**SCOTT’S MILL HYDROPOWER PROJECT (FERC NO. 14425)**

**NOTES OF JOINT MEETING**

**HELD AT HURT & PROFFITT**

**2524 LANGHORNE ROAD, LYNCHBURG VIRGINIA**

**DECEMBER 2, 2015**

**Attendees**

Lynn Crump, Virginia Department of Conservation and Recreation

Jody Callihan, Federal Energy Regulatory Commission

Larry Jackson, APCO

Brian McGurk, Virginia Department of Environmental Quality

Justin Stauder, City of Lynchburg

Greg Poff, City of Lynchburg

Clay Simmons, City of Lynchburg

George Palmer, Virginia Department of Game and Inland Fisheries

Scott Smith, Virginia Department of Game and Inland Fisheries

Scott Lyng, Lyng and Son Lumber

Rob Campbell, James River Association

Pat Calvert, James River Association

Ben Leatherland, Hurt & Proffitt

Randy Lichtenberger, Hurt & Proffitt

Mark Fendig, Luminaire Technologies

Kim Stein, Consultant for Liberty University

Eric Thompson, Natel Energy

Luke Graham, Consultant

Wayne Dyok, Facilitator

**Site Reconnaissance**

Joint Meeting participants attended a site visit in the morning. The site visit began at the James River Canoe Boat Ramp approximately one half mile downstream from Scott’s Mill dam. Participants then drove along the north side of the river (river left) from the dam to an upstream railroad trestle crossing of the James River. The participants returned to the north side of the dam and observed the flow over the dam (i.e., approximately 10,000 cfs), the foundation of the old Scott’s Mill grist mill, the general location of the hydro project facilities, and a potential portage/boat passage site on the north side of the river. Due to safety considerations participants did not observe conditions on the south side of the river as that is an active industrial facility operated by Griffin Pipe Products[[1]](#footnote-1).

**Joint Meeting Introductions**

The agency joint meeting commenced at 1:30 pm at the office of Hurt and Proffitt. Wayne Dyok facilitated the meeting. Wayne announced that the meeting was being recorded as required by Federal Energy Regulatory Commission (FERC) regulations. He noted that a goal of the meeting was to capture issues of interest to participants. He also reviewed the agenda: project overview, presentation on Natel Energy concepts, process plan and schedule, and discussion on environmental resource issues. Wayne noted that Liberty University (LU) proposes to provide draft study plans in January and then have participants react to them rather than have participants propose studies by February 2, 2016 as required by FERC regulations. Participants then introduced themselves.

**Project Description and Operation**

Wayne provided an overview of the project and its operation based on information provided in the Pre-Application Document (PAD). The proposed project is a low head hydropower project similar to what has previously been proposed, except that LU is considering new technology and proposes to work with licensing participants to develop a fish passage plan. The capacity would be about 3.8 MW, but that capacity has not yet been firmed. Approximately 13,500 MWh of energy would be generated annually. The project would require a short transmission line about 500 feet in length.

The project would be run of river, essentially providing constant flows downstream of Scott’s Mill dam. LU is considering using flashboards at the dam and possibly raising the height of the headpond up to 3 feet. If this is done, the project would operate in coordination with the upstream Reusens Project which could then be operated in somewhat of a peaking mode. However, this is only an option to be considered at this time. Wayne commented that there is an opening between the dam and an upstream island. Water from the left side of the river could be passed through this opening to ensure that there is flow down the left side of the river.

Eric Thompson, Natel Energy, presented preliminary concepts for the powerhouse. The current thought is to place the powerhouse in the arch section of the dam towards the right side. Seven or eight turbine units are anticipated. However, the location of the powerhouse could change based upon input from interested parties.

Brian McGurk of DEQ asked what the hydraulic capacity of the powerhouse would be. This has yet to be determined, but typically run of river projects are designed to accommodate the mean flow or greater. Hence a capacity of slightly over 3,000 cfs may be a reasonable estimate[[2]](#footnote-2). As the design is refined, the hydraulic capacity will be confirmed.

