforts to identify populations with EJ concerns that

may engage in subsistence activities within the basin should be discussed and EJ comments along with the USACE's responsiveness should be documented in the Final Environmental Impact Statement (FEIS). In addition, EPA recommends that enhanced warning systems be reviewed and implemented in an effort to improve public safety and recreation for all users. This is especially important in areas that have higher levels of children living within the basin and using the resources.

EPA has rated the preferred alternative as "EC-2," environmental concerns with additional information requested for the final document. EPA's review has identified environmental impacts that should be avoided or minimized in order to adequately protect the environment. The FEIS should demonstrate responsiveness to these comments.

We appreciate the opportunity to provide comments on the proposed WCM DEIS for the ACT River Basin. We also appreciate the ongoing efforts to coordinate with us during the public comment period. If you have any questions regarding our comments, please contact Ntale Kajumba (404/562-9620) of my staff or the Water Protection Division technical coordinators on technical issues (See Detailed Attachment).

Sincerely,



Heinz J. Mueller, Chief
NEPA Program Office
Office of Environmental Accountability

Attachments: EPA Detailed Comments
EPA Rating System

EPA's Detailed Comments on the Water Control Manual DEIS for the ACT River Basin

Alternatives

The DEIS addresses a no action and three action alternative (Plan A, Plan F and Plan G). The no-action alternative involves no change in how the dams are currently managed. The USACE's preferred alternative (Plan G) is identified in the DEIS. The proposal includes the following:

- **Implements Basin Drought Operations Plan:** includes triggers and dam releases/flow targets to conserve storage and provide reduced levels of service during drought
- **Navigation Plan:** includes triggers to reduce (9.0' or 7.5' channel) or suspend navigation level of service based on system storage
- **Minimum Flows:** implements seasonal minimum flows at Carters when reservoir storage level supports
- **Hydropower:** variable hydropower generation at Allatoona based on action zone and time of year
- **Revised Guide Curves:** H. Neely Henry (APC) and Allatoona
- **Revised Action Zones:** Allatoona and Carters
- **Water Supply:** no change in existing contracted amounts
- **Alabama Power Company Projects (APC):** continued operation under current FERC licenses

Recommendations: EPA appreciates that a preferred alternative was identified in the DEIS (Plan G). EPA rated the preferred alternative as "EC-2," environmental concerns with additional information requested for the final document. EPA's review has identified environmental impacts that should be further avoided /minimized in order to adequately protect the environment. The FEIS should demonstrate responsiveness to the comments below.

Water Resources

Wetlands and Streams

As described in the DEIS, the purpose and need for the federal action is to "determine how the federal projects in the ACT Basin should be operated for their authorized purposes, in light of current conditions and applicable law, and to implement those operations through updated water control plans and manuals."

The alternatives considered for management of water supply can significantly influence the alternatives that entities can in turn consider when assessing how to meet water supply needs. With effective management, many allocations and uses can be met with existing infrastructure,

whereas new infrastructure or projects such as reservoirs could have greater impacts to environmental resources. When such projects require CWA Section 404 permits, they must meet the requirements of the regulations at 40 CFR Part 230, also known as the Section 404(b)(1) Guidelines. One of the key requirements of the Section 404(b)(1) Guidelines is that no such work shall be permitted if there is "a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem, so long as the alternative does not have other significant adverse environmental consequences" (40 CFR § 230.10(a)), if it would "cause or contribute to significant degradation of the waters of the United States" (40 CFR § 230.10(c)), and "unless appropriate and practicable steps have been taken which will minimize potential adverse impacts of the discharge on the aquatic ecosystem" (40 CFR § 230.10(d)). In accordance with the Section 404(b)(1) Guidelines, the WCM should facilitate holistic management of basin resources such that the total impact is minimized, and entities seeking water allocations and uses have access to alternatives that are the least environmentally damaging both in a local context and on a basin scale whenever possible.

Impoundments can fragment aquatic ecosystems, with impacts on many aspects of environmental integrity, particularly when the cumulative effects of multiple impoundments across a system are taken into account. Although the projects subject to the WCM are already in place, the allocations and uses allowed and established through the WCM revision can have significant influence on overall ACT system health by preventing further fragmentation. If managed to make the best use of these existing resources, further impacts of additional supply infrastructure development could be avoided or at least minimized.

Unimpeded physical continuity of the major ACT rivers with their floodplains, including riparian wetlands, is also controlled in large part—or in the case of the Coosa and Alabama Rivers, nearly completely—by the management approach set forth in Water Control Manuals. Access to floodplains is critical to river sediment and chemical dynamics, hydrating riparian floodplains, and maintaining vegetation and habitat important in the lifecycles of many species, both aquatic and terrestrial, with characteristics adapted to such ecosystems. Managing flows for magnitude, seasonality, and variability that mimic natural conditions such that rivers have regular access to their floodplains is protective of riverine ecosystems and can reduce impacts to wetlands.

Recommendations: EPA recommends that consideration be given to maximizing the use of existing infrastructure in the ACT Basin—in balance with environmental uses such as protection of habitat, aquatic life, and water quality—such that impacts to aquatic resources are on the whole minimized for the basin. If allowing additional uses avoids impacts of new impoundments and additional infrastructure, overall impacts to the basin could be minimized with holistic management. The Mobile District should fully address and document the effects of the proposed actions on wetlands and streams.

Contact – Rosemary Hall - 404/562-9846

Water Supply Efficiency/Conservation

Projects that impact hydrology, such as new or expanded water supply, development, and recreational or amenity impoundments, often require Clean Water Act (CWA) Section 404

permits, making them subject to review for compliance with the Section 404(b)(1) Guidelines. When reviewing such projects, EPA and the USACE must consider whether the applicant has demonstrated adherence to the mitigation sequence, with avoidance and minimization of impacts to aquatic resources as the first two steps, and then ensure that the applicant has evaluated an appropriate range of alternatives and selected the Least Environmentally Damaging Practicable Alternative. For water supply project proposals, full implementation of conservation and efficiency measures, including water reuse options, is a primary alternative that could have a fraction of the impacts to aquatic resources associated with developing new supply infrastructure. When evaluating requests for allocations and uses related to the projects in the ACT Water Control Manual now and in the future, the USACE should consider whether efficiency and conservation measures are in place to ensure that the overall use of USACE lakes minimizes impacts to aquatic resources.

Minimizing supply withdrawals with conservation measures can also reduce conflicts among uses, easing pressure on the ACT system as a whole, and easing management of releases and flows for environmental protection. EPA Region 4's 2010 Guidelines on Water Efficiency Measures for Water Supply Projects in the Southeast ("WEGs") describes conservation and efficiency measures that can be expected of users seeking allocations or withdrawals from the system, and should be used to evaluate how well efficiency is being implemented before committing to new allocations or uses. We especially encourage that any entity seeking allocations demonstrate meaningful efforts to repair leaking infrastructure; use an integrated resource management approach across residential, industrial, agricultural, and commercial settings; implement full-cost pricing, conservation pricing, and metering of all water users; use low-impact development and green infrastructure; facilitate retrofitting of buildings; optimize water reuse; and facilitate landscaping to minimize demand and waste, and implement efficient irrigation practices. Protecting basin flows through conservation and efficient use can reduce impacts to streams and riparian wetlands, aquatic life, habitat, and water quality, and can ease management of system flows, particularly under low-rainfall conditions.

