

P-349-150

**RICHARD SHELBY**  
ALABAMA

**ASSOCIATED  
PUBLIC FILE**

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WASHINGTON, DC 20510-0103  
(202) 224-5744

# United States Senate

WASHINGTON, DC 20510-0103

March 1, 2011

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Patricia Schaub  
Deputy Director  
Federal Energy Regulatory Commission  
Congressional Affairs  
888 First Street, N.E., Room 11H  
Washington, D.C. 20426-0001

Dear Friend:

Enclosed, please find a copy of correspondence I received from W. Thomas Dozier III.

Please review the enclosed and address the concerns raised. I have notified my constituent to expect a timely reply directly from you.

Sincerely,

Richard Shelby

RCS/seb  
Enclosure

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EXT. AFFAIRS  
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2011-00047

**RICHARD SHELBY**  
ALABAMA

RANKING MEMBER—COMMITTEE ON BANKING, HOUSING,  
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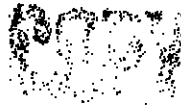
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**United States Senate**

WASHINGTON, DC 20510-0103

March 2, 2011

Mr. W. Thomas Dozier, III  
Post Office Box 347  
Montgomery, Alabama 36101-0347



Dear Mr. Dozier:

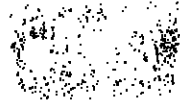
Thank you for taking the time to contact me regarding the license for the Martin Dam Hydroelectric Project.

I have contacted the Federal Energy Regulatory Commission on your behalf and have asked them to respond to your concerns. You should expect a reply to your concerns directly from the agency in a timely manner. Please do not hesitate to contact me about this or other matters in the future.

Sincerely,

Richard Shelby

RCS/seb



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823746

**W. Thomas Dozier, III  
Euel A. Screws, Jr.  
Post Office Box 347  
Montgomery, Alabama 36101**

February 15, 2011

**Honorable Richard Shelby  
United States Senator  
304 Russell Senate Office Building  
Washington, DC 20510**

**Re: Lower Tallapoosa River Landowners and Farmers Concerns  
Alabama Power Martin Dam Hydroelectric Project Relicensing  
FERC Project No. 349-150**

Dear Senator Shelby:

**PARTIES**

The undersigned, W. Thomas Dozier, III and Euel A. Screws, Jr., represent well over three dozen landowners and farmers that own farmland, timberland, and/or utilize the delta of the lower Tallapoosa River, south of Martin Dam, for agricultural activities in Elmore, Macon, Tallapoosa and Montgomery Counties. The represented individuals, families, and businesses are relatively small but cumulatively have made significant capital investments to manage, cultivate and develop their respective properties along the lower Tallapoosa River to be productive for agriculture, wildlife and conservation purposes. Most of these parties have experienced significant monetary damage as well as property damage as a direct result of Alabama Power's lack of responsible behavior in managing Martin Dam in the prevention of avoidable flood events on the lower Tallapoosa River.

**ISSUE**

Alabama Power contends it currently has very limited flood control responsibilities with regard to landowners and farmers downstream from Martin Dam on the lower Tallapoosa River in obvious contradiction to its previous commitments to downstream landowners and farmers, and reasonable application of the principles of negligence. As clearly revealed in its pre-license filings with the Federal Energy Regulatory Commission ("FERC") and its recently filed Preliminary License Proposal ("PLP") for Martin Dam Hydroelectric Project, Alabama Power intends on retaining its non-responsibility status for flood control operations downstream on the lower Tallapoosa River to the significant detriment to downstream landowners and farmers. The landowners and farmers represented herein located along the lower Tallapoosa River downstream from Martin Dam is supporting the position that Alabama Power incorporate into

its proposed new license to operate the Martin Dam Hydroelectric Project to take effect in June of 2013, adequate and reasonable flood control requirements and responsibilities to protect the interest of downstream landowners and farmers noted herein.

### **BACKGROUND**

Prior to 1973, Alabama Power filed to renew its operating license for the Martin Dam Hydroelectric Project with the Federal Power Commission ("FPC"). During the FPC's consideration of Alabama Power's license application, a group of downstream landowners and farmers contested to the filing citing the lack of adequate downstream flood control policy in its license application. The Attorney General of Alabama intervened on behalf of the contesting parties and eventually helped negotiate a settlement that required Alabama Power to adopt a flood control operating policy based on the information and knowledge then available to help minimize the risk of flood events to downstream landowners and farmers along the lower Tallapoosa River.