Pat Calvert, James River Association, inquired whether there would be adverse impacts to the dam and asked if there would be a mitigation plan. Wayne replied that no one from the Virginia Department of Historic Resources (DHR) was able to attend today’s meeting, but LU plans to work closely with DHR to address potential impacts. LU would develop a Historic Properties Management Plan. Wayne also noted that parts of the dam are crumbling and the dam owner is working with DHR and the U.S. Army Corps of Engineers to address maintenance issues[[3]](#footnote-3).

Scott Ling, Ling and Son Lumber, asked if LU would consider placing the powerhouse on the north side of the river. Although LU would prefer a site nearer to the transmission line interconnection on the south side, it proposed to work with participants to evaluate reasonable alternatives. In a previous FERC license application, the applicant had proposed a powerhouse on the south side.

Jody Callihan, FERC, asked about the volume of sediment to be excavated for powerhouse construction. There would need to be some level of excavation and construction of a downstream cofferdam (the Scotts Mill dam could serve as the upstream cofferdam). Eric stated that the Natel units do not require a draft tube for unit submergence, and this could result in minimal excavation. However, it may be desirable to have some level of excavation to improve energy generation efficiency.

In response to a question from Jody about access, Mark Fendig, Luminaire Technologies, responded that he has an easement across the property being leased by Griffin Pipe and across the railroad tracks to obtain construction access. Mark added that the transmission line would likely be constructed underground.

Scott asked if water to the powerhouse could be drawn from the right side of the river. LU representatives responded affirmatively. The canal side may be a third option for LU to investigate for a powerhouse.

Pat asked where the power would be used. Mark replied that it would go into the grid, but Griffin Pipe has a greater demand than the power output from the project. Pat noted that a great selling point for the project would be if it could be used locally to minimize power outage disruptions, particularly at the Lynchburg Regional Sewage Treatment Plant. Wayne said it could and added that project power could be used to restart the local grid after an outage since hydro has that advantage over other generation forms.

There was a discussion on the current status of the dam. It is classified as a low hazard dam, but Luminaire Technologies is in the process of getting approvals to make repairs to the dam.

Eric next completed his presentation on Natel and the preliminary powerhouse design (see associated Joint Meeting PowerPoint presentation). Natel’s objective is to develop standardized turbine/generator designs. One of the advantages of the Natel units is that they are less expensive than traditional low head turbine units.

**Process Plan and Schedule**

Wayne next reviewed the Process Plan and Schedule. He noted that FERC had recently approved use of the Traditional Licensing Process (TLP). Further FERC designated LU as its Federal representative for Endangered Species Act (ESA) consultation and for consultation with the State Historic Preservation Officer (DHR). LU will be preparing a meeting summary within the next couple of weeks. Comments on proposed studies are due on February 2, 2016, but LU proposes to transmit draft study plans prior to that date so licensing participants can react to LU’s draft plans rather than propose studies pursuant to FERC’s guidelines. LU would also like to maximize use of its project website at [www.scottsmillhydro.com](http://www.scottsmillhydro.com) and proposes to communicate with participants using electronic media.

Pat asked about how the Scott’s Mill Project would affect Reusens Project operation. Although Reusens is currently not operating, once it is refurbished, it could operate in a coordinated fashion with Scott’s Mill. Reusens could release more water during the day filling the 316 acre head pond up to three feet above current water levels. Scott’s Mill would release water in a constant flow fashion, lowering the headpond level during the evening. This assumes that flashboards would be added. LU noted that the flashboard heights could be as high as three feet, but could be less than that.

**Resource Issues**

**Recreation** - Due to participant schedules, LU began the resources issues discussion with recreation.

Lynn Crump, Virginia Department of Conservation and Recreation (DCR), asked if LU has been in contact with the federal and state agencies responsible for threatened and endangered species (i.e., U.S. Fish and Wildlife Service and DCR Natural Heritage Program). Wayne replied that Hurt & Proffitt will be coordinating with the DCR Natural Heritage Program to get the most updated list of state threatened and endangered species. LU will work with licensing participants to ensure potential effects are addressed.