Recommendations: EPA recommends that demonstrated water efficiency/conservation implementation be required before commitments are made for supply/storage. Water quantity planning should consider:
- Decreasing trend in inflows (land use, withdrawals, climate change)
- Reuse opportunities (direct, indirect potable)
- How drought contingency plans will be formally incorporated into NPDES permits
- Cumulative impacts, including reservoirs and other supply projects proposed or under consideration in the basin, as well as interbasin transfers

Contact – Rosemary Hall - 404/562-9846

Water Quality

State water quality standards programs include designated uses, criteria to protect those uses, and an antidegradation policy (CWA Section 303(c); 40 CFR § 131). Section 401 of the CWA additionally protects these water quality standards, requiring state certification that federal activities which may result in any discharge will comply with state water quality standards.

Further, Section 404(b)(1) Guidelines state that no such work shall be permitted if it would cause or contribute to "violations of any applicable State water quality standard" (40 CFR § 230.10(b)(1)), or if it would "cause or contribute to significant degradation of the waters of the United States" (40 CFR § 230.10(c)).

The revised WCM should be consistent with state water quality standards, particularly where the authorized purpose of a dam is water quality. The WCM should provide for the attainment and maintenance of all downstream uses (40 CFR § 131.10 (b)), including the uses in Mobile Bay. Downstream uses including drinking water, recreation, fishing, swimming, shellfish harvesting and aquatic life protection. This should include ensuring compliance with physical parameters (such as pH, temperature, conductivity and dissolved oxygen), biological criteria, chemical parameters, nutrient loadings (including lake nitrogen, phosphorus and chlorophyll standards) and providing the flows necessary for protection of aquatic life. In particular, there are several waters impaired for nutrients in the basin, including Lakes Allatoona, Carters and Weiss. Changes in operations can have substantial impacts on nutrient dynamics (Pinay, Clément, & Naiman, 2002). For example, chlorophyll-a response in Lake Weiss is very sensitive to retention time increases from withdrawals (Maceina & Bayne, 2003). The impacts of the proposed alternative should be evaluated to ensure that flow changes do not contravene nutrient control and total maximum daily load (TMDL) restoration efforts by Alabama Department of Environmental Management and Georgia Environmental Protection Division.

The WCM should provide reasonable assurance that water quality standards will not be violated; consider the impact on reasonable potential to exceed water quality standards as analyzed for National Pollutant Discharge Elimination Systems permits; confirm that TMDL restoration efforts will not be adversely affected; and ensure that reservoir operations will not cause or contribute to water quality impairments or listings.

Since the date of the last WCM revision, the science related to instream flows has evolved significantly. The revision of the WCM provides an opportunity to incorporate the latest science and successful practices for regulating flows to improve water quality, meet designated uses and, where possible, restore the hydrologic condition and ecological integrity of the river system. For instance, ecologists now understand that flows across the range of the natural hydrograph are important for maintaining the structure and function of aquatic ecosystems rather than regulating a river to meet a static low flow target.

Aquatic plant and animal species have evolved life cycle patterns directly tied to the primary components of hydrologic variability: frequency, magnitude, duration, timing and rate of change of natural flows. Every aspect of the lives of aquatic plants and animals is cued by and inextricably linked to the natural variability of our rivers and streams, which is often absent in highly regulated systems. The EPA encourages incorporation of variable flows in the revised WCM, including the seasonal, intra-annual and inter-annual variable flow patterns needed to maintain or restore processes that sustain natural riverine characteristics. Naturally variable flows are also a major determinant of physical habitat in streams and rivers and directly affect biological composition. Modifying flow regimes provides an opportunity to positively alter habitat and influence species diversity, distribution and abundance. Therefore, the EPA

recommends that, where possible, the WCM be designed to mimic the natural conditions as closely as possible in the downstream waters.

Over the past decade, numerous licenses were negotiated and re-issued by the Federal Energy Regulatory Commission (FERC) and river operations have been improved on several USACE operated systems. Many renewed FERC licenses and updated dam operations by the USACE have included advancements in water management and dam operations to better protect and maintain aquatic life. For example, the FERC license issued to South Carolina Electric and Gas (SCE&G) for the operation of the Saluda River includes numerous updated provisions for protection of mussels, sturgeon, trout and rare plant and animal species. The USACE's participation in the Sustainable Rivers project has also resulted in revised dam operations that have improved aquatic life, recreation as well as improved the economic impact for local communities.

EPA would like to reiterate the suggestions provided in the "Draft Fish and Wildlife Coordination Act Report on Water Control Manual Updates for the Alabama – Coosa – Tallapoosa River Basin in Alabama and Georgia" (dated December 2012). EPA suggests the use of multiple endpoints to demonstrate the protection of aquatic life designated uses. Relevant endpoints include floodplain connectivity (inundation, maintenance of off-channel habitats, wetted perimeter, out-of-bank habitats) and habitat suitability analysis. Because of the intensity of the later (e.g. physical habitat simulation), the EPA recommends consulting the relevant wildlife resource agencies to determine which habitat locations are critical to aquatic life in the basin and may warrant prioritized, intensive study.

In addition, EPA recommends that drought contingency plans be formally coordinated with dischargers (especially NPDES permit holders) and water intake permitees (including public drinking water suppliers, cooling water intakes, industrial users, etc.) to ensure that drought operations are adequately considered in permit limits and discharger operations.

Recommendations: EPA recommends analyzing the effects of the WCM operations on water quality standards, with a particular emphasis on physiochemical endpoints such as dissolved oxygen, biological endpoints such as sensitive aquatic species and physical endpoints that protect the designated aquatic life use, including adequate flows to maintain the physical integrity of habitat. EPA also encourages the Mobile District to examine projects, such as the Green River in Kentucky, as examples of USACE improvements in river management. We would welcome the opportunity to follow up and provide additional information on these projects in upcoming weeks.

Contacts: Lisa Gordon 404/562-9317 and Stephen Maurano 404/562-9044.

Aquatic Life and Endangered Species

EPA notes that the U.S. Fish & Wildlife Service (FWS) has been actively engaged in the WCM and DEIS and has submitted two recent comment letters to the USACE regarding the protection of threatened and endangered species within the Basin.

Recommendations: EPA principally supports and defers to FWS on this project. We encourage continued coordination with the FWS regarding the assessment and protection of federally-protected threatened or endangered species. The FEIS should include a summary of the coordination to date between the USACE and FWS, as well as any updated information regarding the assessment and protection of species within the project area.

Contacts: Lisa Gordon 404/562-9317 and Gary Davis 404/562-9239

Flood Impacts

The Corps of Engineers recently issued the *Appropriate Application of Paleoflood Information for the Hydrology and Hydraulics Decisions of the U.S. Army Corps of Engineers*. EPA also notes that one of the rivers along the ACT has resulted in serious flooding impacts to surrounding communities (e.g., flooding has been an historical issue in Rome, Georgia and much of Montgomery, Alabama is located within the floodplain). The Alternatives that feature increased flows should address any additional flooding or changes to the Federal Emergency Management Agency (FEMA)/ National Flood Insurance Program (NFIP) floodplain maps. These communities are members of the NFIP and have officially adopted the Flood Insurance Rate Maps (FIRM) maps. These maps (legally "adopted" by the community) represent where FEMA has delineated both the special flood hazard areas (SFHAs) and the risk premium zones applicable to the community.