However, in 1978, Alabama Power unilaterally modified the negotiated flood control policy in the original 1973 Martin Dam Hydroelectric Project Operating License. The unilateral change was made without any notice to the landowners and farmers who were a party to the settlement brokered by the Alabama Attorney General. The change in the flood control operations policy made by Alabama Power in 1978 significantly reduced its responsibility in providing reasonable flood control for affected downstream landowners and farmers. This unilateral change in the flood control policy by Alabama Power was not discovered by the landowners and farmers until the mid-2000s.

In 2003, the landowners and farmers along the lower Tallapoosa River experienced not one but two devastating but entirely preventable flood events that were directly caused by Alabama Power's negligence in operating Martin Dam.

The first flood of 2003 happened in early May after farmers had planted their crops. Alabama Power was aware of "water on the ground" upriver on the Tallapoosa River yet did not responsibly pre-evacuate Lake Martin to allow for the incoming water flow. When the upriver flow on the Tallapoosa River came to Lake Martin, Alabama Power had to open 15 of its 20 flood gates at in a short period of time which destroyed the planted crops, severely eroded the river banks in many places, and devastated timber and wildlife all along the lower Tallapoosa River.

Following the flood in May of 2003, most of the farmers replanted their crops in an effort to salvage the remainder of the growing season. However, the second flood of 2003 happened in early July. A minor rain event (a two year event) occurred at this time, but because Alabama Power again negligently operated Martin Dam by not pre-evacuating after clear indication of "water on the ground," multiple flood gates were opened at Martin Dam which caused another major downstream inundation which destroyed the replanted crops, caused more erosion of river banks, and devastated additional timber and wildlife along the lower Tallapoosa River.

The verifiable out-of-pocket losses for the farmers in 2003, along the lower Tallapoosa River, were well over \$2,000,000. This amount does not include the significant value of the damaged

timber or to the land itself. In addition, the considerable conservation and wildlife efforts made by these landowners and farmers were summarily annihilated by these flood events in 2003.

Following the economically devastating flood events in 2003, a group of landowners, farmers, and related businesses filed a lawsuit in an Alabama Court against Alabama Power in an attempt to recover a portion of the losses suffered as a direct result of Alabama Power's negligent actions (or inaction) in managing its flood control responsibilities for the Martin Dam Hydroelectric Project.

The landowners and farmers did not prevail in their suit against Alabama Power. The case went to the Supreme Court of Alabama. A significant part of the decision rendered by the Supreme Court of Alabama was based on the Court's perception that it was not "... the suitable entity properly equipped to set standards applicable to such a [heightened] duty [of flood control]." (Bryan v. Alabama Power Co., 20 So. 3d 108, \_\_\_\_\_ (Ala. 2009))

While the lower Tallapoosa River landowners and farmers vehemently disagree with the decision and the reasoning rendered in the above referenced case, the Supreme Court of Alabama's decision does highlight the obvious need for a clearly established flood control operating policy to protect and balance the needs of the downstream landowners and farmers with the ability of Alabama Power to operate the Martin Dam Hydroelectric Project. In addition, the case illustrates the need for FERC to establish such balance since the Alabama Courts did not recognize any reasonable jurisdiction to impose on Alabama Power such responsibility or obligation.

The decision of the Supreme Court of Alabama in the above referenced case does not eliminate the opportunity for FERC to require reasonable flood control responsibilities for Alabama Power's operation of the Martin Dam Hydroelectric Project. However, the decision seems to surrender any authority the Court might have had to the federal regulatory process or further legislative action.

### **RELEVANT FACTS**

Lake Martin contains over 44,000 acres and is one of the largest hydroelectric lakes in the United States. Research indicates that the Martin Dam Hydroelectric Project is the only large hydroelectric lake in the United States with no significant flood control operations obligations enforced or imposed by either the state or federal government, or their related agencies.

Two engineering experts, Jack Ward, P.E., and Robert Watson, P.E., have evaluated the 2003 flood events and both determined that each event was clearly avoidable, preventable and was the result of inappropriate operations of the Lake Martin Dam. In addition, both experts have identified a reasonable flood control operation policy that would have prevented the 2003 flood events and would minimize or eliminate future avoidable flood events downstream of Martin Dam on the lower Tallapoosa River. Both experts are retired from the United States Army Corps of Engineers and have hydroelectric reservoir management experience.