Wayne summarized the recreation needs presented in the PAD that were extracted from the State Comprehensive Outdoor Recreation Plan. LU believes that there is an opportunity for a canoe portage on the left side of the river, but wants to ensure that they do not incur liability. Lynn cited Commonwealth law that as long as LU did not charge for usage, LU would not be liable. She suggested that LU consider breaching the dam on the left side of the river and creating a flume that would avoid the need to portage. This would also minimize the likelihood of that side of the river from stagnating. The Russel Fork River in Dickenson County and the Appomattox River at Harvell were cited as examples. LU reps agreed to investigate this concept as well as a portage around the dam. Lynn added that if breaching of the left side of the river is provided, it could also facilitate fish passage at the site. Other aspects of the recreation included provision of parking facilities and making facilities Americans with Disability Act (ADA) compliant.

Lynn continued that LU should consider looking at River Road as part of the scenic byway system. Wayne responded that safety is the greatest concern in any recreation endeavor.

Pat recommended that LU consider a boat landing upstream of the dam in the vicinity of or upstream of Harris Creek. Scott Smith, Virginia Department of Game and Inland Fisheries (DGIF), echoed that there was a need for upstream boat access in the headpond.

There was some discussion of what should be included in the project area. Wayne noted that there are two schools of thought. The first is to include only the project facilities within the project boundary and the second is to include the project facilities and the headpond. Typically FERC wants to make sure a licensee has full control over the headpond, especially if it fluctuates. However, on the downside, this could constrain LU from developing their property located upstream of the dam. Pat suggested that the project boundary include the headpond. Scott Smith added that recreation improvements do not necessarily need to be within a FERC project boundary.

Lynn expressed a concern about potential pollution related to the river sediments, particularly if the dam is breached. Wayne commented that LU will be looking at decommissioning as an alternative but because there are 7 dams within a short distance, he postulated decommissioning would not be a viable option. Pollution is an issue that will be considered. Wayne offered that the silt within the impoundment is likely in equilibrium.

Lynn also suggested that LU include some interpretation signage at the mill site, as well as natural heritage interpretation and how this might relate to the James River trail.

Pat commented that he receives the FERC recreation reports for the James River projects and there are essentially no recreation facilities. He added that there is a huge opportunity for camping, hiking and biking. He hoped that LU would consider all these resources.

Rob Campbell, James River Association, said that Amherst County should be engaged on recreation access. He noted that this project could be the start of a water trail. Wayne responded that LU had been in contact with Sara Lu Christian of Amherst County, but she was unable to attend the meeting. He added that LU intends to follow up with her. Discussion ensued about bicycling along River Road, possibly including a bike lane. Lynn suggested that a simple bench would be nice for cyclists. It was also noted that there are no public areas for camping within the Lynchburg area.

**Water Resources** - Discussion next turned to water resources/water quality issues. It was noted that water rights originating from the J.R. Canal Company had been passed on to the railroad, City of Lynchburg, and Luminaire as successor to the dam. These are flowage rights wherein there is a shared percentage of the river. It was also noted that these rights have not been exercised. Brian McGurk, Virginia Department of Environmental Quality (DEQ), stated that the Commonwealth may have a different perspective on water rights. Brian said that state waters are regulated by the Commonwealth and that he was not sure what the Commonwealth’s legal position was, but that it probably differed from the idea of individual ownership rights to state waters. Pat suggested that presumption of and intent to exercise water rights by the applicant be relinquished within the proposed project area.

Brian said that LU would need to apply for a Virginia Water Protection (VWP) permit for the project and that this permit serves as the Clean Water Act Section 401 certification for the federal license. This includes protection of wetlands and fisheries among other beneficial uses. He said that DEQ would coordinate with FERC on the permit conditions. The conditions would be finalized after the VWP application is submitted to DEQ. The application would also need to be submitted to the U.S. Army Corps of Engineers and the Virginia Marine Resources Commission.

Brian asked if the flashboards are added and the headpond water level is raised, would the wetlands be affected? Ben Leatherland, Hurt & Proffitt responded that one third of the island upstream of the dam is comprised of jurisdictional wetlands, with the center portion scooped out. On the left side of the island there is a 10:1 slope. This area may be forested. Depending upon the hydrological regime these trees may be able to survive. It was agreed that the wetland effects would need to be studied as the project moves forward.

Because DEQ collects water quality data immediately downstream of Scott’s Mill, further water quality baseline data collection was deemed unnecessary. However, LU will need to assess the effects of diverting water through the powerhouse and away from the left side of the river on water quality both immediately upstream and downstream of Scott’s Mill dam. Wayne noted that LU has already flagged this as an issue and had included the issue in the PowerPoint presentation.

