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Testimony
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Reviving Hydroelectric Power on the Savannah River:
A Clean and Renewable Resource for Generations
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Good morning. I am Scott Hendricks with Georgia Power Company, and I am honored to share with you some comments about hydropower, a subject to which I have devoted the better part of my professional career. Before I begin discussing environmental and recreational enhancements related to hydroelectric generation, I would like to offer some information on my background and experience in this area.

My responsibilities have been focused on the environmental challenges of relicensing hydropower facilities. I was employed by Georgia Power 11 years ago, with a bachelor's degree in wildlife management and a master's degree in fisheries biology, to help the Company meet these environmental challenges. I have helped to investigate water quality, fisheries, recreational, and cultural resource issues related to 12 different hydropower dams throughout Georgia and have helped develop and implement a number of solutions for these issues. My current title is Land Resources Supervisor, under which I have responsibilities for hydropower relicensing and compliance, including reservoir shoreline management, recreation and cultural resource issues.

I do not intend to speak directly about federal hydropower facilities or their operations, and will limit my comments to my experience with Georgia Power hydropower facilities and enhancement programs. Georgia Power is a private, investor-owned electric utility that is one of the operating companies that form the Southern Company. Georgia Power operates a diverse mix of coal, natural gas, nuclear, and hydropower generation to serve over two million customers throughout the State of Georgia.

As part of this generation mix, Georgia Power operates 16 hydropower dams that are licensed by the Federal Energy Regulatory Commission. These projects can generate about 1,100 megawatts, or about 3% of Georgia Power's total generation capacity. While 3% is a small amount of the total capacity, hydro is extremely important because it can be brought on line very rapidly to satisfy peak electrical demands and help regulate the system voltage. Hydropower is a clean, efficient and inexpensive form of generation, which helps keep energy costs low for our customers.

During my service with Georgia Power, I have learned much about hydropower and its ability to co-exist with the environment. I have learned that each hydropower facility is unique, and although environmental challenges may be similar in nature, the solutions may be quite different. Perhaps most importantly, I have learned that careful consideration of the issues, a sincere desire to address those issues, and application of sound science and engineering, will usually result in an equitable balance between renewable hydroelectric generation and environmental protection. I will briefly summarize for you a few of the things we have done to help provide this balance.

When you think about the effects of hydropower operations on the environment, the primary areas that come to mind are water quality, fisheries, and recreation. One important component of water quality is dissolved oxygen, which is critical to healthy fisheries. At certain times of the year, maintaining adequate

dissolved oxygen can be problematic for some hydropower facilities. At our Lloyd Shoals Project on the Ocmulgee River in central Georgia, we addressed a low dissolved oxygen issue by constructing a reaerating weir downstream of the dam. This weir functions as an artificial waterfall. Testing and monitoring have shown significant increases in dissolved oxygen concentrations in the Ocmulgee River. Anecdotal information indicates resurgence in the shoal bass population, which is a popular sport fish, in the upper Ocmulgee River.

There are many other examples of technology or modifications that have been implemented at other hydropower projects to address water quality issues, such as aerating turbines, penstock venting systems, diffusers, and operational changes. The specific solution to a problem is usually determined based on the severity of the problem, the site specific characteristics of the hydropower facility, and the costs associated with the range of solutions that may be available.

When discussing hydropower and fisheries, you must consider both the riverine fisheries downstream of the dam, and the reservoir fisheries upstream of the dam. Hydropower often supports very different types of fisheries, such as warm water bass and catfish typical of our southeastern reservoirs, but can also create opportunities for coldwater trout fisheries downstream of hydropower projects. Of course, threatened and endangered species also present interesting challenges.

I won't spend time describing detail about the diverse nature of fishery issues we have dealt with at Georgia Power, but would like to quickly summarize some of the solutions we have implemented. This will provide the Committee a sense of the range of creative possibilities that are available to mitigate the potential effects of increasing hydroelectric generation capabilities.