Recommendations: EPA understands that Paleoflood information is not relevant for all Hydrology and Hydraulics decisions, but the FEIS should indicate whether the concepts/ recommendations in the USACE document, *Appropriate Application of Paleoflood Information for Hydrology and Hydraulics Decisions of the U.S. Army Corps of Engineers*, were used in the WCM or EIS and how they were used. In addition, the alternatives that feature increased flows should address any additional flooding or changes to the FEMA/NFIP floodplain maps and the FEIS should disclose which Alternatives have impacts to these, and what these changes involve.

Contact: Paul Gagliano 404/562-9373.

Public Safety and Recreation

FERC license renewals have recently resulted in negotiated agreements that include provisions to enhance the recreation and public safety on regulated rivers. For instance, the SCE&G license on the Saluda River included a Warning Safety Enhancement Plan and provisions for Recreational Flow Releases. These revisions were prompted, in part, by hazardous conditions that existed during flow releases that resulted in the loss of life in recreation areas.

Recommendations: EPA suggests that the WCM incorporate new and innovative procedures to enhance warning systems to improve public safety and recreation throughout the system.

Contacts: Lisa Gordon 404/562-9317.

Coordination with FERC Relicensing

FERC relicensing actions are currently underway for the Coosa River projects and APC has requested to modify winter pool levels at the Weiss and Logan Martin Lakes. Plan G (the Preferred Alternative) does not include these proposed modified winter pool levels.

Recommendations: EPA recommends that the USACE include additional information regarding how proposed modifications to the winter pool levels at the Weiss and Logan Martin may affect downstream flows in the Basin and impact the overall operations of the preferred alternatives.

Climate Change:

Adapting to future climate change impacts requires hydroclimate monitoring, prediction and application of such information to support water management decisions. There is an expanding body of literature on the greenhouse gas contributions (CO_2, CH_4, N_2O) of reservoirs (Varis, Kummu, Härkönen, & Huttunen, 2012). Emissions pathways include flux across the air-water interface, from supersaturation in the sediment, releases immediately below the turbines and further downstream (Diem, Koch, Schwarzenbach, Wehrli, & Schubert, 2012).

The potential impacts of climate change on the ACT water budget are manifold: changing precipitation patterns, increased evapotranspiration, and decreased soil moisture. These impacts could be exacerbated by other hydrological modifications such as increased withdrawals and reduced baseflow from impervious surface.

Recommendations: EPA notes that climate change has the potential to impact water supply, water quality, flood risk, wastewater, aquatic ecosystems, and energy production. The FEIS should consider the impact of dam operations in the Basin on greenhouse gases and climate change, as well as the impacts of climate change on WCM operations. EPA recommends an adaptive management approach in response to these impacts.

Contact: Stephen Maurano 404/562-904

Environmental Justice

Pursuant to the executive order 12898 "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations," the EIS examined the effect of the proposed action on minority and/or low-income populations. U.S. Census Bureau information for 2000 was used to identify low-income and minority populations within the Basin. The data indicated that most of the minority populations in the Basin were located in rural small to medium-sized towns in Alabama. The poverty rate in the Alabama portion of the ACT Basin is almost twice as high as the rate found in the Georgia portion of the basin. The DEIS concluded that communities with EJ concerns that use the reservoirs for fishing and recreation could experience some inconveniences due to seasonal fluctuations in the water surface under the No Action Alternative. During extreme drought years, reservoir users including low-income and minority populations could be affected, but less so under the preferred alternative. The preferred alternative would incorporate a new action zone at Carters Lake, revisions to the action zones at

Allatoona Lake, and specific drought management measures for the APC lakes and USACE lakes downstream of Montgomery that may result in more effective management of water surface levels and conservation storage in USACE and APC dams during drought conditions. Public access and use of the lakes should be improved for a longer periods of time. According to the DEIS, no significant environmental justice concerns relative to reservoir water management operations in the ACT Basin were identified during the scoping process for this EIS.

Recommendations: EPA appreciates the demographics analysis that identified low-income and minority populations within the basin and we recommend that the FEIS incorporate a discussion of any changes to the analysis based on more recent 2010 Census information. Based on some of the demographics information, EPA recommends a targeted approach for outreach to communities with EJ concerns, particularly in those areas with higher populations like rural Alabama. Specific efforts that were made to meaningfully engage low-income and minority stakeholder groups or individuals in the public involvement and decision-making process should also be discussed in the FEIS. EPA agrees that access and use of the reservoirs by minority and low-income populations could place more emphasis on shoreline or near-shore access activities like picnicking, wading/swimming, and recreational and subsistence fishing, primarily from the bank or public docks/piers, rather than boating-related activities that might be somewhat less dependent on high lake levels. Low water levels in the lakes would still adversely affect the access and usability of the lake resources. Any efforts to identify EJ populations that may engage in subsistence activities within the basin boundaries (i.e., subsistence fishing) should be discussed in the FEIS. The FEIS should also include a summary of EJ comments or concerns identified during the public involvement process along with agency responses to those concerns and efforts to avoid, minimize or mitigate potential impacts.

Contact: Ntale Kajumba – 404-562-9620

Children's Health

Pursuant to the executive order 12898 EO 13045: "Protection of Children from Environmental Health Risks and Safety Risks," the DEIS examined the environmental health and safety risks associated with this action on children's health. The DEIS indicated that the USACE uses specific measures at operating projects to minimize such risks including implementing water safety and other education programs, providing clear signage, marking designated use areas, removing hazards where appropriate, restricting public access to certain areas designed for authorized personnel, and other activities designed to promote safe use. According to the document, many of these activities are directly focused on children who visit the reservoirs and these health and safety activities are expected to continue and/or be adjusted as needed. The DEIS states that existing water management activities at the reservoirs do not impose any undue risks to children that are not effectively addressed by the above activities and no additional risks would be imposed by the proposed updates to water management practices.

Recommendation: EPA notes that the DEIS has described several measures in an effort to avoid and minimize impacts to users of the reservoir including children. In addition, we again suggest that the reservoirs incorporate new and innovative procedures to enhance warning systems (See public safety measures).

Contacts: Ntale Kajumba- 404-562-9620

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May 31, 2013

VIA EMAIL AND U.S. MAIL

Commander
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Attn: PD-EI (ACT-DEIS)
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RE: Alabama Coosa-Tallapoosa Draft Water Control Plan

Dear Colonel Roemhildt:

On behalf of the Southeastern Federal Power Customers, Inc. ("SeFPC" or "Power Customers"), I am providing comments on the draft Water Control Manual ("WCM") for the Alabama-Coosa-Tallapoosa ("ACT") River Basin released by the U.S. Army Corps of Engineers ("Corps of Engineers") on March 1, 2013. The members of the SeFPC either directly purchase capacity and energy marketed by the Southeastern Power Administration ("SEPA") or represent municipally owned utilities and rural electric cooperatives that have power purchase agreements with SEPA. As advocates for hydropower production at the Corps projects throughout the Southeast, the SeFPC has a vested interest in any proposed change at a Corps of Engineers project that provides capacity and energy marketed by SEPA.

