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Cc: Akridge, R. M.; Allison, Eugene B., Jr.; Jackson, Viki R.; 'Kelly Schaeffer'
Subject: Martin Relicensing - Distribution of Draft MIG 2 (Water Quality and Quantity) Study Plans
Attachments: 1 Water Quality - Adaptive Management Study Plan (DRAFT 11-16-07).doc; 2 NPDES Permits Study Plan (DRAFT 11-16-07).doc; 3 Erosion and Sedimentation Study Plan (DRAFT 11-16-07).doc; 4 Water Quantity Study Plan (DRAFT 11-16-07).doc; ILP study_criteria.pdf

MIG 2 Members,

At the September 2007 Martin Issue Group (MIG) meetings in Alexander City, we discussed the MIG sheets and provided a summary of the study plans that Alabama Power has developed in consultation with the state and federal resource agencies to address the effects of the Martin Project on the environmental resources. The notes from those meetings and the PowerPoint presentations are available on the Martin Relicensing website at <http://www.alabamapower.com/hydro/martin.asp>. We indicated that the draft study plans were undergoing further revisions and would soon be available for review and discussion by the applicable MIGs.

Accordingly, attached herewith for your review and comment are the following 4 draft study plans associated with MIG 2, Water Quality and Quantity. These are the plans Alabama Power is proposing to implement upon FERC approval. As discussed during the September meetings, the study plans will be submitted to FERC in June 2008, and should be approved by FERC and ready for implementation in early 2009. Please review these draft plans and provide any comments/edits you may have to me on or before **December 14, 2007**. (The documents are in Microsoft Word and can be edited easily using track changes.) To facilitate your review, also attached is a copy of FERC's Study Criteria that must be followed in the Integrated Licensing Process.

MIG 2 - Water Quality and Quantity Draft Study Plans

1. Lake Martin Adaptive Management Water Quality
2. Location of NPDES Permits on Lake Martin
3. Erosion and Sedimentation
4. Water Quantity, Water Use, and Water Withdrawals

You may also be aware that on October 23, 2007, Alabama Power filed a request with FERC for approval of a drought-based temporary variance of the Martin rule curve. FERC is currently reviewing our request, and we sincerely appreciate the letters and emails of support that were filed by homeowners and the

state and federal resource agencies. We anticipate receiving a favorable ruling from FERC by the end of next week.

Our next meeting of the MIGs will occur in early February 2008 at the Betty Carol Graham Center in Alexander City. We will focus primarily on the comments received on the draft study plans for each MIG. Once an exact date in February is selected, we will notify you by email and also post the date on our website. As always, if you cannot attend meetings, notes and meeting materials will be posted to the Martin Relicensing website within two weeks following the meeting.

If you have any questions, please send me an email or give me a call at 205-257-4265. We look forward to your continued participation in the Martin relicensing effort. Have a safe and joyous holiday season!



1 Water Quality - Adaptive Ma...



2 NPDES Permits Study Plan (D...



3 Erosion and Sedimentation S...



4 Water Quantity Study Plan (...



ILP ly_criteria.pdf (83 K)

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Study Plan 1 - Lake Martin Adaptive Management Water Quality

1.0 GOALS AND OBJECTIVES OF STUDY

The Alabama Department of Environmental Management (ADEM), Alabama Department of Conservation and Natural Resources (ADCNR), and the U.S. Fish and Wildlife Service (USFWS) have commented that the Martin Project should be managed as to meet State Water Quality Standards in the lake and in the tailrace. Information should be collected to evaluate any proposed changes to the rule curve and to address 303(d) list concerns. The goal for this study is to prepare an adequate baseline of water quality information for Lake Martin and the project tailrace and to develop an “adaptive management” monitoring plan to sufficiently evaluate any project operation changes that will be made to the project as a result of relicensing.

2.0 RELEVANT RESOURCE MANAGEMENT GOALS

ADEM is vested with the authority to award a 401 water quality certificate to the project, which will be incorporated into the new Federal Energy Regulatory Commission (FERC) operating license for the Martin Project. ADEM’s goal is for the Martin Project to meet all state water quality standards. The USFWS and ADCNR have similar goals in that they want to reduce or eliminate any project related water quality impacts to aquatic resources associated with the Martin Project. Both of these goals are relevant in protecting the public resources associated with the Martin Project.