At many of our hydropower projects we have installed shoreline spawning habitats for walleye, submerged thousands of discarded Christmas trees and other structures as habitat for sport fish, and modified hydropower operations to benefit riverine habitats. We have also restructured sections of rocky river bottom below dams to reduce stranding of fish during low water conditions. Some of our hydropower projects have specific flow requirements that support and enhance a variety of downstream fisheries and other resources.

We have contributed personnel and equipment to fish sampling and evaluation studies, and planted aquatic vegetation to enhance aquatic habitats in reservoirs. We have contributed funds to sport fish stocking and required installation of fish habitat as part of our shoreline permitting activities. We have produced educational brochures and materials that describe proper shoreline development practices and promote conservation. Many of these enhancements were done in cooperation and partnership with other agencies and organizations.

One particular project I would like to inform the Committee about involves the robust redhorse, an imperiled fish species known to occur only in major southeastern rivers on the Atlantic slope. Originally discovered in the late 1800s, this fish was lost to science for over 100 years. The fish was rediscovered in the Oconee River below our Sinclair Dam Project in 1991. It was believed to represent a remnant population of a species that once inhabited most southeastern rivers.

Little was known about the fish, but most involved with the issue recognized that no single company or agency was properly equipped to handle it alone. The Robust Redhorse Conservation Committee (RRCC) was formed when many cooperating state, federal, and private entities signed a memorandum of understanding. The 12 original signatories included the Georgia and South Carolina Departments of Natural Resources, U.S. Fish and Wildlife Service, U.S. Geological Survey, and U.S. Army Corps of Engineers. Private companies included Georgia Power Company, Duke Power Company and other utilities. The Georgia Wildlife Federation and the Georgia River Network are also our conservation partners for these efforts.

Since inception, the RRCC has led conservation efforts that have provided for the continued survival of this species. The RRCC has documented the fish's natural presence in other rivers, and has established new populations in rivers from which it had disappeared. The path for a new population in the Ocmulgee River was cleared when Georgia Power, Georgia Department of Natural Resources, and the U.S. Fish and Wildlife service entered into a Candidate Conservation Agreement as a collaborative effort to expedite the reintroduction of the robust redhorse into the Ocmulgee River. This was the first agreement of its kind for an aquatic species, and it is designed to expand the limited range of the robust redhorse. Hydropower operators have played a significant and critical role within this diverse group of conservation-minded partners by providing solutions and support.

The hydropower projects we operate total about 60,000 acres of reservoir surface area, which provides great recreational opportunities. Georgia Power, and other hydropower operators, support recreation by building and maintaining boat ramps, fishing piers, public parks and campgrounds, and other shoreline recreational amenities to encourage public use. Flows are often provided from Georgia Power dams to support local events such as boat races and river festivals. Each year, our North Georgia Project provides whitewater boating flows during 5 spring and fall weekends that attracts as many as 400 kayakers on any given day.

I have mentioned several non-power benefits of hydro, but have not mentioned others such as flood control, navigation, water supply or economic development. As you consider reviving and optimizing hydroelectric generation, you will encounter many environmental and recreational benefits, opportunities, and challenges. My experiences with Georgia Power have indicated that hydropower operators take their stewardship roles very seriously, and have contributed greatly toward better conservation and management of our natural resources.

Organizations such as the Edison Electric Institute, the Electric Power Research Institute, and the National Hydropower Association are supported by the hydropower industry and contribute to meaningful research, development and information exchange. The hydropower industry has partnered with the Department of Energy to develop the next generation of efficient, fish-friendly turbines and other technologies. The Tennessee Valley Authority and the U.S. Army Corps of Engineers have conducted a great deal of research at their hydropower facilities on water quality and fisheries issues. This work is part of a growing body of knowledge that is available to this Committee to help make informed choices about how hydropower production can be optimized while protecting and enhancing environmental and recreational qualities.

In closing, I would like to thank this Committee for the opportunity to share some of my experiences and thoughts about hydropower. Hydropower is a clean, renewable and reliable energy source that directly supports environmental and energy policy objectives. Optimizing the production of hydropower is a responsible and valuable endeavor.