UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Before Commissioners: Pat Wood, III, Chairman;
Nora Mead Brownell, Joseph T. Kelliher,
and Suedeen G. Kelly.

Appalachian Power Company Project No. 2210-088

ORDER MODIFYING AND APPROVING NON-PROJECT USE OF PROJECT LANDS AND WATERS

(Issued June 22, 2004)

1. On March 5, 2003, Appalachian Power Company (Appalachian Power), licensee for the Smith Mountain Pumped Storage Project No. 2210, filed an application requesting Commission approval to permit Grand Harbour LTD (Grand Harbour) to install and operate on project lands and waters 30 boat slips and three floating docks. The Smith Mountain Project is located on the Roanoke and Blackwater Rivers in Bedford, Campbell, Pittsylvania, Franklin, and Roanoke Counties, Virginia. This order approves Appalachian Power's request with certain modifications.

I. Background

2. Smith Mountain Lake is a man-made lake located on the Roanoke and Blackwater Rivers in west-central Virginia, about 30 miles southwest of Lynchburg, Virginia. The facilities proposed by Grand Harbour would be located on the Smith Mountain reservoir, which has a contour elevation of 795-foot mean sea level (msl), a surface area of 20,600 acres, and 500 miles of shoreline. The project boundary extends to the 800-foot contour line msl. Smith Mountain Lake is a major recreation resource in Virginia. The annual recreational visitation rate is approximately 1.4 million visits. Recreational activities include boating, fishing, swimming, picnicking, and camping.

II. Proposed Docks

3. Appalachian Power proposes to authorize Grand Harbour to construct and operate three stationary boat docks with a total of ten covered boat slips and one floating dock each. The proposed docks would total 30 boat slips and three floating docks. The three docks would extend 96, 104, and 108 feet from the shoreline. The proposed docks would be located perpendicular to the shoreline about halfway down Indian Creek cove. The cove is about 8,200 feet long and 600 feet wide at its entrance to Smith Mountain Lake, and about 75 feet deep at its deepest point. The cove is 430 feet wide at the point

where the proposed docks would be located. All proposed work would take place within the boundary of the Smith Mountain Project. Construction of the docks would take place in conjunction with construction of 30 detached single family dwellings outside the project boundary. No dredging is planned as part of this proposal.

4. Appalachian Power and Grand Harbour consulted with the Virginia Department of Environmental Quality (Virginia DEQ), the Virginia Department of Conservation and Recreation (Virginia DCR), the Virginia Department of Health (Virginia Health), the Virginia Department of Game and Inland Fisheries (Virginia Fisheries), the Virginia Department of Historic Resources, and local governments.

5. Virginia DEQ is concerned about the potential for long-term water quality problems. Virginia DCR stated that it does not anticipate adverse impacts on listed or proposed for listing natural heritage resources, on existing or planned recreational facilities, or on any streams on the National Park Service's Nationwide Inventory of potential Scenic Rivers, or on designated or potential State Scenic Byways. It also stated that no impacts on any documented state-listed plants or insects are expected from the planned activities. Virginia Health requested that onsite sewage pump-out and dump stations be provided.

6. Virginia Fisheries stated that the pier structures appear to be consistent with other shoreline structures located upstream on Indian Creek and should therefore present no undue hazard to navigation. However, it recommends that white lights be installed at the end of each pier showing an unobstructed light with minimum visibility distance of 250 feet to increase visibility. In addition, Virginia Fisheries recommends that 100 square inches of white retro-reflective tape be applied at least every 20 feet for the length of the piers.

7. In response to the public notice issued on May 1, 2003, the Commission received, mainly from local residents, numerous interventions, comments, and protests, all of which are addressed in the Environmental Assessment (EA) attached to this order. Generally, the commenters' main concern is that the docks will be located in an already congested area on a blind curve that is too narrow and too shallow for boat docks that will extend 108 feet into the water.

III. Discussion

8. We have reviewed the application in this proceeding under the Federal Power Act's comprehensive development/public interest standard, as informed by the public and agency comments on the proposed non-project use, and the EA. The Commission finds that, as proposed, the construction of the docks would have an unacceptable adverse impact on the boating use and navigational safety of the immediate area.

9. As stated, the proposed facility includes three docks that would extend 96, 104, and 108 feet from the shoreline into Indian Creek cove. The docks would be located near an "S" curve in a narrow portion of Indian Creek cove that is approximately 400 feet wide. There is a large sand bar on the opposite shore that reduces the availability of open water to maneuver through the "S" curve due to a lack of safe water depths. The "S" curve also limits the line of sight coming into the curve.

10. There are 29 boat docks with 80 slips within a 1,500-foot radius of the proposed facility that are used by permanent residents and visitors. There is a marina close by that rents personal watercrafts. The addition of 30 new slips will increase the number of available slips in the area by 38 percent. Because of the "S" curve and the relatively narrow opening of the cove at this point, the proposed placement of the docks would reduce the current use of the affected portion of the cove by pleasure boaters, jet skiers, water skiers, and tubers and would leave little room for oncoming boats to maneuver.

11. To minimize potential adverse impacts to navigation and recreation of the proposed facility, Grand Harbour must modify its proposal. The 108-foot dock should be shortened to 84 feet and the 104-foot dock to 92 feet. Although this will eliminate six slips, the shortening of these two docks will reduce the adverse navigational, visual, and other environmental impacts of the proposed facility. Specifically, this change will: (1) reduce the docks' intrusion into Indian Creek; (2) make the docks more compatible with existing boat-traffic patterns, thereby lessening navigational hazards; (3) make the boat docks less of a recreational obstruction for recreation uses; and (4) reduce the docks' impact on the aesthetic resources of the area.