3.0 BACKGROUND AND EXISTING INFORMATION

A fairly extensive body of water quality data exists for the Martin Hydroelectric Project. These data have been collected primarily by the Alabama Power Company (APC) and ADEM over the past years. Much of these data are summarized in the APC Water Quality Report (2005), ADEM 305(b) Report (2004), and the APC Preliminary Information Document (2006).

4.0 PROJECT NEXUS

Although water quality is influenced greatly by point and non-point pollution, annual hydrology, and weather patterns, it is also related to the presence of the project and project operation. There are some variables that APC manages which may influence the water quality of the Martin Project. One of those variables is the operation rule curve and potential changes to that curve.

5.0 STUDY AREA AND STUDY SITES

The study area includes all of the waters located within the Martin Project boundary and the tailrace of the project. Specific study sites will align closely with the historical data sites so that deviations in long-term trends can be discerned. As appropriate, additional sites will be added to be consistent with generally accepted water quality sampling principles and practices.

6.0 PROPOSED METHODOLOGY

ADEM, ADCNR, USFWS, and APC recommend that we use an Adaptive Management Plan (AMP) approach to address this issue. It is difficult to develop water quality models that will predict with some level of certainty the exact water quality changes that will be associated with a change in the current operation rule curve. Therefore, an AMP approach that develops an adequate baseline of water quality data and measures and monitors any changes in that baseline with an adjustment in rule curve is the best approach to resolve this issue.

ADEM has agreed to develop the types of data and frequency of data collection that will be needed for this AMP approach. APC will work with the agencies and MIG 2 to place these data requests into a “Martin Water Quality – AMP” that will become part of the license application for the Martin Project.

6.1 Data Collection Techniques & Data Analysis

To be developed with ADEM and with the MIG 2.

7.0 CONSISTENCY WITH GENERALLY ACCEPTED SCIENTIFIC PRACTICE

This study will employ generally accepted practices for evaluating water quality at hydroelectric projects. The study methodology will be consistent with generally accepted water quality sampling principles and practices. The AMP will provide checkpoints and criteria for decision making during the evaluation period.

8.0 PRODUCTS

Data and analyses from this study will be included in periodic reports to the agencies and the MIG 2. A final AMP will be provided as part of the draft license application and will include raw data in tabular form, maps of sample sites, a schedule of future evaluations, and checkpoints and criteria for evaluation of the changes in water quality associated with changes to the project rule curve.

9.0 SCHEDULE

Identify Baseline Data Needs	January – May 2008
Collect Additional Baseline Data	June 2008 – September 2009
Develop AMP	October 2009 – February 2010
Finalize AMP	March – August 2010
Final Report	October 2010

10.0 LEVEL OF EFFORT AND COST

The cost to develop the AMP will be approximately \$75,000.

REFERENCES

Alabama Department of Environmental Management. 2004. Alabama's Integrated Water Quality and Assessment Report 305(b) Report.

Alabama Power Company. 2006. Water Quality Data for the Martin Hydroelectric Project. Environmental Compliance.

Alabama Power Company. 2006. Preliminary Information Document – Water Quality Section.
CH2MHILL. 2005. Tallapoosa River Basin Management Plan. The Clean Watershed Partnership - March 2005.

Study Plan 2 - Location of NPDES Permits on Lake Martin

1.0 GOALS AND OBJECTIVES OF STUDY

The consulting agencies identified the following issues: declining water quality of Lake Martin, Calpine Power Plant impacts to Hillabee Creek, NPDES permits from Alexander City and the impact to Wind Creek and Lake Martin water quality, and an assessment of all NPDES permits that discharge into Lake Martin.

The purpose of this study is to develop a list of all NPDES permits on Lake Martin and identify their location. Once the permit list is compiled, the amount, and type of effluent for each discharger will be determined and added to a Geographic Information System (GIS) overlay for use during the Martin relicensing.

2.0 RELEVANT RESOURCE MANAGEMENT GOALS

The Alabama Department of Environmental Management (ADEM) is responsible for maintaining high water quality levels on Lake Martin. This is an integral aspect of Lake Martin's success as a recreation, drinking water, fish and wildlife, and economic resource.