The landowners and farmers represented herein recognize FERC's required protocol in evaluating the various stakeholder interests in evaluating hydroelectric project subject to FERC

oversight as 16 U.S.C. § 803(a)(1) states the following:

“That the project adopted, including the maps, plans, and specifications, shall be such as in the judgment of the Commission will be best adapted to a comprehensive plan for improving or developing a waterway or waterways for the use or benefit of interstate or foreign commerce, for the improvement and utilization of water-power development, for the adequate protection, mitigation, and enhancement of fish and wildlife (including related spawning grounds and habitat), and for other beneficial public uses, including irrigation, *flood control*, water supply, and recreational and other purposes ...” (Emphasis added).

This federal statute requires FERC to ensure that hydroelectric projects subject to its licensing oversight will seek to optimize the utilization of the water way by balancing various uses, including flood control, not just the ability to generate power by a licensee.

The lower Tallapoosa River landowners and farmers do not have the means individually or cumulatively to “out-lawyer” or “out-spend” Alabama Power in its quest to have a reasonable flood control guideline policy to be required of Alabama Power in its operation of the Martin Dam Hydroelectric Project. The landowners and farmers are entirely dependent upon the fairness and the equity of the federal licensing evaluation process.

### CURRENT SITUATION

Alabama Power is in the tail-end of the pre-license application phase of the Integrated Licensing Process developed by FERC in the 1980s to increase stakeholder participation in the licensing process and to help identify and resolve issues prior to the filing of the actual license application. During this pre-license phase, Alabama Power has held numerous meetings, conducted dozens of FERC approved studies and requested input from stakeholders. The lower Tallapoosa River landowners and farmers group have been actively participating in the pre-license process by attending most of the meetings conducted by Alabama Power and FERC, and providing comments to Alabama Power and FERC regarding specific aspects of the various study plans, the process itself, and the landowners and farmers experiences during the current licensing period. Unfortunately, it appears that Alabama Power is performing the required “checklist” of duties pursuant to the Integrated Licensing Process but is not taking seriously the significant concerns of numerous stakeholders including the landowners and farmers located downstream of Martin Dam on the lower Tallapoosa River.

Despite numerous requests for consideration and having several specific meetings with Alabama Power to discuss the significant concerns of the lower Tallapoosa River landowners and farmers, it has become obvious through Alabama Power’s various filings, including its most recent PLP filing that Alabama Power desires to ignore the concerns of this stakeholder group. In Alabama Power’s October 2010 Study Plan Final Report, it reported “Flood Control Guidelines Change, Modeling Analysis.” This thousand plus page document was in support of Alabama Power’s request to modify its “Flood Control Guidelines” contained only an analysis and effect of a 100 year flood event (very rare) downstream of Martin Dam. Please note that

the 2003 flood events that so devastated the landowners and farmers represented herein were a common 4 year flood event and 2 year flood event, respectively. This voluminous document as well as the PLP and other filings are entirely silent on:

- The economic effect of (avoidable or unavoidable) flood events on downstream production agriculture;
- The environmental and economic effect of flood events on downstream wildlife, river banks, and river erosion;
- The effect of flood events on numerous historical sites located downstream including Creek Indian sites located all along the lower Tallapoosa River basin;
- Consideration of issues as to the need or the requirement for an environmental impact statement; and
- Any engineering evaluation to be performed as to the structural integrity and condition of the 80 plus year old Martin Dam structure.

Any response to the PLP filed by Alabama Power on January 7, 2011, must be submitted to FERC by April 7, 2011. Alabama Power will be filing its actual license application to obtain its new license for the operation of the Martin Dam Hydroelectric Project on or about June 8, 2011. Alabama Power will request that the new license be issued to Alabama Power on or about June 8, 2013.

The landowners and farmers represented herein do not generally oppose Alabama Power obtaining the new license to operate the Martin Dam Hydroelectric Project. However, we are steadfast and unified in our position that Alabama Power should be required to incorporate reasonable flood control policies and obligations as a condition of the grant a new license by FERC.

### NEEDED RESOLUTION

→ The landowners and farmers represented herein will continue to be involved in the licensing process for the Martin Dam Hydroelectric Project. However, it has become obvious and apparent that this group of landowners, small businesses, and farmers will need help in communicating and obtaining an equitable evaluation of the concerns raised during the Martin Dam licensing process.

→ This group of responsible citizens and businesses are soliciting help from concerned individuals; our various elected representatives; and local, state and national agencies and organizations that have an interest in production agriculture, timber cultivation, land conservation, and wildlife management. We ask that you consider the issues outlined herein and help us in whatever reasonable manner available to convince FERC of the necessity of requiring Alabama Power to incorporate reasonable flood control policies and obligations as a condition of the issuance of the new license to operate the Martin Dam Hydroelectric Project.