As explained below, the Power Customers believe that the Corps of Engineers has understated the decrease in hydropower production that will occur if the proposed changes outlined in the draft WCM are adopted. Some of the proposed changes in the draft WCM appear to depart from the Congressional intent outlined in the underlying authorizations for the Federal projects. As we have seen in litigation involving the Apalachicola-Chattahoochee-Flint ("ACF") River Basin, the original authorizations for the projects under the jurisdiction of the Corps of Engineers set the parameters of the operations. Fundamentally, any WCM adopted by the Corps of Engineers must abide by the intent of Congress as expressed in these authorizing statutes.

The proposed WCM raises many questions of a technical nature that warrant further inquiry and resolution before the Corps of Engineers issues a Record of Decision ("ROD"). As noted in their comments, the Power Customers believe that the Corps has failed to explain fully certain concepts, inviting further inquiry which necessitates follow up responses. These questions are noted below and will likely require the Corps to revise the draft WCM before moving forward with the final Environmental Impact Statement ("EIS").

In the comments, below, the SeFPC highlights important standards that the Corps of Engineers must follow in the development of a WCM and the standards that govern activities conducted pursuant to the National Environmental Policy Act ("NEPA"). There are important socioeconomic considerations that underlie the operations of the project for hydropower purposes – consistent with the statutory authorizations – that should be included in any final EIS. The latter sections of the comments are devoted to technical considerations that should instigate further revision of the draft WCM. In concluding comments, the Power Customers provide several recommendations for the Corps of Engineers to consider.

Section I. Legal Standards

The Corps of Engineers' obligation to revise the draft WCM emerges from the obligations imposed by the National Environmental Policy Act ("NEPA") and the particular responsibility to follow faithfully the statutory mandates governing the operations of the Corps of Engineers' multipurpose projects in the ACT River Basin. The Congressional mandates are truly significant in setting the baseline from which the Corps of Engineers should measure potential impacts of alternative actions. Where the draft WCM relies upon a baseline that deviates from the fundamental operational principles set forth in Acts of Congress, the Corps of Engineers has set the improper base of study for the EIS. Indeed, if the foundation for a study is improperly set, the Corps of Engineers is simply unable to complete its obligations under NEPA, let-alone, comply with Congressional intent.

The Corps of Engineers' development of a WCM for the ACT is a particularly noteworthy endeavor in light of the absence of an updated WCM for nearly two decades. The obligation to comply with NEPA is equally momentous. Indeed, an agency has the responsibility to meet NEPA's obligations at the outset because a violation of NEPA cannot be cured by a post hoc consultation.[1] In fact the failure of the Corps of Engineers to update the WCM for the past two decades has led to the accumulation of indirect impacts, the precise type of adverse effects that the NEPA process identifies as a matter of course.[2]

As discussed in more detail in the comments, the SeFPC explains that the legislative history that guided the Corps of Engineers construction of multipurpose projects in the ACT directs the orientation of any WCM. While the Corps of Engineers is afforded deference by a Court reviewing compliance with NEPA, the Court will still evaluate whether the proposed alternative remains consistent with the law.[3] With explicit instructions from Congress to maximize hydropower production in the ACT, the Corps of Engineers has adopted a conflicting approach with its proposed operational design that will diminish the value of the hydropower

[1] *See* C.A.R.E. Now, Inc. v. Fed. Aviation Admin., 844 F.2d 1569, 1572 (11th Cir. 1988) *See also* Commonwealth of Mass. v. Watt, 716 F.2d 946, 952 (1st Cir. 1983) (NEPA is "aimed at presenting governmental decision-makers with relevant environmental data before they commit themselves to a course of action.")

[2] *See* 40 C.F.R. § 1508.8.

[3] Review of agency decision-making is conducted under the Administrative Procedure Act ("APA"), which provides that an agency's decision may be overturned only if that decision is "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law." 5 U.S.C. § 706(2)(A); see also Miccosukee Tribe of Indians of Fla. v. United States, 566 F.3d 1257, 1264 (11th Cir. 2009).

resource.[4] In light of these impacts, and the failure to identify mitigating actions, the SeFPC asks the Corps to revise significant portions of the draft WCM.

II. Congressional Intent Supporting Hydropower Development and Generation

The draft WCM recognizes that Congress authorized the construction and operation of the multipurpose projects through a series of law and accompanying House Documents.[5] Notwithstanding the acknowledgement of early deliberations in Congress on the development of the ACT River Basin, the Corps fails to include any discussion on the guidance that supported the authorization of the Allatoona Reservoir. As the U.S. Court of Appeals for the Eleventh Circuit has observed, the underlying Chief of Engineers' reports that support the authorization provide the foundation for the Corps operations.[6] Indeed, ignoring the Chief of Engineers' reports that support the authorizations imperils the Corps of Engineers operations of its projects.

The SeFPC does not disagree with the Corps of Engineers conclusions that the Allatoona project was authorized by the Flood Control Act of 1941, Public Law 229, on August 18, 1941. However, the Corps of Engineers review of the legislative history in the draft WCM inexplicably stops with the citation to the Flood Control Act of 1941. The authorizing statute specifically approves the construction of Allatoona Reservoir, "in accordance with the recommendation of the Chief of Engineers in House Document Numbered 674, Seventy Sixth Congress, third session…"[7]

House Document Number 674 provides important and invaluable guidance to the Corps of Engineers on how the Allatoona project shall be operated. As first explained by Major General Schley, the Board of Engineers for Rivers and Harbors recommended the construction of the Allatoona Reservoir "for the control of floods, regulation of stream flow for navigation, and the development of hydroelectric power…"[8] Brigadier General Tyler later explained in that the "Allatoona Reservoir constructed in the combined interests of the flood control and power development would provide needed flood protection…and would make possible the development of a substantial block of hydroelectric power."[9]

House Document Number 674 also included extensive findings of District Engineer Colonel Park who repeatedly stated that the Allatoona Reservoir would be constructed for

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[4] In materials posted on the Mobile District's web page, the Corps of Engineers declares that the "EIS will include a description of the baseline environmental and ***socioeconomic conditions*** against which effects of the proposed action are evaluated. It will also identify potential consequences and appropriate mitigation (methods to lessen adverse impacts) measures."(emphasis added)
http://www.sam.usace.army.mil/Missions/PlanningEnvironmental/ACTMasterWaterControlManualUpdate/ACTNEPAProcess.aspx

[5] *See* Section 3.0 et seq., Master Water Control Manual, Alabama-Coosa-Tallapoosa.

[6] *In re Tri-State Water Rights Litigation*, 644 F. 3d 1160, 1193 (11th Cir. 2011) ("Even heightened deference cannot lead this Court to ignore the plain and expressed will of Congress, especially where, as here, the Corps' interpretation has not been consistent.")

[7] Flood Control Act of 1941, Public Law 228, August 18, 1941.

[8] House Document Number 674, p. 2.