3.0 BACKGROUND AND EXISTING INFORMATION

In order to maintain high water quality, Federal and State laws regulate pollution from both point and non-point sources. Point sources are distinct conveyances. Examples include pipes and man-made ditches as well as discharges from municipal, industrial, and other facilities. Point source pollution sites within the Lake Martin reservoir are regulated through the National Point Discharge Elimination System (NPDES) managed by the ADEM and the United States Environmental Protection Agency (USEPA). NPDES permits include provisions such as limits on types of discharge, monitoring, and reporting requirements. An NPDES permit will usually indicate an acceptable pollutant parameter and the permittee may choose the best method to achieve these levels. The permits are issued for a five year term and may be renewed or administratively extended. The application process for the NPDES permits require that the public be notified and allowed to comment on NPDES permit application. The ADEM NPDES application requires information such as the purpose of the application, previous permit numbers, previous violations, business activity, and waste storage and disposal.

Non-point source pollution is caused by precipitation moving across the ground and carrying pollutants such as pesticides and fertilizers with it. Several agencies including the Clean Water Partnership (CWP), the Soil Water Conservation Committee (SWCC), the Natural Resource Conservation Service (NRCS), and the Alabama Department of Public Health (ADPH) are concerned about monitoring discharges into Lake Martin and they will be working together along with the Alabama Power Company (APC) to determine the origin of non-point source pollution on the lake.

4.0 PROJECT NEXUS

There are both point and non-point sources of pollution that have direct and indirect impacts to Lake Martin.

5.0 STUDY AREA AND STUDY SITES

The study area will encompass Lake Martin, APC-owned lands within the Project Boundary, and significant point sources on specific tributaries as they pertain to point source discharges.

6.0 PROPOSED METHODOLOGY

The identification of NPDES permits on Lake Martin will be accomplished through the use of secondary data sources.

6.1 Data Collection Techniques

Existing information will be used to facilitate data collection for this study. First, a request for up-to-date NPDES data from the ADEM will be made.

Other reports will be consulted during the collection of known discharge locations. Other literature will be gathered and reviewed on an as needed basis.

Once a list of NPDES permit locations is complete and other existing literature has been reviewed, a draft report will be issued to Martin Issue Group (MIG) 2 for their input. Comments received from MIG2 will be incorporated into a final report.

6.2 Data Analysis

Other than a literature review, there will be no data analysis associated with this study. The GIS overlays may be compared with areas of Lake Martin experiencing water quality problems to better understand the impacts of discharges.

7.0 CONSISTENCY WITH GENERALLY ACCEPTED SCIENTIFIC PRACTICE

The planned study methods discussed above are consistent with the methods followed in the Coosa and Warrior relicensing projects and have been accepted by the federal and state agencies and other interested stakeholders in those projects.

8.0 PRODUCTS

A draft report will be distributed to the MIG 2 for review and comment within 6 to 8 months of completion of the point source data collection. Analysis of the point source data will be used to determine the necessity of non-point source pollution data. A final report will be provided as part of the draft license application that will include raw data, GIS overlays, and training guidelines for non-point source pollution detection.

9.0 SCHEDULE

Draft Report	July 2009
MIG-2 Review	September 2009
Final Report	January 2010

10.0 LEVEL OF EFFORT AND COST

APC estimates the cost of consulting of developing the study plan, collecting and reviewing existing information, and reporting is approximately \$50,000.

11.0 REFERENCES

Alabama Department of Environmental Management – National Pollution Discharge Elimination System <http://www.adem.state.al.us/WaterDivision/WaterDivisionPP.htm> accessed on 11-07-07.

Study Plan 3 - Erosion and Sedimentation

1.0 GOALS AND OBJECTIVES OF STUDY

The consulting agencies identified shoreline erosion and sedimentation in areas of Lake Martin as two issues that they are concerned about. They would like Alabama Power Company (APC) to collect additional information on erosion areas within the lake or tailrace that are related to project operation and to collect information on the amount of sedimentation that is occurring in the upper portion of the of the lake near Irwin Shoals and in the mouths of tributaries of Lake Martin. Additionally, the agencies would like to understand if nuisance aquatic vegetation is becoming a problem in these areas of sedimentation.