Thank you for your thoughtful consideration and action on the very important matter discussed herein.

Sincerely,

*W. Thomas Dozier III*  
W. Thomas Dozier, III

*Euel A. Screws, Jr.*  
Euel A. Screws, Jr.

**Lower Tallapoosa Landowners and Farmers  
Alabama Power Flood Control Issue  
Document Index  
February 10, 2010**

- 1            Engineering Evaluation Report by Jack G. Ward, P.E.  
              May 15, 2004**
  
- 2            Preliminary Engineering Evaluation by Robert Watson, P.E.  
              December 9, 2010**
  
- 3            Landowners' and Farmers' Communication to FERC  
              January 18, 2010**
  
- 4            Landowners' and Farmers' Communication to FERC  
              April 14, 2010**
  
- 5            Landowners' and Farmers' Communication to FERC  
              June 7, 2010**
  
- 6            Elmore County Commission Communication to FERC  
              August 5, 2010**
  
- 7            Landowners' and Farmers' Communication to FERC  
              November 1, 2010**
  
- 8            Supreme Court Decision - Bryan v. Alabama Power Co.  
              January 23, 2009**



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# **ENGINEERING EVALUATION**

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**AGRICULTURAL FLOODING  
TALLAPOOSA RIVER  
DOWNSTREAM OF  
MARTIN, YATES, & THURLOW DAMS**

**MAY 15, 2004**



**WATER ENGINEERING**  
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# **ENGINEERING EVALUATION**

May 15, 2004

## **IN REFERENCE TO:**

Collective Group of Farmers from the floodplain of the Tallapoosa River  
downstream of Martin, Yates, & Thurlow Dams (Farmers)

Vs

Alabama Power Company (APC)

## **REFERENCES:**

- a) FERC Order Issuing New License (Major) to Alabama Power Company (APC) dated February 3, 1994, (FERC Project No.2407-006; previously Thurlow Project No. 2407 & Yates Project No. 2408)
- b) FERC Order Issuing New License (Major) to APC dated May 11, 1978 (FERC Project No. 349-Martin)
- c) FERC Order Issuing License (Major) to APC dated December 27, 1973 (FERC Project No. 2628-Harris)
- d) Harris Reservoir Regulation Manual
- e) Rainfall Data Packet containing AWIS Weather Service, Inc., 24-hour interval precipitation data for period of 1 May 2003 thru 11 July 2003 for gages at Alexander City, AL, and Anniston AP, AL
- f) Rainfall Data Packet containing 1-hour interval precipitation data for the period of 1 April through 31 July 2003 at Heflin, Newell, Ashland, Harris, Roanoke, Wadley, Hackneyville, Horseshoe Bend, Alexander City, Dadeville, Martin, Auburn, and Yates.
- g) River Gage Data Packet containing USGS stage and discharge data for:  
Station No. 02414715 (Tallapoosa River near New Site, AL, - Horseshoe Bend), 4 May - 20 May 2003 & 30 Jun - 6 Jul 2003  
Station No. 02415000 (Hillabee Creek near Hackneyville, AL), 4 May - 20 May 2003 & 30 Jun - 6 Jul 2003  
Station No. 02419500 (Tallapoosa River at Milstead, AL), 4 May - 20 May 2003 & 30 Jun - 6 Jul 2003  
Station No. 02419890 (Tallapoosa River near Mont. - Mont. Water Works), 4 May - 20 May 2003 & 30 Jun - 6 Jul 2003  
Station No. 02419000 (Uphapee Creek near Tuskegee, AL), 30 Jun - 6 Jul 2003

- h) Turbine & Spill Discharge Data Packet containing APC 1-hour time interval, instantaneous value, Turbine & Spill release data from Martin Dam, 1 May – 17 Jul 2003
- i) Miscellaneous Newspaper clippings

**ATTACHMENTS:**

- 1) Location & Orientation Map (of the area of concern)
- 2) General Information about Martin Dam, Lake, & Powerhouse
- 3) E-Mail of 16 September 2003 from Mr. Charles Stover (APC) with enclosures
- 4) Inflow-Outflow Hydrographs for Martin Lake for the period 1 May thru 15 July 2003 (inflow does not cover the entire period).
- 5) Discharge Hydrograph Release Patterns (actual release pattern and 3-day pre-evacuation release pattern)
- 6) Rainfall Frequency Analysis Results for 13 Rain Gages in the Tallapoosa River Basin for the periods of 23 April – 31 May 2002 and 29 June – 7 July 2003
- 7) Martin License Application, Exhibit H dated January 12, 1973 with Revision dated November 16, 1978

**PURPOSE OF THIS EVALUATION:**

A collective group of Farmers from the floodplain of the Tallapoosa River downstream of Martin, Yates, & Thurlow Dams is concerned about crop damage due to what they consider to be unnecessary and prolonged inundation of crops related to flood releases from Martin Lake. This document is provided for the purpose of better understanding the physical facts related to hydrologic and hydraulic aspects of flood water releases from Martin Dam. Of specific interest to the Farmers, are flood releases in early May 2003 and early July 2003 which resulted in crop damage.