[9] *Id* at 5.

flood control and power purposes.[10] Colonel Park unequivocally recommended that the "Allatoona development be authorized as a flood-control and ***power project***…"[11] This conclusion was not presented without extensive findings; it was preceded by a detailed discussion in which factors such as rainfall were evaluated because of the "necessity of determining the storage required for power development at the Allatoona dam…"[12]

Notwithstanding the clear guidance provided by House Document Number 674, the draft WCM states that the Allatoona Reservoir is federally authorized for other project purposes including recreation, water quality, water supply and fish and wildlife support.[13] None of these additional "purposes" were mentioned in House Document Number 674 and the Corps of Engineers quoted in it are clear in delineating the bifurcated storage at the Allatoona Project between two lone purposes, hydropower production and flood risk management.[14] The addition of these new "purposes" by the Corps at Lake Allatoona is without support, yet forms a foundational error for the EIS.

The draft WCM does reference House Document Number 414 as evidence of Congressional guidance on how the Allatoona reservoir would fit into a comprehensive scheme of development in the ACT River Basin. In House Document Number 414, Brigadier General Robins recommended the development of the ACT River Basin for navigation, flood control, and power development.[15] More notably, the Brigadier General's report reserved the authority and discretion for the Secretary of War and the Chief of Engineers to modify projects "particularly for the purpose of increasing the development of hydroelectric power."[16] While Congress adopted House Document Number 414 to authorize the development on the ACT, the Brigadier General's reserved discretion to ***increase hydroelectric power*** was directly referenced in statutory text in the Rivers and Harbors Act of 1945.[17]

The Corps of Engineers, however, obscures the importance of hydropower development in the references to the House Document Number 414 when the draft WCM explains that Congress expanded the role of flood control management and hydropower development. While the SeFPC agrees with the Corps of Engineers conclusion that House Document Number 414 did build upon a more comprehensive vision of the potential development of the ACT River Basin, it remains clear that the draft WCM has omitted the authority, if not obligation, to maximize hydropower development in the River Basin. Indeed,

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[10] *See Id,* pp. 21, 31-33, 36-40.
[11] *Id.* p. 40. (Emphasis added).
[12] *Id. p. 21.*
[13] Draft WCM, table 1.1.
[14] Corps of Engineers regulations clearly delineate the limitations on operations where there is an impact on Congressionally authorized purposes. *See* ER 1101-2-100. ("Storage reallocation for recreation which significantly affects other authorized purposes, or involves major structural or operational changes, requires Congressional approval.")
[15] House Document Number 414, p. 6.
[16] *Id.*
[17] Rivers and Harbors Act of 1945, Public Law 14, March 2, 1945. ("Initial and ultimate development of the Alabama Coosa River and tributaries for navigation, flood control power development and other purposes as outlined in House Document Numbered 414, Seventy-seventh Congress is hereby authorized…with such modifications thereof from time to time as in the discretion of the Secretary of War and Chief of Engineers may be advisable for the purposes of ***increasing*** the development of hydroelectric power.")("Emphasis added.)

the reservation of discretion to augment one purpose must also be read as an endorsement of the limitations on the Corps for the other project purposes.

The only subsequent law passed by Congress that would appear to limit this discretion can be found in Public Law 436, in which Congress suspended the comprehensive development of the ACT River System to permit private power development on the Coosa River.[18] However, as set forth in Section 13, "[n]othing in this Act shall be deemed to affect in any way the authorization of the development of the Alabama-Coosa River and tributaries other than that portion of the development involving projects on the Coosa River…"[19] Nothing in Public Law 436 changed the Congressional authorization for the Corps of Engineers projects previously authorized by Congress.

III. Socioeconomic Considerations

The legislative history referenced above also expressed the understanding of Congress that the development of hydropower in the ACT was not only essential to the surrounding communities, but also made the construction of the projects feasible from a cost benefit analysis.[20] A discussion of the economics underlying the construction and operation of the projects, as well as the impact on the communities that rely on the hydropower produced at the Corps of Engineers projects in the ACT River Basin is notably absent from the draft WCM. Indeed, notwithstanding the Corps of Engineers declaration that the NEPA process will consider socioeconomic factors, the term socioeconomic is mentioned once in the entire draft WCM.[21] Undoubtedly, the Corps of Engineers fails a fundamental obligation under NEPA with an omission of any discussion of the indirect impacts of reduced hydropower generation that will ensue with the adoption of the WCM.

This oversight is hardly permissible with the extensive legislative history documenting the need and value of hydropower in the ACT River Basin. For example, House Document 674 spoke to the balancing of economic interests in the construction of Allatoona Reservoir. As noted by Brigadier General Tyler, "[b]enefits that would accrue to the project are substantially in excess of annual charges and in the opinion of the [Rivers and Harbors Board] the improvement is economically justified."

However, when the Corps of Engineers proposes action zones in the draft WCM that will greatly diminish if not eliminate hydropower production, there is an absence of any discussion on the socioeconomic impact of reduced hydropower operations.[22] The failure to identify and discuss these impacts has the effect of skewing the conclusions reached on preferred alternatives and mitigation plans for direct and indirect impacts. It is a noteworthy and significant oversight that undermines the foundation of the Corps of Engineers' NEPA process.

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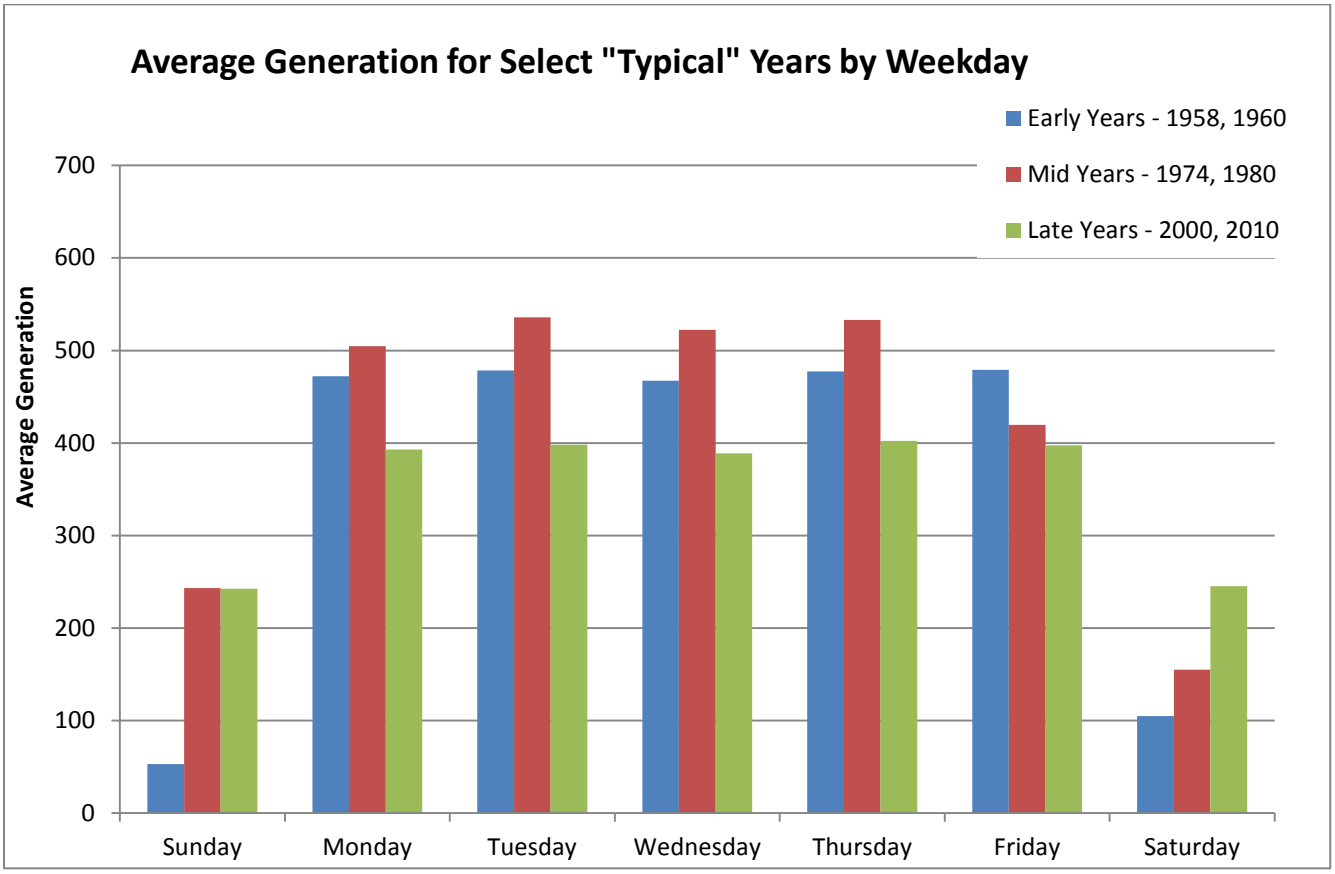
[18] *See* Section 2, Public Law 436, June 28, 1954.
[19] *Id.*
[20] *See* House Document Number 414, pp. 4-6.
[21] Draft WCM, at Section 3.01, p. E-C-4.
[22] As discussed below, the draft WCM contains many erroneous technical conclusions that adversely affect conclusions reached in the WCM.