2.0 RELEVANT RESOURCE MANAGEMENT GOALS

The consulting agencies regulate recreational fishing and water quality resources on Lake Martin. As part of that responsibility, they would like to limit project related shoreline erosion and its impacts on water quality; to identify areas of increased sedimentation and associated nuisance aquatic vegetation; and to identify ways to reduce adverse impacts related to project operation on these issues.

3.0 BACKGROUND AND EXISTING INFORMATION

Project operations related to lake level fluctuations can result in areas of the shoreline that exhibit erosion within the lakebed. However, much of the erosion that occurs around the lake is a result of construction and development adjacent to the Martin project boundary. APC currently employs several contractors for Lake Martin. These employees typically inspect new development sites and note any excessive amounts of shoreline erosion occurring as a result of land development. These contractors are also aware of “hotspot” erosion sites on the lake below the full pool elevation. APC also has an Aquatic Vegetation control group that periodically inspects Lake Martin for nuisance aquatic vegetation and treats infested areas accordingly. These sites often occur in areas where excessive sedimentation has accumulated. With regard to sediment accumulation amounts and rates, there are no known sources that can describe this aspect of the issue.

4.0 PROJECT NEXUS

Erosion “hotspot” sites can periodically occur along the lake shoreline related to project lake level fluctuation or the immediate tailrace below the project dam as a result of peaking flows.

5.0 STUDY AREA AND STUDY SITES

Erosion “hotspot sites” are typically limited to the area between the full pool elevation to the lowest level of the winter drawdown on Lake Martin and the immediate Tailrace downstream of Martin Dam. The study area will be limited to these erosion “hotspot” areas. The presence or absence of nuisance aquatic vegetation will be documented.

6.0 PROPOSED METHODOLOGY

The identification of erosion hotspot areas will follow methods used during the Coosa and Warrior Erosion Hotspot Surveys.

6.1 Data Collection Techniques

Erosion “hotspot” sites will be identified on Martin Lake in the Martin Dam tailrace. Each identified site will be examined to determine the cause of erosion – project operation, land disturbance (development), and/or both causes combined. The Data sheet for this field evaluation is attached to this Study Plan.

6.2 Data Analysis

Once each erosion site has been evaluated, a draft report of the field surveys will be prepared and will be issued to Martin Issue Group (MIG) 2 for their input. Comments received from MIG-2 will be incorporated into a final report.

7.0 CONSISTENCY WITH GENERALLY ACCEPTED SCIENTIFIC PRACTICE

The planned study methods discussed above are consistent with the methods followed in the Coosa and Warrior relicensing projects and have been accepted by the federal and state agencies and other interested stakeholders in those projects.

8.0 PRODUCTS

Once this study is complete, a draft report of erosion spots on Lake Martin and Martin Dam tailrace will be distributed to the MIG 2 for review and comment. Upon review and discussion, a Final report will be filed with the Martin License Application.

9.0 SCHEDULE

Request MIG 2 input on	
locations of potential erosion spots	May 2009
Field Surveys	November 2009 - January 2010
Draft Report to MIG-2	April 2010
Final Report	December 2010

10.0 LEVEL OF EFFORT AND COST

APC estimates the cost of consulting on development of the study plan, collecting and reviewing existing information, and reporting is approximately \$75,000.

11.0 REFERENCES

Alabama Power Company (APC). 2005. Coosa/Warrior Projects: Erosion Repair and Monitoring Plan. Alabama Power Company, Birmingham, AL.

MARTIN HYDROPOWER RELICENSING
EROSION & BANK STABILITY STUDY

Water Body: _____ Date: _____

Field Personnel: _____ Photo No.: _____

1. Erosion Area Location:
ID: _____ Lat: _____ Long: _____ Time: _____

2. Potential Cause:
- Project operations (water level fluctuations)
 - Natural factor independent of operations (e.g., seasonal flooding, riverine processes, etc.)
 - Land use (e.g., farming, ranching, mining, development, etc.)
 - Anthropogenic (Foot/bike paths, vehicle traffic, waves from boats, etc.)
 - Other: _____

