FERC Licensing of Hydropower Projects

Broad River Basin

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South Carolina Department of Natural Resources
Hydroelectric Facilities in 2009

- FERC-licensed hydroelectric facility
- non-FERC-licensed hydroelectric facility
- Corps of Engineers hydroelectric facility
- Fall Line

Active FERC Licenses in 2022
- 22 Projects in S.C.
- 32 Facilities in S.C.
Hydropower Licensing

Federal laws

• Federal Power Act (FPA)
• Electric Consumers Protection Act
• Fish and Wildlife Coordination Act
• National Environmental Policy Act
Hydropower Licensing

FPA Section 10(a)

• Project must serve public interest, not just power interests
• FERC must consider consistency of license with comprehensive plans
• State comprehensive plans apply
  o S.C. Water Plan
  o State Wildlife Action Plan
Hydropower Licensing

FPA Section 10(j)

• License should adequately and equitably protect, mitigate damages to, and enhance fish and wildlife resources affected by the project

• States may recommend license conditions for PM&E of fish and wildlife resources
FERC Licensing Process

Public Input Opportunities

• Pre-Application Document
• Study Requests, Study Plans
• Draft License Application
• NEPA Scoping
• Ready for Environmental Analysis
• Environmental Assessment or EIS
DNR Responsibilities

Title 50 and 48 – SC Code of Laws

- Wildlife & fisheries protection
- Game, nongame, & endangered species
- Marine resources
- WMA lands & Heritage Preserves
- Hunting & fishing licenses
- Watercraft equipment & operation
- Geological survey
- Soil & water conservation
DNR Responsibilities

Title 49 – SC Code of Laws

• Water resources planning & coordination (SC Water Plan)
• Drought response planning & coordination
• Aquatic plant management
• Flood mitigation
• State scenic rivers
DNR Interest & Objectives

• Recognize the river and reservoir as important public trust resources
• Manage the project to achieve public benefits
• Maintain & enhance water quality to meet State standards
• Provide downstream flows consistent with the S.C. Water Plan
• Establish a Drought Plan or Low-inflow Protocol
Management Guidelines for Streams

Minimum Required Flows are Needed

- To protect and maintain stream health, functions and values:
  - Water Quality
  - Fish and wildlife
  - Navigation
  - Control Saltwater Intrusion

- Minimum flows should reflect seasonality and variability of streamflow, e.g. monthly average flows
DNR Interest & Objectives

• Protect & enhance fish and wildlife populations and habitats
• Protect & enhance public opportunity for outdoor recreation
• Prevent impairment of water uses by invasive, exotic aquatic plants
• Improve recreational safety at the project
• Protect cultural & historic resources
Columbia Hydroproject

- City of Columbia
- 2002 to 2042 license term
- 10.6 MW
- Run-of-River operation
- Seasonal minimum bypass flows: 900, 700, 550, and 700 cfs
- Drought protocol to reduce flows
Parr Shoals Hydroproject

- Dominion Energy South Carolina
- 2020 to 2070 license term
- 526 MW
- Parr facility: modified Run-of-River operation
- Fairfield facility: pumped-storage peaking operation
- Seasonal minimum target outflows and compliance outflows based on net inflows: 2300, 1500, and 1000 cfs
Neal Shoals Hydroproject

- Dominion Energy South Carolina
- 1996 to 2036 license term
- 4.4 MW
- Peaking operation
- Minimum flow: 730 cfs or inflow if less
Lockhart Hydroproject

- Lockhart Power Company
- 1999 to 2040 license term
- 17.1 MW
- Peaking operation
- Minimum flow: 720 cfs daily avg or inflow if less
- Seasonal flows to bypass: 385, 250, 200 cfs
Ninety-nine Islands Hydroproject

- Duke Energy Carolinas
- 1996 to 2036 license term
- 14 MW
- Peaking operation
- Seasonal minimum flow: 966, 725, and 483 cfs or inflow if less
- Drought flow: 434 cfs (?) or inflow Dec-Jun
Cherokee Falls Hydroproject

- Cherokee Falls Hydroelectric Project
- 2021 to 2061 license term
- 4.1 MW
- Run-of-River operation
- Bypass flow: 65 cfs
Gaston Shoals Hydroproject

- Northbrook Carolina Hydro
- 1996 to 2036 license term
- 8.5 MW
- Peaking operation
- Seasonal minimum flow: 868, 651, 434 cfs or inflow if less
- Bypass flow: 350 cfs Mar-May, 150 cfs
Pacolet Hydroproject

- Lockhart Power Company
- 2011 to 2052 license term
- 1.9 MW (?)
- Modified run-of-river operation with peaking no more than 75 days/year
- Bypass flow: 22 to 49 cfs
End

Boatright Shoals, Broad River