IV. Baseline Calculations

In the absence of a WCM that has not been updated in two decades, the question arises on the proper baseline for determining the No Action Alternative. While the 1993 Revised WCM is the proper point for evaluation as the Baseline or No Action Alternative, the Corps of Engineers uses what they term "current conditions" as the operating criteria for the Baseline or No Action Alternative. The accurate baseline or No Action Alternative should be the 1993 WCM.

As an alternative, current conditions could provide the appropriate alternative for the Corps of Engineers. However, if this baseline is chosen, the Corps of Engineers must include all changes to the operations of the project that have occurred since 1993. Indeed, at Lines 31 – 33, Page ES-21 of Volume 1 of the Draft EIS, "incremental changes in project operations have occurred because of changes to hydropower contracts and operating schedules…" However, the chart below depicts that there has been a methodical erosion of weekday peaking power by shifting more and more of the generation to the weekend.



Ideally, the Corps of Engineers should determine all the incremental changes in operations since 1951, including all of the incremental changes not in the 1962 WCM revision, 1993 Interim Revision and the 2013 Revision. While the Corps of Engineers has stated that "it is not possible to describe in a single set of reservoir operations that apply to the entire period since the completion of the 1951 ACT Master Manual" the infrequent attention to updating the

WCM needlessly shirks responsibilities under NEPA to identify indirect impacts. Indeed, the NEPA process cannot start from an arbitrary year that provides convenient modeling for future intended uses of the reservoirs on the ACT.

V. Technical Errors

The draft WCM leaves unanswered several questions but also highlights fundamental errors in the Corps of Engineers' modeling of the impacts associated with the new operating regime. These errors can be categorized in several different areas. The comments below separate technical concerns and associated questions into different topic areas including the impacts associated with conclusions pertaining to:

1. Lake levels and operating zones;
2. Water Supply Impacts;
3. Hydropower Generation Impacts;
4. Increased Minimum Flows;
5. Rule Curve Modification; and
6. General Modeling Concerns.

Lake Levels and Operating Zones

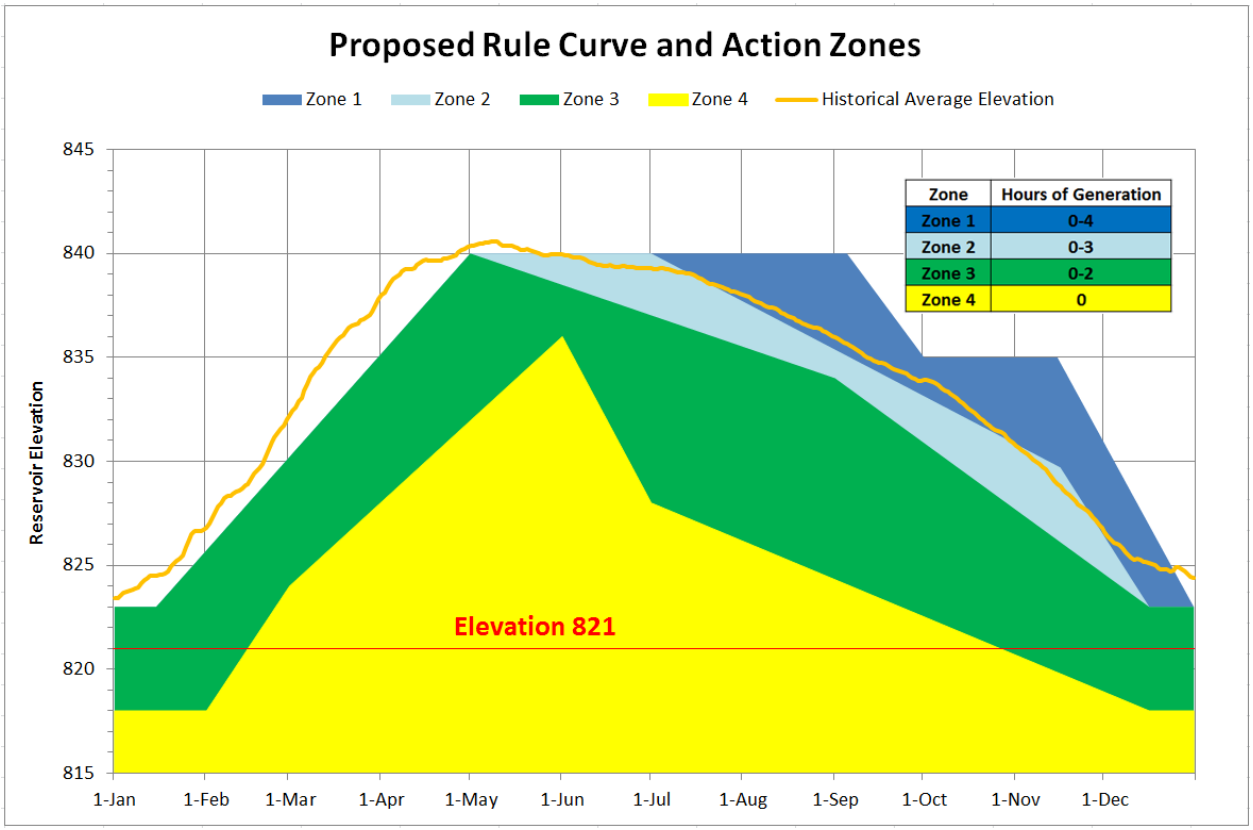
Strikingly, the proposed Alternative G includes radically new operating zones which specifically limit hydropower generation to zero hours per day when the elevation of the reservoir goes below the top of Zone 4. In some cases, the top of Zone 4 is as high as Elevation 836. However, the Corps is clear with their position that "253,000 ac-ft. between elevations 800 and 835 is reserved for power generation and conservation.[23] Reducing the hydropower generation to zero hours in Zone 4 is not only an adverse and significant change because of the loss of hydropower, there is no suspension of cost responsibilities.