**BACKGROUND:**

Flooding occurred in the floodplain of the Tallapoosa River below Martin, Yates, and Thurlow Dams during May 2003 and July 2003. Of specific concern, are flood water releases of 7-11 May 2003 and 1-3 July 2003 which reportedly damaged crops located geographically in the floodplain of the Tallapoosa River between Milstead and Montgomery, Alabama. The position of the Farmers is that APC could have operated Martin Lake such that downstream flooding would have been minimized in magnitude and duration. Attachments (1) and (2) provide orientation data relevant to this discussion.

**ANALYSIS & DISCUSSION:**

Data has been gathered independently and furnished by Alabama Power Company (APC) related to Martin, Thurlow, Yates and Harris Dams, Martin and Harris Lakes, rainfall gage data, river gage data, and water control structure release data as enumerated in References (a) through (j) above. Documents were also obtained via e-mail from APC which aided in this analysis (see Attachment 3).

There is wording provided in the Licenses for the Martin Project (FERC Project No. 349,) as well as Thurlow, Yates and Harris Projects which state that Alabama Power Company has a flood control responsibility at these dams. As related to Martin, minimal discussion is provided on flood control and the wording is rather general. As such, the action taken by APC might vary widely. It is not believed that the flood control provisions of the Martin License limit APC from implementing reasonable management practices that would reduce downstream flooding.

Thurlow and Yates Dams are small with minimal storage; therefore, they do not have significant flood control capability. Harris Dam upstream of Martin has storage dedicated to the express purpose of flood control. Martin Dam has significant storage and therefore has significant flood control potential. Based on information provided, it is believed that APC contends that they only have an obligation at Martin to limit the rate of release to the rate of inflow to the lake. However, there are inherent reasons for APC to incorporate additional flood control measures at Martin Dam. The construction of a dam with a large impoundment upstream without offsetting flood control management practices has the consequence of worsening flooding conditions downstream. There are a couple of reasons for this. First, the lake area itself prior to the lake being impounded was wooded forestland. Much of the rain that fell on this forestland was absorbed into the ground and was retained in the vegetation itself. It is estimated that prior to the lake being impounded, less than 50 percent of the rainfall was converted into runoff. After the lake impoundment, 100 percent of the rain that falls on the surface of the lake is converted into runoff. This of course, increases the river discharge at the dam. Second, before the raising of the lake, the natural bottomland and channel of the Tallapoosa River and its tributaries tended to attenuate and flatten the peak of a flood hydrograph such that effects were lessened in the downstream direction. This attenuation is caused by drag on the flowing water from channel and overbank friction as well as water moving in and out of overbank and tributary storage. However, with the lake in place, the flood hydrograph is accentuated with the peak of the flood being increased at the dam site by inflow all along the perimeter of the lake reaching the dam in a shorter time than would occur under natural undeveloped stream conditions. The result of this effect is to also increase the river discharge at the dam. Lake impoundments are unique and the extents of these phenomena are dependent on drainage area configuration, soil conditions, vegetation, topography, stream characteristics, and rainfall distribution; however, both of the peak discharges accentuating characteristics exist at Martin.

Harris Dam is upstream of Martin. This Dam has as a stipulation in its authorization and license, that flood control is a major purpose. The Harris Reservoir Regulation Manual, Chapter IV, Water Control Plan, contains discussions of reservoir operation for power production, reservoir operation during floods, alternative flood control operation, and other discussions less relevant to the issue at hand here. Paragraph 4-5, Alternative flood control operation, states that "Alabama Power Company has developed a real time computer model and data collection network for the basin above Harris Dam. The model has the capabilities of incorporating data from rainfall and river stations at upstream control gages and based on that data, prepares inflow forecast for periods of up to 144 hours. The model using the forecasted inflow values computes the anticipated storage requirements for the current rate of discharge. If it is determined that the anticipated storage requirement will exceed the available storage, the discharge is increased until the required storage and the available storage match. This balancing of storage has the same objective as the traditional induced surcharge method."