3. Position in Landscape:
- | | |
|---|---|
| <input type="checkbox"/> Levee/Embankment | <input type="checkbox"/> Main Channel/Main Body of Lake |
| <input type="checkbox"/> Steep bank | <input type="checkbox"/> Cove |
| <input type="checkbox"/> Floodplain Terrace | <input type="checkbox"/> Other: _____ |

4. Physical Properties:
- | | |
|---------------|---|
| Length: _____ | Slope: <input type="checkbox"/> Steep (> 20%) |
| Width: _____ | <input type="checkbox"/> Moderate (8% to 20%) |
| Shape: _____ | <input type="checkbox"/> Gentle (< 8%) |

5. Erosion Processes:
- Direct scour from river or tributary flows
 - Piping
 - Slumping due to scoured toe of bank
 - Gully or rill erosion from overland flows towards lake
 - Other: _____

6. Adjacent Land Use / Vegetable Cover:
- | | |
|---|---|
| <input type="checkbox"/> Agricultural | <input type="checkbox"/> Unvegetated |
| <input type="checkbox"/> Undeveloped, Grassy | <input type="checkbox"/> Early successional vegetation |
| <input type="checkbox"/> Undeveloped, Wooded | <input type="checkbox"/> Exposed roots or root undercutting |
| <input type="checkbox"/> Road Crossing/Bridge | <input type="checkbox"/> Leaning or fallen trees |
| <input type="checkbox"/> Roadway, Gravel | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> Roadway, Paved | |
| <input type="checkbox"/> Park | |
| <input type="checkbox"/> Other: _____ | |

7. Hydrologic Impact Information (Erosion area affected during or by):
- Extreme Floods
 - Above normal high water level
 - Within range of normal water level fluctuations

8. Description of Exposed Soils:

9. General Comments:

Martin Project, FERC No. 349
Draft Date: November 14, 2007

MIG 2 – Water Quality and Quantity
DRAFT Study Plans

(Provide additional comments on back of sheet)

Study Plan 4 - Water Quantity, Water Use, and Water Withdrawals

1.0 GOALS AND OBJECTIVES OF STUDY

The consulting agencies identified the following issues: the amount of water being withdrawn from Lake Martin and the correlation with population; limiting future water withdrawals, especially for municipalities; and accommodating/increasing permitted withdrawals for riparian use.

The goal of this study is to produce a white paper detailing Alabama Power Company's (APC) water withdrawal policy, current known water withdrawals from the Martin Project, ecological and navigational flow requirements in the Tallapoosa River basin, and drought contingency operations at the Martin Project.

2.0 RELEVANT RESOURCE MANAGEMENT GOALS

During the summer of 2007, Alabama experienced the worst drought in recorded history. During August 2007, nearly three-fourths of the state was classified as "exceptional," the highest drought level issued by the U.S. Drought Monitor. As a result of this drought, APC reservoirs experienced the lowest inflows in recorded history, which significantly curtailed hydroelectric generation at the Martin Project, except for the flows passed necessary to meet downstream requirements. Understanding how and why APC manages this water resource is imperative because of the impact that water scarcity may have on other resources at the Project.

3.0 BACKGROUND AND EXISTING INFORMATION

Over the last decade, there have been a growing number of new demands placed on APC's water resources. These additional demands have been for such uses as residential water supply, industrial growth, agriculture, recreational use, and environmental stewardship. Since large storage reservoirs provide a constant and reliable water supply, many water withdrawers have sought approval from APC to use its hydroelectric reservoirs as a source of water.

APC's existing policy was first developed in 1989 to manage water withdrawals and give consideration to the economic impacts of water withdrawals from its reservoirs. Consistent with Federal Energy Regulatory Commission (FERC) precedent on compensation for water withdrawals from federally-licensed hydroelectric projects, APC developed a water withdrawal policy designed to prevent APC's ratepayers from subsidizing the withdrawals from the reservoirs.

In 1993, the Alabama Legislature enacted the Alabama Water Resources Act, which created the Office of Water Resources (OWR). The OWR's primary purpose was to create a system for tracking the various uses of Alabama's waters. This system was intended to help the state develop plans and strategies for the management of its waters. The Alabama Water Resources Act also required that a declaration of beneficial use be submitted to the OWR by each public water system that regularly serves, individually or in combination with other such systems, more than 10,000 households and by each person who diverts, withdraws, or consumes more than 100,000 gallons of water a day from the waters of the state. Thus, this law requires

that a prospective withdrawer of water from an APC reservoir must file a declaration with the OWR.