**Fishery Resources** – Participants next discussed fish entrainment and mortality issues. Eric commented that one of the advantages of Natel’s turbines is that there is no pressure drop across the turbine blades and that this should reduce fish entrainment injury, as a sudden pressure drop can adversely affect fish. Further turbine blade strikes which can be a cause of fish mortality should be reduced because the blades are spinning at half the speed of water, and this is much slower than with traditional turbines which spin at much greater speeds. Eric added that “computer” fish have fared well in entrainment tests to date on the Natel units. Pat stated that he would like to see real statistics on turbine entrainment and impingement before he commits to this technology. Eric responded that Natel would have specific entrainment study results by the end of 2016.

Scott Smith said that fish passage would be an important part of the fishery studies. Both migratory and resident species would need to be passed. He said that some species are already present at the dam and there is no sense in delaying passage (e.g., American eel and lamprey). Scott concurred that there may need to be triggers for other species like American shad. Wayne suggested that since there are seven dams involved, a trap and haul program may make the most sense. Scott agreed that trap and transport was likely the only way to go, but different options should also be considered. It was agreed that American eels could easily be passed upstream, but there is a problem getting them downstream. Wayne suggested that LU capitalize on the downstream passage research being conducted at other hydro projects and include a literature study on downstream passage as part of the study plan. There was general consensus on this but Scott added that nighttime shutdown should be considered. Scott recommended that adaptive management adjustments should be built into the fish passage program. There was no disagreement on this.

Scott continued that mussel surveys were lacking in the impoundment and immediately downstream. He thought there was some likelihood of a few mussel species being present including green floaters. He recommended that LU talk with Brian Watson at DGIF.

Pat said he wanted to see real data for fish species that may be present in the impoundment. The PAD shows that there is little difference in fish species from downstream of Scott’s Mill to upstream of Cushaw dam. However, no specific data on impoundment fish species was presented in the PAD. Wayne expressed concern about the cost of potential studies to identify fish species in the impoundment. A species presence/absence assessment would not be a costly study but the cost for distribution and abundance studies could be significant because the studies would need to consider different habitat types, seasonality, life stages, potentially year to year variability, and possibly require different sampling gear types. Wayne showed a slide of the criteria FERC uses to justify studies, the last criterion of which is cost. Wayne also said that the participants should consider how the fish species data would be used in decision-making. It was agreed that LU would work with DGIF to determine what existing species data was available for the impoundment and what would be required to satisfy study needs.

Scott further requested that LU assess how fish habitat would change with flow changes from one side of the river to the other and the associated water quality effects. He also asked that effects on fish habitat on either side of the river downstream of Scott’s Mill dam be evaluated. It was agreed that bathymetry both upstream and downstream of the dam would likely be needed for this assessment. Brian specifically noted that LU should assess effects that may occur during drought conditions.

**Wildlife Resources** – Although there is not a significant amount of wildlife habitat associated with the project, participants requested that the effects of water level changes from flashboard installation on furbearers, herps and other fauna be assessed.

Scott said that LU should contact Rick Reynolds, DGIF’s bat expert, to determine what studies may be needed to assess the effects on bats, particularly if there might be a loss of trees from water level changes.

**Other Issues** - No specific land use or socio-economic issues were raised. Wetland issues were covered under water resources. Cultural resource issues were partially discussed under recreation, but LU emphasized that they would be working closely with DHR and other interested parties including the Canal Society and Indian tribes to fully address these issues.

**Public Session** – There were no attendees to the evening public session except for FERC and LU representatives. No additional issues were identified.

1. Participants were shown aerial photographs of the north side of the river during the afternoon meeting. [↑](#footnote-ref-1)
2. With a 17 foot head and 80 percent turbine efficiency, a 3.8 MW project equates to a powerhouse flow of 3,300 cfs. [↑](#footnote-ref-2)
3. Applicant and DHR discussed cultural resources issues on December 16, 2015. Notes from this discussion can be found on the project website at [www.scottsmillhydro.com](http://www.scottsmillhydro.com). [↑](#footnote-ref-3)