APC contends that they can predict 144 hours (6 days) in advance, flood control actions that they will need to take at Harris Dam. Chapter V, Forecasting, Paragraph 5.1, states in part that "The model has the capability of forecasting inflow and the effects of discharge in accordance to flood control regulations on the reservoir as well as downstream locations." The implication of this sentence is that this alternative method of flood control operation will provide improved flood control operations at Harris Dam over normal Corps of Engineer procedures and that increased flood control benefits will be derived. Paragraph 5.1 also states that "Alabama Power Company is continually evaluating the results and as experience is gained, improvements will be incorporated into the model." The implication here is that APC will improve and expand the model for better flood control. No such Reservoir Regulation Manual exists for Martin Dam, but it is reasonable to think that Martin Dam would be included in the model to enhance power operations, if not flood control operations. In fact, the number and location of rain gages supports this implication. The contention that APC has 6 days lead time to plan flood control operations at Harris if not Martin, leads to the idea of pool storage pre-evacuation to lessen the effects of downstream flooding. Newspaper articles prior to the May storm event confirm that it was widely anticipated that heavy rainfall was expected for Alabama. The first chart in Attachment 3 gives reason to believe that for the May event, APC anticipated 3 days in advance that increased inflow would be coming into Martin Lake. The minimal pre-evacuation indicated is likely an attempt to gain additional hydropower benefit, but it does support the idea that APC can plan in advance of real time lake inflow data. Attachment (4) shows the inflow and outflow hydrographs for Lake Martin as compiled from river gages in the drainage area of Lake Martin and APC outflow data from the dam. Flood stage at the Milstead Gage is at a gage height of 40 feet and a gage height of 40 feet equates to a discharge of approximately 60,000 cfs. Attachment (5) provides a graphical depiction of how pre-evacuation peak discharges for floods during the time period 1 May through 15 July 2003 could have lessened damages on interests

downstream of Martin Dam. In fact, if such a plan of 3-day pre-evacuation had been implemented with a continuous outflow of 40,000 cfs, all flooding damages to the farmers during this period would have been averted.

A review and analysis of rainfall gage data was accomplished as a part of this evaluation. The results (see Attachment (6)) indicate that the highest volume 24-hour interval rainfall accumulations that occurred during May 2003 averaged to be a 4-year return interval storm and the highest volume 24-hour interval rainfall accumulations that occurred during July 2003 averaged to be a 2-year return interval storm. These are not catastrophic type rainfall events. It is not unfair to expect that for such storm events that reasonable flood control measures could eliminate downstream flooding.

The present operation of Martin Dam appears to be structured to maximize power generation. This is understandable from the standpoint of APC because that is their principle reason for being. However, they should not and perhaps to some extent do not operate in isolation from their surroundings. During the FERC License renewal process in the 1970's, numerous complaints related to lake fluctuations were filed by various groups and organizations. APC apparently modified their lake level operations for the summer months to accommodate the complaining parties even though this change may have limited their flexibility and ability to accommodate a wider variety of power generation and/or flood control needs.

As stated previously, there is wording provided in the Licenses for the Martin Project (FERC Project No. 349,) as well as Thurlow, Yates and Harris Projects which state that Alabama Power Company has a flood control responsibility at these dams. As related to Martin, the "ORDER ISSUING NEW LICENSE (MAJOR)" issued May 11, 1978, states in part:

- "The reservoir has sufficient storage capacity to provide seasonal and annual stream-flow regulation, and limited flood control when the reservoir is in a drawdown condition." (page 5)
- "Normally, the reservoir reaches full pond elevation in the month of May, and a reservoir elevation above 487 feet is maintained until after the first of September. The applicant states in its application that it will continue to limit normal seasonal drawdown in the reservoir level to that consistent with power operation, recreation, low flow augmentation, and flood-control requirements." (page 5)
- "Article 35 requires, inter alia, the Applicant to operate its plants on the Tallapoosa River in the interests of flood control." (page 5)
- "During flood periods, Applicant has stated that it will continue to coordinate its operation of the project with the U.S. Corps of Engineers' downstream dams and its own projects. Exhibit H of the application sets forth the procedures to be followed during the flood periods." (page 6)

This is a minimal discussion about flood control and the wording is rather general, but it clearly charges APC with flood control responsibilities at Martin

Dam. Considering the non-specificity of these statements, the action taken by APC might vary widely. It is not believed that the flood control provisions of the Martin License limit APC from implementing reasonable management practices that would reduce downstream flooding.