In addition, the Corps' intent with regard to generation in the proposed Zone 1 through Zone 3 is unclear in the EIS and associated documentation. The EIS document depicts the generation in Zone 1 through Zone 3 as a range (zero to three hours in Zone 1, zero to 2 hours in Zone 2, and zero to 1 hour in Zone 3). This non-detailed description requires clarification as to how many hours of generation will be allocated to hydropower under the proposed Alternative G. Please reference the graphical depiction of the proposed guide curve and action zones for the Allatoona Reservoir below.

Furthermore, a review of the historical average elevation at the Allatoona Reservoir clearly indicates that on average, the proposed Alternative G would result in less than 4 hours of generation being available to hydropower during the times of year that the resource is most important. This will have significant hydropower impacts and is a departure from current operations, Corps policy, and Congressional intent.

[23] *See* Page A1-6, Section 1-25; "Storage allocation" in the December 1993 Appendix A Allatoona Reservoir, Alabama - Coosa River Basin Water Control Manual." (Elevation 835 has been revised in previous studies to a seasonal Elevation 840 and the storage to hydropower has been adjusted to 284,580 ac-ft.).

In fact, the Power Customers believe the revised operations as captured in the proposed Rule Curve are contrary to the intent of Congress as set forth in House Document Number 674. In discussing the precise parameters of the Allatoona Reservoir, Colonel Powell explained that there would be power generation occurring at an elevation of 821. However, as captured in the graph below, for key months during the year when peaking power is needed, the Corps would not generate power at elevation 821. The proposed action zones also curtail significant hydropower generation at elevations much higher than elevation 821 during the most critical periods of year. This is a significant operational change and departure from the current approved Water Control Manual and practice in which some generation occurs at the Allatoona Project. The changed operations at Lake Allatoona must be revised to be consistent with Congressional intent and provide for power generation when the pool level reaches an elevation of 821.



In fact, the four (4) new zones actually penalize hydropower during the most critical times of the year. Hydropower is totally curtailed, zero generation, in Zone 4 (Figure ES-6, Page ES-28 Draft Allatoona WCM). Zone 4 is reached at Elevation 836 in June, Elevation 828 in July, and Elevation 827 in August. Furthermore, the Alternative G Action Zones are radically different from the Action Zones in the 1993 WCM. Indeed, the two (2) Zones in the 1993 WCM provide much "greater flexibility to meet power demands." However, from a historical perspective, any time the Allatoona Reservoir was below Action Zone 2 the 1993 WCM allowed for two hours of generation. Ultimately, the Corps of Engineers fails to provide an adequate analysis of the differences between the existing Action Zones and the Alternative G Action Zone.

Water Supply Storage

The water supply storage contracts for the City of Cartersville and Cobb-Marietta Water Authority provide for the permanent transfer of this storage to those two entities. In aggregate, 19,511 acre-feet of Conservation Storage has been reallocated to water supply. The HEC ResSIM Model supporting the Draft EIS uses 284,580 ac-ft. in the Conservation Storage. Since water supply is the sole user of the water supply storage, its allocated portion of Conservation Storage should be removed from that available to all other users. Therefore, the Model should reflect 265,069 ac-ft. in usable Conservation Storage.

The existing water supply storage contracts for the City of Cartersville and Cobb-Marietta Water Authority were based on a Critical Yield at Allatoona of 1,160 cfs (750 MGD). Since the execution of these contracts hydrologic/climatology of the Etowah River Basin has deteriorated to the point that current critical yield for Allatoona is 729 cfs (470 MGD).The existing water supply storage reallocation cannot support the contract. There is 37% reduction in the critical yield, yet the Corps of Engineers has not recognized this in the Hec ResSIM Model nor have they recognized this in the necessary reallocation of storage to meet the requirements of the No Action Alternative.

The failure to revise the critical yield requires an exhaustive analysis of the Critical Yield for Lake Allatoona. The analysis performed in a February 2010 Report to Congress at the direction of Congress in Energy and Water Development and Related Agencies Appropriations Act, 2010 (H.R. 3183; Public Law 111-85), appears to be incomplete and therefore does not reflect an accurate critical Yield.[24] In fact, figure B-30 does not indicate the reservoir ever returned to Full Pool following the drought. If in fact the simulation has been truncated prior to the reservoir returning to full pool, then the Critical Yield has been overstated and is inaccurate.

The absence of a revised critical yield for the Allatoona Reservoir is not the only issue left unresolved by draft WCM. In our review, we cannot determine why the Corps of Engineers has elected to use the full period of record unimpaired flow set as input hydrology to the Hec ResSIM Model but only uses monthly average withdrawal and return data for water supply withdrawals and returns and only for 2006. Furthermore, as revealed in the litigation on the operation of the Corps of Engineers projects in the ACT River Basin, the Corps of Engineers has notified the Cobb-Marietta Water Authority that under certain conditions they have violated the terms of their water supply storage contract by withdrawing from their storage more water than their storage will yield.[25] This overreliance on storage has not been captured in the draft WCM, nor has the Corps of Engineers indicated how it will address this breach of contract.

In considering the current water supply contracts in place at Allatoona, it is also important to consider the limitations of the authority that facilitated the contracts in the first instance. While the Water Supply Act of 1958 provides the authority for the Corps of

[24] Draft WCM at p. B-38.

[25] *See* State of Alabama v. U.S. Army Corps of Engineers, Case 1:90 CV-1331 (U.S. District Court, Northern District of Alabama)

Engineers to add water supply where Congress has not included it as an authorized project purpose, this authority is clearly limited to ensure that the conveyance of storage does not adversely affect existing project operations or require a major operational or structural change.[26] To the extent that the boundaries of the Water Supply Act of 1958 were nearly met in developing the existing water supply contracts, the draft WCM should reflect as such. In other words, the Corps of Engineers must recognize that the conveyance of storage has a cumulative impact on other project purposes; the mere exercise of authority under the Water Supply Act does not reset the baseline for determining impacts on authorized project purposes.

On a related matter, while the draft WCM does not explicitly endorse a specific policy on return flows, it remains clear that this issue is far from resolved and will inform operations in the future. As such, the Corps must explain how a policy on return flows will affect water supply operations. For example, there is a need to further elaborate on why the No Action Alternative and the Alternative G uses 2006 water supply withdrawals and returns when the Baseline Alternative should use the water withdrawals occurring in 1993, the date of the last WCM update. In fact, the use of monthly average withdrawals and returns greatly underestimates the impact of water supply especially so during dry or drought periods. If Alternative G is the Corps recommended "operating conditions" the model should be modified to perform under the dry or drought conditions on a daily time-step in order to verify the "operating condition" can, in fact, successfully function during the extreme period.