In 2001, the OWR requested that APC implement measures to provide incentives to promote conservation of water resources. In response to this request, APC has implemented a process requiring applicants to demonstrate that they have initiated and obtained the necessary approvals from the OWR prior to granting permission to withdraw from APC's reservoirs.

4.0 PROJECT NEXUS

Availability of water is of utmost concern to the future operation of the Martin Project. Understanding how much water is available and the various competing interests will provide valuable information for deciding how this scarce resource is managed.

5.0 STUDY AREA AND STUDY SITES

The study area will encompass Lake Martin, APC-owned lands within the Project Boundary, and specific tributaries as they pertain to water withdrawals.

6.0 PROPOSED METHODOLOGY

The identification of water withdrawers on APC reservoirs will be accomplished through the use of secondary data sources.

6.1 Data Collection Techniques

Existing information will be used to facilitate data collection for this study. First, a request for up-to-date "Declaration of Beneficial Use" data from the OWR will be made. APC records on those withdrawals approved by the FERC will also be collected.

Other reports will be consulted during the collection of known withdrawal locations. There were a number of studies related to the Alabama-Coosa-Tallapoosa (ACT) Draft Environmental Impact Statement that will be found and reviewed (See Section 11.0). Information pertinent to APC's water withdrawal policy can also be found in the "E4-Water Quantity, Water Use and Water Withdrawals" report finalized during the Coosa/Warrior relicensing process. Other literature will be gathered and reviewed on an as needed basis.

Once a list of known withdrawal locations is complete and other existing literature has been reviewed, a draft report will be issued to Martin Issue Group (MIG) 2 for their input. Comments received from MIG-2 will be incorporated into a final report.

6.2 Data Analysis

Other than a literature review, there will be no data analysis associated with this study.

7.0 CONSISTENCY WITH GENERALLY ACCEPTED SCIENTIFIC PRACTICE

The planned study methods discussed above are consistent with the methods followed in the Coosa and Warrior relicensing projects and have been accepted by the federal and state agencies and other interested stakeholders in those projects.

8.0 PRODUCTS

Once this study is completed, a draft white paper detailing APC water withdrawal policy, current known water withdrawals from the Martin Project, ecological and navigational flow requirements in the Tallapoosa River basin, and drought contingency operations at the Martin Project will be available to the MIG 2 for review and comment. Upon review and discussion, a Final white paper will be filed with the Martin License Application.

9.0 SCHEDULE

Obtain OWR and other withdrawal data	May 2009
Report to MIG-2 for discussion	September 2009
Draft Report	February 2010
Final Report	December 2010

10.0 LEVEL OF EFFORT AND COST

APC estimates the cost of consulting on the study plan, collecting and reviewing existing information, and reporting is approximately \$50,000.

11.0 REFERENCES

Alabama Power Company (APC). 2003. Coosa/Warrior Relicensing Project: E4 – Water Quantity, Water Use and Water Withdrawals. Alabama Power Company, Birmingham, AL.

Davis, W. Y., M. T. Beezhold, E. M. Opitz, and B. Dziegielewski. June 1996. ACT-ACF Comprehensive Study Municipal and Industrial Water Use Forecasts. Planning and Management Consultants, Ltd.

Freeman, M. C., J. M. Nestler, and P. N. Johnson. 1997. Riverine Resources: Water Needs and Environmental Effects Analyses in the Alabama-Coosa-Tallapoosa and Apalachicola-Chattahoochee-Flint River Basins. Final Report to the Technical Coordinating Group of the ACT-ACF Comprehensive Study. U.S. Geological Survey, Biological Resources Division, Patuxent Wildlife Research Center, Athens, GA.

Natural Resources Conservation Service (NRCS). March 1996. ACT/ACF River Basins Comprehensive Study: Agricultural Water Demand, Appendix B: Basinwide Management Shared Vision Data. U.S. Department of Agriculture, Athens, GA.