Exhibit H (Revised) to the ORDER ISSUING NEW LICENSE is a "STATEMENT OF PROPOSED OPERATION OF THE PROJECT WORKS" dated January 12, 1973. It provides more detail on water releases and lake level reporting related to electric power generation and flood control. For ease of reference, the discussion on "RESERVOIR OPERATIONS FOR FLOOD CONTROL" is repeated here:

"When the inflow to and outflows from the reservoir cause the reservoir elevation to exceed the Flood Control Guideline shown on the reservoir operating curve (Exhibit I-I, Figure 1) the plant will be operated in the following manner:

1. When the reservoir is above the Flood Control Guideline and between elevations 480 and 485, turbines at Martin Dam will be operated to provide for a continuous outflow from Thurlow Dam of at least the equivalent of the hydraulic capacity of the turbines at Yates Dam, approximately 9600 cfs.
2. When the reservoir is above the Flood Control Guideline and between elevations 485 and 488, turbines at Martin Dam will be operated to provide for a continuous outflow from Thurlow Dam of at least the plant capacity at that dam of approximately 11,000 cfs.
3. When the reservoir is above the Flood Control Guideline and above elevation 488, turbines at Martin Dam will be operated as in 2. above and further, if required to avoid rising above elevation 490, will be operated to provide an outflow from Martin reservoir at least equivalent to all turbine units available operating at full gate.
4. When the reservoir reaches elevation 490 and continues to rise, turbines will operate at full gate, and if considered necessary, gates will be raised so that total discharge from Martin does not exceed 0.9 of the calculated reservoir inflow or 50,000 cfs, whichever is less, Gate opening reached in the above surcharge routing above elevation 490 will be maintained until the reservoir recedes to 490.
5. If while routing under 4. above the reservoir reaches elevation 490.5, spillway discharge will be increased as necessary up to full spillway capacity to prevent the reservoir from rising above elevation 490.6. At elevation 490.6, the spillway will have a discharge capacity of approximately 145,000 cfs.

During flood periods, communications will be maintained with the Weather Bureau's River Forecast Center, Atlanta, Georgia, and the Corps of Engineers, and if greater flood control benefits can be attained through increased coordination of operations at Tallapoosa and Coosa River dams, and increased coordination with the Corps of Engineers' downstream Alabama River dams than would be attained through use of the above flood control procedures, then these procedures will be modified as mutually agreed to verbally by the Corps of Engineers and Alabama Power Company."

These paragraphs demonstrate a clear intent to practice flood control on a year round basis. Paragraph 4. demonstrates a clear intent to control downstream flooding by limiting the discharge to "0.9 of the calculated reservoir inflow or 50,000 cfs, whichever is less." The 50,000 cfs limit provides a reasonable margin of safety below the flood stage of 40 feet (60,000 cfs) at the Milstead Gage. Paragraph 5. address the situation if flood routing described in paragraph 4. does not accomplish the desired flood control goal and the pool rises above elevation 490.5. In this case where the pool reaches elevation 490.5 and continues to rise, spillway gates are further opened to hold the pool steady up to the condition of all spillway gates open. What happened on the May and July 2003 floods was that spillway gates were opened beyond the 50,000 cfs limit in an effort to hold the pool at or below elevation 490.

By letter of November 16, 1978, APC offered further revision to Exhibit H. The November 16, 1978, letter actually indicates a revision to Exhibit H of February 16, 1973, which has not been reviewed by the undersigned. Since the dates are so close, it is assumed that the February 16, 1973 Exhibit H and the Exhibit H quoted above dated January 12, 1973, are the same document. The November 16, 1978 letter states in part that "This letter is to inform you of certain changes in the proposed operation of the Martin Project which we are implementing in order to more accurately reflect the current operation practices."

There is no explanation as to why, but the essence of the change is described as follows: "Our changes in the flood control operations would provide flood control at elevations below 490.0 while limiting the reservoir rise to elevation 490.0 to the extent possible with spillway capacity."

Specific wording changes to operating procedures of the previous Exhibit H are described as follows:

"To reflect this change, the description contained on pages 4 and 5 of Revised Exhibit H should be modified as follows:

Delete steps 3, 4, and 5. In place, substitute the following step 3:

When the reservoir is above the Flood Control Guideline and above elevation 488, turbines at Martin Dam will be operated as in 2 above and further, if required to avoid rising above elevation 490.0, will be operated to provide an outflow from Martin Reservoir at least equivalent to all turbine units available operating at full gate and gates will be raised so that the reservoir will not exceed elevation 490.0 except after all gates are raised and inflow exceeds the gate capacity. At elevation 490.0 the spillway will have a discharge capacity of 133,000 cfs."

