MISSOURI DEPARTMENT OF CONSERVATION

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ROBERT L. ZIEHMER, Director

October 4, 2012

Anthony Bassak
Burns & McDonnell
15950 N. Dallas Parkway, Suite 700
Dallas, Texas 75248-6630

RE: SHIPE ROAD TO KINGS RIVER 345-KV TRANSMISSION PROJECT REQUEST FOR COMMENTS PROJECT NUMBER: 69045

Dear Mr. Bassak:

The Department of Conservation (Department) has received your request for comments on the Shipe Road to Kings River 345-kV transmission project. The project will involve the construction of approximately 50 miles of new 345-kV overhead transmission lines connecting the new Shipe Road Station to a proposed Kings River Station. The project will require approximately a 150 foot wide right-of-way for the entire 50 mile length of the project. The purpose of the project is to provide additional transmission support to the area. At this point no alternatives have been selected, you are just identifying concerns/issues in broad, general area. The study area involves McDonald, Barry, and Stone counties within Missouri.

The Department is the agency responsible for fish, forest and wildlife resources in Missouri. As such, we actively participate in project review when projects might affect those resources. Our comments and recommendations are for your consideration and are offered to reduce impacts to the fish, forest and wildlife resources.

The Department has reviewed the project and has the following comments:

1. The project is within the known breeding range of the federally endangered Indiana bat (*Myotis sodalis*). Indiana bats roost in trees during the summer months so any project that involves tree clearing has the potential to negatively impact this species. American Electric Power Company (AEP) should consult with the U.S. Fish and Wildlife Service to determine measures that can be implemented to minimize or eliminate impacts to this species.

2. Fragmentation of forested habitat can be detrimental to a variety of species of wildlife that rely on large contiguous tracts of forest for survival. Linear corridor projects such as transmission lines often fragment forested habitat. Minimizing forest fragmentation should be a high priority when selecting a route for this transmission line.

3. Regardless of its exact location, the transmission line will cross numerous streams. The project should be designed so the transmission line does not cross streams at meanders, crossings should be in straight stretches of streams to minimize impacts. Also, where vegetation is cleared and ground disturbance occurs the bank should be stabilized. Department fisheries personnel will assist AEP with

bank stabilization plans upon request. When working in and around streams all Best Management Practices (BMP's) need to be implemented to protect water quality and avoid impacts to aquatic species.

4. All stream crossings should be temporary. AEP should remove all crossings and return the streambed to its preconstruction condition immediately when construction of the new transmission line is complete.

5. All wetlands should be avoided to the extent possible. Where wetlands cannot be avoided AEP should minimize impacts and develop a mitigation plan to replace lost aquatic functions. The Department would like to review AEP's wetland mitigation plan prior to implementation.

6. If herbicides will be used to control vegetation in the corridor after construction has been completed BMP's should be implemented to avoid impacts to non-target plant species and to avoid impacts to all aquatic species.

7. Areas where the topography consists of steep slopes have the potential for soil loss during line placement and land clearing. In areas where ground disturbance occurs, BMP's for erosion control should be implemented to minimize negative impacts.

8. The following public lands can be found within the study area:
   a. Stone County - Pilot Knob Conservation Area
   b. Barry County – Mark Twain National Forest, Ava/Cassville/Willow Springs Ranger District

9. Visit http://mdc.mo.gov/landwater-care/heritage-program for more information about species and communities of conservation concern within the project area. This website will provide a list of species and communities of conservation concern within each county. Once the alternatives are selected, a Natural Heritage Review Report will be provided.

The Department would like to continue to review and comment on the project as it develops and alternatives are selected.

If you have any questions about these comments and recommendations, please contact me at (573) 522-4115 ext. 3346 or by email at Alan.Leary@mdc.mo.gov or Emily Clancy at (573)-522-4115 extension 3182 or by email at Emily.Clancy@mdc.mo.gov.

Sincerely,

Alan W. Leary

ALAN W. LEARY
POLICY COORDINATOR

AWL/ck

cc: Amy Salveter (FWS), Mike Hoffmann, Nate Forbes

Introduction

The streams and rivers of Missouri support a wide and diverse community of wildlife that includes many species of mammals, birds, fishes, mussels, crayfish, and insects. The continued diversity and health of this community is dependent upon how well Missourians manage and protect this resource. While water quality is essential, maintaining a diverse array of habitat features also is essential for aquatic wildlife to persist. Since implementation of the Clean Water Act, point source pollution has been greatly reduced, but polluted and sediment-laden runoff (non-point source) from rural and urban development is still a serious problem.

There are management practices that can be implemented to prevent degradation of our streams and rivers. By adapting these best management practices we can prevent the loss of species diversity and maintain the quality of our lives as well. Preventative measures may require extra effort initially, but they provide long-term dividends by eliminating costly damage resulting from poor management practices.

Access and Staging Area Management Recommendations

Staging areas are those short- or long-term sites within a construction or development area where most equipment and materials are stored. These areas often are accessed frequently; and when fuel and oil are stored here, the potential for runoff and erosion in these areas may be high.

→ Erosion and sediment controls should be installed and maintained to prevent discharge from the site.

→ Staging areas for crew, equipment, and materials should be established well away from streams and rivers or highly erodible soils.

→ Stationary fuel and oil storage containers should remain within a staging area or another confined area to avoid accidental spills into the stream systems.