Martin Project, FERC No. 349
Draft Date: November 14, 2007

MIG 2 – Water Quality and Quantity
DRAFT Study Plans

Planning and Management Consultants Limited. 1996. ACT-ACF Comprehensive Study, Municipal and Industrial Water Use Forecasts Final Report. Summary Report, Technical Report; and two data diskettes. Prepared for the U.S. Army Corps of Engineers, Institute for Water Resources.

U.S. Environmental Protection Agency (EPA). May 1996. BASINS CDROM version 1, 1993-1994. Office of Water/Office of Science and Technology. EPA-823-C-96-004.



Understanding the Study Criteria

Integrated Licensing Process

*Federal Energy Regulatory Commission
Office of Energy Projects*

April 6, 2005

Understanding the Study Criteria

Reaching agreement on study needs can be difficult and contentious. Historically, deferring resolution of fundamental issues about what information gathering and studies are necessary until after the license has been filed with the Commission has in some cases resulted in lengthy licensing proceedings. The Integrated Licensing Process (ILP) is designed to eliminate that problem. Working collaboratively with the hydro industry, state and federal resource agencies, tribes, and non-governmental organizations, the Commission developed seven criteria that must be addressed by parties requesting studies in the ILP. Following these criteria will help formulate a well structured and thought out request that can help focus discussions about the merits and applicability of a study to evaluate the effects of a project on environmental resources.

This document is intended to explain the study criteria and help stakeholders craft study requests (18 CFR § 5.9(b)) that will clearly identify their information needs and expectations and explain why they need the information. A clear understanding of the study criteria and adherence to these criteria in formulating study requests should facilitate the development of study plans (18 CFR § 5.11 (b)-(e)).

While the reader may wish to use the suggested structure as a template for a request, there are a number of variables that will determine whether a study or a totally different approach would be best suited to a particular project and approved by the Commission.

Study Request Criteria

As specified by CFR 18, § 5.9(b) of FERC's regulations on the ILP, any study request must:

- (1) Describe the goals and objectives of each study proposal and the information to be obtained;
- (2) If applicable, explain the relevant resource management goals of the agencies or Indian tribes with jurisdiction over the resource to be studied;
- (3) If the requester is a not resource agency, explain any relevant public interest considerations in regard to the proposed study;
- (4) Describe existing information concerning the subject of the study proposal, and the need for additional information;
- (5) Explain any nexus between project operations and effects (direct, indirect, and/or cumulative) on the resource to be studied, and how the study results would inform the development of license requirements;
- (6) Explain how any proposed study methodology (including any preferred data collection and analysis techniques, or objectively quantified information, and a schedule including appropriate filed season(s) and the duration) is consistent with generally accepted practice in the scientific community or, as appropriate, considers relevant tribal values and knowledge; and
- (7) Describe considerations of level of effort and cost, as applicable, and why any proposed alternative studies would not be sufficient to meet the stated information needs.

Study Plan Criteria

CFR 18 § 5.11 (b)-(e) specifies the following requirements for the applicant's proposed study plan. Note that these requirements closely parallel those described in § 5.9(b).

(b) The potential applicant's proposed study plan must include with respect to each proposed study:

- (1) A detailed description of the study and the methodology to be used;
- (2) A schedule for conducting the study;
- (3) Provisions for periodic progress reports, including the manner and extent to which information will be shared; and sufficient time for technical review of the analysis and results; and

- (4) If the potential applicant does not adopt a requested study, an explanation of why the request was not adopted, with reference to the criteria set forth in [5.9\(b\)](#).

(c) The potential applicant's proposed study plan must also include provisions for the initial and updated study reports and meetings provided for in [5.15](#).

(d) The applicant's proposed study plan must:

- (1) Describe the goals and objectives of each study proposal and the information to be obtained;

- (2) Address any known resource management goals of the agencies or Indian tribes with jurisdiction over the resource to be studied;

- (3) Describe existing information concerning the subject of the study proposal, and the need for additional information;

- (4) Explain any nexus between project operations and effects (direct, indirect, and/or cumulative) on the resource to be studied;

- (5) Explain how any proposed study methodology (including any preferred data collection and analysis techniques, or objectively quantified information, and a schedule including appropriate field season(s) and the duration) is consistent with generally accepted practice in the scientific community or, as appropriate, considers any known tribal interests;

- (6) Describe considerations of level of effort and cost, as applicable.