The change in operating procedures implemented by this letter in conjunction with efforts to hold a more constant summer pool for various groups and organizations upstream of the dam, appear to essentially eliminate downstream flood control in the summer months.

Copies of Exhibit H (Revised) dated January 12, 1973 and the APC letter of November 16, 1978 further revising Exhibit H are included in Attachment 7 for comprehensive examination.

**OPINIONS / SUMMARY COMMENTS:**

There appear to be several items of interest in the context of flood control downstream of Martin, Yates, and Thurlow Dams:

**General:**

- There is wording contained in the FERC License that states that APC has a flood control responsibility in the operation of these sites to include Martin Dam.
- APC through management decisions has not incorporated dedicated flood control storage in the Martin project. They have focused on maximizing power generation within the available storage subject to overriding conditions for maintaining minimum flows in the interest of environmental concerns and navigation downstream of the projects and for maintaining a constant summer pool in the interest of recreation in the Martin Lake.
- The Harris Project has provisions for operation of the project via input from a data collection network that will allow as much as a 6-day lead time on project operation planning. Since Harris and Martin do not operate in a vacuum of each other and the data collection network includes the Martin Drainage Area as well as the Harris Drainage Area, it is implied that the operation of Martin also has an inherent lead time.

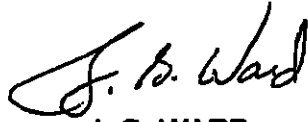
**Specific to the May and July 2003 Floods:**

- Rainfall analysis indicated that rainfall events that occurred in May and July 2003 were not catastrophic events. Even so, flooding occurred downstream of Martin, Yates, & Thurlow Dams.
- Analysis indicates that implementation of a reservoir 3-day pre-evacuation plan could have eliminated flooding downstream of Martin, Yates, & Thurlow Dams.

It appears that APC operates in such a way as to maximize power generation in conjunction with holding a relatively steady summer pool on Martin Lake in support of real estate and recreational interests. Additionally, even though flood control is specifically addressed in the FERC License for Martin, downstream flood control appears to take a position of minimal importance in the operation of the Martin project.

**There are two apparent possibilities to provide reasonable flood control at Martin Dam:**

- **Option 1:** Operate to pre-evacuate the pool in the face of weather reports of impending heavy rainfall events.
- **Option 2:** Get serious about flood control as a project purpose and operate with dedicated flood control storage on a year round basis.

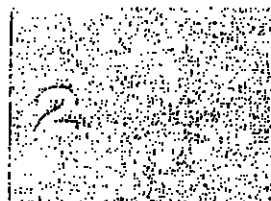


**J. G. WARD  
Professional Engineer**

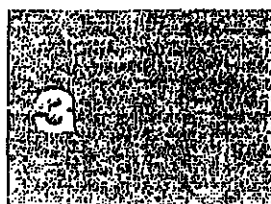
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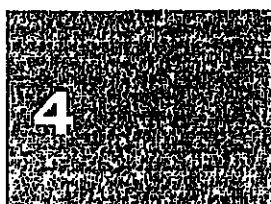
LOCATION &  
ORIENTATION MAP



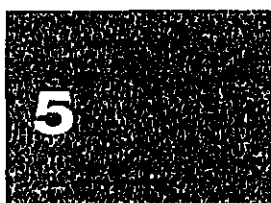
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INFORMATION  
ABOUT MARTIN



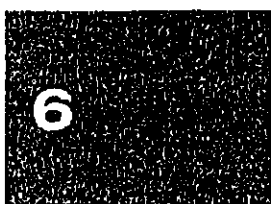
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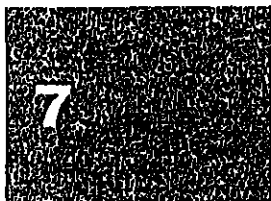
4  
INFLOW - OUTFLOW  
HYDROGRAPHS FOR  
MARTIN



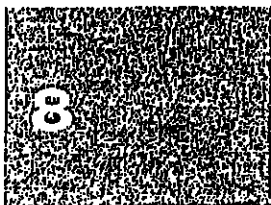
5  
DISCHARGE  
HYDROGRAPH  
RELEASE PATTERNS



6  
RAINFALL  
FREQUENCY  
ANALYSIS RESULTS



7  
FERC LICENSE FOR  
MARTIN DAM -  
EXHIBIT H



8

Document Content(s)

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