Hydropower Impacts

The draft WCM includes several errors with regard to the hydropower production, including the Corps of Engineers repeated devaluation of capacity benefits provided by its projects.[27] In all documentation for the development of the Allatoona Project, it is clearly identified that this resource will be a peaking power resource generating during peak hours Monday through Friday. The methodology for calculating impacts to hydropower in the Draft WCM simply address all energy as peaking energy whether it is produced on peak, off peak, weekday or weekend. This methodology greatly underestimates the impact to hydropower customers from the devaluation of capacity. Customers must meet standards for capacity to serve load as well as planning reserves. The draft WCM does not recognize the impact to integrated resource planning and planning reserve requirements.

Furthermore, in the methodology for calculating impacts to hydropower in the draft WCM, the Corps of Engineers does not take into account the value of "ancillary services" provided by hydropower. The impact to hydropower must include the value of reserves, transmission stability, ability to offer "black start" support, etc. The loss of energy and capacity also reduces the value provided to downstream non-Federal projects for headwater benefits.

[26] 43 U.S.C. § 390b(d)

[27] SEPA markets capacity and energy from the Corps of Engineers multipurpose projects. A firm energy resource, which can be scheduled and displace other resources, requires an identification of capacity and energy. The production of energy alone does not provide the same economic benefit as a project that affords capacity that can be scheduled with accompanying energy.

Nonetheless, the Corps of Engineers has not explained how the Draft Allatoona WCP and Alternative G, i.e., the proposed Plan in the Draft Manual, "mimic seasonal demands for hydropower and provide greater flexibility to meet power demands…" In the current WCM (1993 Revision), the Corps of Engineers has provided for two hours "peak power generation each day" in Zone 2 (Appendix A, Chart 1-11 1993 Allatoona WCM). Zone Two is defined as Elevation 836, seasonally adjusted. Yet, the Draft WCM plans for four (4) Zones that have no relationship at all to seasonal demands for hydropower as purported by the Corps.

If we compare the Corps of Engineers' 1993 Action Zones (Appendix A, Chart 1-11 1993 Allatoona WCM) to the Proposed Alternative G Action Zones, (Figure ES-6, Page ES-28 Draft Allatoona WCM) over 60% of the conservation storage has been lost from hydropower production. However, in the Corps of Engineers cost allocation study for the Allatoona Project, fully 285,000 ac-ft. of storage was assigned to hydropower. Base on the revised Action Zones of the Draft WCM, hydropower now has access to less than 114,000 ac-ft. of storage. Inexplicably, the Corps of Engineers' analysis does not take this into account.

Increased Minimum flow

The draft WCM does not explain why minimum flows from the Carter's Reregulation Dam ("Carter's") have been increased by 300% during the winter and spring "refill" period of the year. The Corps of Engineers' statement that "minimum flow requirement would remain 240 cfs from Carters Reregulation Dam" is incorrect. By adding two action zones in the draft WCP for Carter's, the Corps of Engineers has significantly modified the minimum flow requirements from the Reregulation Dam. Based on the language on Page ES-24, Lines 1-3 and the Figure ES-4, the minimum flow is not 240 cfs. The minimum flow is as follows if the reservoir is in Zone 1:

Month of the Year	Minimum Flow	Long Term Mean Monthly Flow
January	660 cfs	619 cfs
February	790 cfs	724 cfs
March	665 cfs	797 cfs
April	770 cfs	721 cfs
May	620 cfs	584 cfs
June	475 cfs	445 cfs
July	400 cfs	383 cfs
August	325 cfs	308 cfs
September	250 cfs	259 cfs
October	275 cfs	262 cfs
November	350 cfs	340 cfs
December	465 cfs	455 cfs

As the highlighted Months in the above table indicate, the minimum flow requirement in Zone 1 exceeds the Long Term Mean Monthly Flow in the Coosawattee River into Carter's Reservoir. As long as the Reservoir is in Zone 1, storage must be used to augment flows to meet the minimum flow requirements, especially during drought periods. Since Carters is a Pumped Storage project and minimum flows are actually being met by releases from the Reregulation Dam, the Zone 1 minimum flow releases support deterioration in the capacity of

the project. It is also exacerbated by the fact that with water in the forebay and reregulation pond, much greater evaporation is occurring which requires additional releases to make up for these reductions further impacting storage in the forebay. The Corps is using Carters to provide flows in the Coosawattee River that exceed the "natural" flows throughout all but two (2) months out of the year as long as the reservoir level is maintained above Zone 2.

Rule Curve Modification

Throughout the Comprehensive Study and the interstate compact discussions for the ACT River Basin, the Corps of Engineers has explicitly stated they will not reallocate from Flood Control Storage for any other purpose than flood control. Yet, the current proposed Alternative G reallocates storage out of the Allatoona Flood Control Pool to the Conservation Pool from late October through December. In fact, the Corps of Engineers clearly articulates "[m]anagement measures that suggest use of flood storage for purposes other than flood storage were not considered."[28] Clearly the Corps has reallocated storage from Flood Control to other purposes by modifying the Rule Curve in Alternative G.

General Modeling Issues

The Corps uses the "unimpaired flow set" developed during the Comprehensive Study in the 1990's amended (amended what?) to bring the flow up to date as far as 2008. The unimpaired flow set is the basis for all of the hydrologic modeling supporting the selected Proposed Alternative. It is troubling that the Corps of Engineers implies in the draft WCM that the unimpaired flow set is a flow set that has been approved by the stakeholders.

A review of past practices, however, reveals this flow set has never been approved at any level. The unimpaired flow set developed for the ACT's Hec ResSIM model uses the same techniques that were employed on the ACF basin. On the ACF basin, these techniques have been the center of significant controversy. Indeed, the unimpaired flow set has not been vetted by any Federal Agency, has not been approved as meeting any Federal requirements and therefore, should be subject to its own review and comment prior to its use in this analysis.

Finally, the Corps of Engineers should provide the validation for each node or control point where the Corps has used the Drainage Basin Ratio Method to provide incremental flows or inflows in the main stem of the Etowah River or streams connecting to the Etowah River, such as at Kingston.

VI. CONCLUSION

While the Power Customers welcome progress on a WCM for the ACT River Basin, the Corps of Engineers' draft document released on March 1, 2013 fails in numerous ways. The failure to follow thoroughly the expressed intent of Congress in maximizing hydropower production undermines the foundation of the proposed WCM and the NEPA process. In a rather revealing statement, the Corps of Engineers admits that "[a]ny proposed changes to the ACT Basin water control operations that would significantly affect other project purposes or

[28] Draft WCM, p ES-11.

require substantial structural modifications would require feasibility-level studies and congressional authorization. Such studies are inconsistent with the purpose and need of updating the WCM."[29]

The SeFPC encourages the Corps of Engineers to revise the WCM in a manner that abides by Congressional intent regarding hydropower production, clarifies key policy initiatives such as crediting for return flows, and provides the clarity and transparency needed for the Corps of Engineers to meet competing demands in the ACT in upcoming years.

I am available to answer any questions that you may have regarding the comments captured above.

Sincerely,

/S/

Richard K. Feathers
Chairman
Water Storage Reallocation Committee
Southeastern Federal Power Customers, Inc.

[29] *Id,* at p. ES-1.