

FEDERAL ENERGY REGULATORY COMMISSION  
WASHINGTON, DC 20426  
June 11, 2013

OFFICE OF ENERGY PROJECTS

Project No. 14446-000 – Colorado  
Peabody Trout Creek Reservoir  
Hydroelectric Project  
Peabody Trout Creek Reservoir LLC

Brian Yansen, Director of Real Estate Development  
Peabody Trout Creek Reservoir LLC  
701 Market Street  
St. Louis, MO 63101-1826

**Reference: Study Plan Determination for the Trout Creek Reservoir Hydroelectric Project**

Dear Mr. Yansen:

Pursuant to 18 C.F.R. § 5.13(c) of the Commission's regulations, this letter contains the study plan determination for the Peabody Trout Creek Reservoir Hydroelectric Project No. 14446 (Trout Creek Project). The determination is based on the study criteria set forth in section 5.9(b) of the Commission's regulations, applicable law, Commission policy and practice, and the record of information.

Background

On January 18, 2013, Peabody Trout Creek Reservoir LLC (Peabody) filed its proposed plan for 19 studies covering geology and soils, water quality, fish and other aquatic species, whirling disease, terrestrial resources, wetlands, transportation management, recreation, and cultural resources in support of its intent to license the project. On February 12, 2013, Peabody held a study plan meeting to discuss the proposed study plan.

Comments on the proposed study plan were filed by Colorado Parks & Wildlife on April 19, 2013, and the U.S. Environmental Protection Agency (EPA) on April 23, 2013. On May 17, 2013, Peabody filed its revised study plan.

### General Comments

Comments received from EPA and some comments received from Colorado Parks & Wildlife do not address study plan issues, but rather address the need for the project, concerns about the licensing process, and identification of potential mitigation measures. This determination does not address these comments, but only addresses comments on the merits of the 19 studies submitted pursuant to section 5.13 of the Commission's regulations and comments received thereon.

### Study Plan Determination

As indicated in Appendix A, all 19 of the studies included in Peabody's revised study plan are approved as filed. Comments on the revised study plan and staff recommendations are discussed in Appendix B. The studies for which no issues were raised are not discussed. Commission staff considered all study plan criteria in section 5.9 of the Commission's regulations; however, only the specific study criteria particularly relevant to the determination are referenced in Appendix B.

Pursuant to section 5.15(c)(1) of the Commission's regulations, the Initial Study Report for all studies in the approved study plan must be filed one year from the date of this letter.

Nothing in this study plan determination is intended, in any way, to limit any agency's proper exercise of its independent statutory authority to require additional studies.

If you have any questions, please contact Shana Murray at (202) 502-8333 or [shana.murray@ferc.gov](mailto:shana.murray@ferc.gov).

Sincerely,

Jeff C. Wright  
Director  
Office of Energy Projects

Enclosures: Appendix A -- Approved studies and studies not required  
Appendix B -- Staff's recommendations on proposed studies

cc: Mailing List  
Public Files

Trout Creek Project  
No. 14446-000

**APPENDIX A**  
**APPROVED STUDIES AND STUDIES NOT REQUIRED**

<b>Study No.</b>	<b>Study</b>	<b>Recommending Entity</b>	<b>Approved</b>	<b>Approved with Modifications</b>	<b>Not Required</b>
3.1	Geotechnical Investigation	Peabody	X		
3.2	Existing Channel Conditions and Sediment	Peabody	X		
3.3	Channel Morphology	Peabody	X		
3.4	Review and Analysis of the Results from Groundwater Monitoring Wells	Peabody	X		
3.5	Hydrology and Stream Flow Assessment	Peabody	X		
3.6	Hydrologic Effects and Analysis of the Proposed Trout Creek Reservoir and Related Diversions on Flows in the Yampa River	Peabody	X		
3.7	Ongoing Temperature and Dissolved Oxygen Monitoring of Trout Creek	Peabody	X		
3.8	Stream and Reservoir Water Quality Modeling	Peabody	X		
3.9	Flow/Habitat Effects Evaluation on Existing Fishery Resources in Trout Creek and the Yampa River	Peabody	X		
3.10	Fish Species and Longitudinal Habitat Utilization Study	Peabody	X		
3.11	Fish Entrainment Study	Peabody	X		
3.12	Whirling Disease Study	Peabody	X		
3.13	Noxious Weed Survey	Peabody	X		
3.14	Wildlife, Migratory Bird, and Raptor Surveys	Peabody	X		
3.15	Downstream Riparian, Wetlands, and Littoral Habitat Study	Peabody	X		
3.16	Wetland Delineation for Entire Project		X		
3.17	Transportation System Assessment	Peabody	X		
3.18	Recreation Study	Peabody	X		
3.19	Class III (Intensive Pedestrian) Cultural Resources Survey	Peabody	X		

Trout Creek Project  
No. 14446-000

## **APPENDIX B**

### **STAFF RECOMMENDATIONS ON PROPOSED AND REQUESTED STUDIES**

The following discusses Peabody's revised study plan, filed on May 17, 2013, and comments thereon, including staff's basis for recommending or not recommending modifications to the study plan.

#### **Hydrology and Streamflow Assessment (3.5)**

##### Applicant's Proposed Study

Peabody proposes to conduct a study using a hydrological model (Yampa Model) to predict pre- and post-Project stream flow conditions on Trout Creek and the Yampa River, which in turn, will be used to inform other studies and analyses on flow-dependent resources.

Peabody proposes the following specific study objectives.

- Measure and record stream flow at the existing gage on Trout Creek over the course of one year.
- Compare measured stream flow of Trout Creek with stream flow that is predicted using the Yampa Model.
- Evaluate whether the methodology used in the Yampa Model is reasonable and adjust, if necessary, the Yampa Model to more accurately predict natural flows in Trout Creek at the proposed project site.
- Revise the Yampa Model, if necessary, to incorporate changes to Trout Creek natural flow estimates.
- Simulate operations of the proposed reservoir using the Yampa Model with proposed reservoir operating rules to estimate stream flow downstream of the reservoir in Trout Creek and the Yampa River on a daily basis.
- Analyze pre- and post-Project stream flows simulated using the Yampa Model to produce monthly flow duration and monthly reservoir elevation duration curves.
- Provide predicted daily stream flows to inform other studies such as the Physical Habitat Simulation (PHABSIM) study.

Trout Creek Project  
No. 14446-000

B-2

Comments on the Study

Colorado Parks & Wildlife recommends that Peabody characterize specific stream reaches above the proposed dam site to accurately calibrate some of the proposed modeling assessments.

Discussion and Staff Recommendation

Peabody proposes to measure flows at the proposed dam site and also to use previously measured stream flow data collected along Trout Creek to characterize stream flow. The project will only affect flow downstream of the dam. Therefore, we do not see any reason to characterize flows in stream reaches above the proposed dam site. These flows will be reflected in the Trout Creek measurements at Peabody's proposed location. Monitoring flow at the proposed dam site is the appropriate location and consistent with generally accepted practices in the scientific community (section 5.9(b)(6)). We do not recommend monitoring stream flow at any other locations.