(e) The potential applicant's proposed study plan must be accompanied by a proposal for conducting a study plan meeting or meetings during the 90-day period provided for in [5.12](#) for the purpose of clarifying the potential applicant's proposed study plan and any initial information gathering or study requests, and to resolve any outstanding issues with respect to the proposed study plan. The initial study plan meeting must be held no later than 30 days after the deadline date for filing of the potential applicant's proposed study plan.

Goals and Objectives

§5.9(b)(1) Describe the goals and objectives of each study proposal and the information to be obtained;

This paragraph describes what the study is intended to accomplish, the goals and objectives of the study, and specific information to be obtained. The goals of the study should clearly relate to the need to evaluate the effects of the project on a particular resource. The objectives are the specific information needs to be gathered to allow achievement of the study goal. This section provides the context for why the study is being requested.

Relevant Resource Management Goals

§5.9(b)(2) If applicable, explain the relevant resource management goals of the agencies or Indian tribes with jurisdiction over the resource to be studied;

§5.9(b)(3) If the requester is a not resource agency, explain any relevant public interest considerations in regard to the proposed study;

This discussion should clearly establish the connection between the study request and the management goals of the requesting agency or tribe, or in the case of non-governmental agencies or others without a jurisdictional mandate or obligation, between the study and resource of interest. A statement by an agency connecting its study request to a legal, regulatory, or policy mandate is entitled to appropriate consideration. However, it is much easier to understand the relationship of an information need to a specific management goal than to broadly stated mandates established in law or regulation. Where such mandates are integral to the need for the information, the requester needs to thoroughly explain how the mandate relates to the study request and, in turn, project impacts.

Background and Existing Information

§5.9(b)(4) Describe existing information concerning the subject of the study proposal, and the need for additional information;

The purpose of this discussion is to highlight the gap in existing data, giving full consideration to what has been provided in the PAD or is known from other information sources relevant to the project. This discussion should clearly explain why the existing information is inadequate and the need for additional information.

Project Nexus

§5.9(b)(5) Explain any nexus between project operations and effects (direct, indirect, and/or cumulative) on the resource to be studied, and how the study results would inform the development of license requirements;

This discussion should clearly draw the connection between project operations and the effects (direct, indirect, and/or cumulative) on the applicable resource. Just as important, this discussion should explain how the requester will use the information to develop protection, mitigation, and enhancement measures, including those related to an agency's mandatory conditioning authority under 401 of the Clean Water Act or sections 4(e) and 18 of the Federal Power Act.

Proposed Methodology

§5.9(b)(6) Explain how any proposed study methodology (including any preferred data collection and analysis techniques, or objectively quantified information, and a schedule including appropriate field season(s) and the duration) is consistent with generally accepted practice in the scientific community or, as appropriate, considers relevant tribal values and knowledge;

Study requests should be as detailed as possible. It is important to relay to the applicant your expectations on the scope and methods so that an adequate study plan can be developed. The requester may describe the proposed methodology by outlining specific methods to be implemented (e.g. study area, study sites, data collection methods, etc.) or simply by referencing an approved and established study protocol or methodology (e.g. Henderson 1999, or Missouri State Water Quality Sampling Protocols for Lead, 1999). If providing a detailed methodology, the requester should demonstrate how the requested methodology is consistent with generally accepted practice within the scientific community or, as appropriate, considers relevant tribal values and knowledge. The requested study must be generally accepted in the context of how it is being used. For example, just because an IFIM is a generally accepted methodology for determining the relationship of flow to available habitat, it doesn't mean you would use IFIM for answering questions about fish populations.

LEVEL OF EFFORT AND COST

§5.9(b)(7) Describe considerations of level of effort and cost, as applicable, and why any proposed alternative studies would not be sufficient to meet the stated information needs.

This section should describe your expectations of the level of effort and costs associated with the development and implementation of the requested study. This would be used to provide the applicant with a better understanding of your expectations for the completion of the study. Within this section, you should also provide a justification as to why any proposed alternative studies would not be sufficient to meet the stated information needs. Proposed alternative studies could be studies being proposed by the applicant in the PAD or those being requested by other parties.