→ Excess concrete and wash water from trucks and other concrete mixing equipment should be disposed of where this material cannot enter the stream systems.

→ If temporary roadways must be built, ensure that roadways are of low gradient with sufficient roadbed and storm water runoff drains and outlets. Containment basins, silt fences, filter strips, etc. should be included for retention of storm water runoff for reducing sediment introduction into natural waterways.

→ Avoid stream crossings. If unavoidable, temporary crossings should be used. Temporary crossings should not restrict or interrupt natural stream flow. If temporary in-channel fill is necessary, culverts of sufficient size should be employed to avoid water impoundment and allow for fish passage.

Riparian Corridor Management Recommendations

The riparian corridor is the vegetation adjacent to a stream or river. This area is critical to the health and quality of the aquatic environment because of its ability to slow and reduce sediment and chemical runoff into the stream or river channel. A riparian corridor with a minimum width of 100 feet from the edge of the stream or river should be maintained along both sides of streams and rivers.

→ Limit clearing of vegetation, including both standing and downed timber, to that which is absolutely necessary for construction purposes.

→ Heavy equipment use within the riparian corridor should be restricted to minimize vegetation destruction and compaction of soils. Flagging or fencing areas that are not to be disturbed is helpful in alerting construction personnel.

→ General application of pesticides, herbicides, or fertilizers within the riparian corridor should be prohibited to avoid water contamination due to over-spray or runoff. Fertilizer use or spot application of pesticides and herbicides is acceptable if appropriate non-restricted chemicals are used.

→ Riparian areas located down slope of construction zones should be physically screened with sediment controls, such as silt fences or filter strips. Sediment controls should be monitored after rain and maintained for the duration of the project.

→ All riparian corridors disturbed by the project should be revegetated immediately following or concurrent with project implementation. Appropriate native bottomland or riparian trees, shrubs, and grasses should be planted to ensure long-term stability in areas where the soil erosion threat is not critical. Annual non-native grasses such as rye or wheat may be planted in conjunction with native species to provide short-term erosion control. Areas judged to be subject to immediate soil loss due to steep slopes or other factors causing critical erosion conditions may be planted with non-native mixtures to assure rapid establishment and erosion control.

→ Post-construction evaluation of vegetation establishment should be conducted at one month intervals for at least three months after completion of the project. Any recommended sediment controls should be inspected at these times. If determined beneficial to soil stability and not adversely impacting site function and/or aesthetics, recommended sediment controls should remain permanent.
→ All temporary erosion and sediment controls should be removed (unless removal would cause further disturbance) and properly disposed of within 30 days after final site stabilization is achieved or after temporary practices are no longer needed.

Bank and Channel Management Recommendations

The structure of a bank is an important feature of a stream or river. It defines and provides stability for the channel.
→ Bank stability will vary depending on height, slope, and soil conditions. Project engineers and hydrologists should thoroughly investigate the physical properties and hydrologic record of the proposed site before construction begins.
→ Limit clearing of vegetation, including both standing and downed timber, to that which is absolutely necessary for construction purposes.
→ Projects in which bank alteration is necessary should employ, to the highest degree possible, erosion prevention measures before actual excavation activities begin. These preventative measures should be monitored regularly and maintained for the duration of the project.
→ Use of riprap for stream bank stabilization should be limited to those areas that could experience substantial erosion before adequate vegetation becomes established. The material for the rock blanket should consist of durable stone or broken concrete that is well graded. It is preferable that 40-60 percent of the material be as large as the thickness of the blanket, with enough smaller pieces of various sizes to fill the larger voids. It should not contain more than 10 percent of earth, sand, shale, and non-durable rock. Bank stabilization materials should allow for continuous passage of fish and other aquatic species.
→ No permanent fill materials, other than design-approved structures and related bank stabilization materials, should be placed in the stream channel. Avoid channelization. Excavated materials should not be stored or stockpiled below the high bank.
→ Work should be conducted during low flow periods when possible.
→ Care should be taken to keep machinery out of the waterway as much as possible.
→ Do not alter or remove natural stream features, such as riffles and pools.
→ Large woody debris is an important habitat component of a stream and should not be removed unless absolutely necessary for construction and maintenance purposes.

Information Contacts

For further information regarding regulations for development near streams and rivers, contact:

Missouri Department of Conservation
Policy Coordination Section
P.O. Box 180
2901 W. Truman Blvd.
Jefferson City, MO 65102-0180
Telephone: 573/751-4115

Missouri Department of Natural Resources
Division of Environmental Quality
P.O. Box 176
Jefferson City, MO 65102-0176
Telephone: 573/526-3315

U.S. Army Corps of Engineers
Regulatory Branch
700 Federal Building
Kansas City, MO 64106-2896
Telephone: 816/983-3990

U.S. Environmental Protection Agency
Water, Wetlands, and Pesticides Division
901 North 5th Street
Kansas City, KS 66101
Telephone: 913/551-7307

U.S. Fish and Wildlife Service
Ecological Services Field Office
101 Park DeVille Drive, Suite A
Columbia, MO 65203
Telephone: 573-234-2132

Disclaimer

These Best Management Practices were prepared by the Missouri Department of Conservation with assistance from other state agencies, contractors, and others to provide guidance to those people who wish to voluntarily act to protect wildlife and habitat. Compliance with Best Management Practices is not required by the Missouri wildlife and forestry law nor by any regulation of the Missouri Conservation Commission. Other federal, state or local laws may affect construction practices.

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