12. Further, because the "S" curve has a limited line of sight, lights and white retro-reflective tape must be added to the docks. The lights and reflective tape will increase the visibility of the dock structure and reduce potential navigation and safety issues during lower light conditions or nighttime hours, as recommended by Virginia Fisheries. With respect to Virginia Health's request that there be onsite sewage pump-out and dump stations, Appalachian Power notes that Grand Harbour is working with Virginia Health to address this issue.

13. We also find that the proposed docks will only have a minimal impact on long-term water quality. Given the relatively small increase in boating activity associated with the proposed boat docking facilities in relation to the Smith Mountain Lake as a whole, any water quality impacts on Smith Mountain Lake are expected to be insignificant. Finally, we note that Smith Mountain Lake is considered an outstanding recreational fishery that supports a variety of game fish species that spawn from late February through June.[1] Therefore, we will prohibit any in-water construction from February 15 through June 15 to minimize impacts to these fisheries.

14. We conclude that construction and operation of the proposed boat docks, as modified and conditioned herein, will not constitute a major federal action significantly affecting the quality of the human environment, and will not interfere with licensed project purposes and the statutory standards by which we regulate hydroelectric projects. Accordingly, we are approving Appalachian Power's application to permit the proposed use of project lands and waters, as modified and conditioned below.

The Commission orders:

(A) Appalachian Power Company's application for non-project use of project lands to permit Grand Harbour LTD to install and operate three stationary docks, is approved, as conditioned in Ordering Paragraph (B) below.

(B) The proposed 108-foot dock shall be no longer than 84 feet and the proposed 104-foot dock shall be no longer than 92 feet, as discussed in this order. The proposed 96-foot dock can be constructed as proposed. Additionally, lights and white retro-reflective tape shall be added to the docks, and in-water construction is prohibited between February 15 and June 15.

(C) This order constitutes final agency action. Requests for rehearing by the Commission may be filed within 30 days from the date of issuance of this order, pursuant to 18 CFR § 385.313.

By the Commission.

(S E A L)

Linda Mitry,
Acting Secretary.

[1] See EA at 5.2.2.

APPENDIX
ENVIRONMENTAL ASSESSMENT

Federal Energy Regulatory Commission
Office of Energy Projects
Division of Hydropower Administration and Compliance

Smith Mountain Project

FERC Project No. 2210-088

1.0 APPLICATION

Application Type:	Non-Project Use of Project Lands and Waters
Date Filed:	March 5, 2003
Applicant:	Appalachian Power Company
Water Body:	Smith Mountain Lake
Nearest Town:	Rocky Mount
County & State:	Franklin County, Virginia

2.0 PURPOSE AND NEED FOR ACTION

On March 5, 2003, the Appalachian Power Company (APC or licensee), licensee for the Smith Mountain Project, Federal Energy Regulatory Commission (FERC or Commission) Project No. 2210, filed an application for non-project use of project lands and waters. Specifically, the licensee requests Commission approval to permit Grand Harbour LTD (permittee) to install and operate, within the boundaries of the Smith Mountain Project, 3 stationary docks with 10 covered boat slips and 1 floater each for a total of 30 boat slips and 3 floaters. All proposed work would take place within the boundary of the Smith Mountain Project at the Grand Harbour subdivision located along Indian Creek in the Roanoke River portion of Smith Mountain Lake. The proposed facilities would enhance recreational boating access to the lake (AEP, 2003).

3.0 PROPOSED ACTION AND ALTERNATIVES

3.1 Proposed Action - Proposed Boat Docking Facilities

The licensee is requesting Commission approval to permit Grand Harbour LTD to install and operate, within the project boundary, 3 stationary boat docks with a total of 10 covered boat slips and 1 floating dock each for a total of 30 boat slips and 3 floating docks. Each slip would have open sides and would measure 24 feet long by 12 feet wide

(center to center). The floating docks would measure 30 feet long by 12 feet wide. The proposed docks would be constructed perpendicular to the shoreline within a cove located in Indian Creek off the main channel of the Roanoke River portion of Smith Mountain Lake. The shoreline has been stabilized with riprap, and the permittee would minimize the removal of the remaining trees within the project boundary when constructing the docks. In addition, the permittee would pay into a fund to mitigate for the loss of recreational fishing opportunities as a result of constructing the proposed boat dock facility.

Construction of the docks within the project boundary would take place in conjunction with construction of the proposed residences for the Grand Harbour development. Construction of the docks and associated facilities likely would commence as soon as approval is obtained and take place over the course of approximately 3 years.

The permittee and the licensee have coordinated with various federal and state resource agencies to elicit comments on the proposal. The licensee will ensure the permittee adheres to the requirements of any permits issued by those agencies and local governments.

3.2 Action Alternatives

This environmental assessment (EA) also considers the following measures that are not part of the proposed action. These action alternatives have been included in the scope of our assessment because they would mitigate adverse impacts on various project-related resources.

- Alter the proposed boat docking facility-layout plan to reduce the navigational, recreational, visual, and other environmental impacts of the boat docking facility's installation. The objective of this alternative to the proposed action is to reduce the footprint of the docking facility and the distance the docks would project into Indian Creek. This objective would be obtained by reducing the number of slips to be accommodated along the shoreline of the Grand Harbour subdivision.

- Add lighting and reflective tape to the docks to increase visibility of the dock structures from the water.

3.3 No-action Alternative

Under the no-action alternative, the Commission would deny the application for the proposed facilities. The permittee would be precluded from constructing the proposed facilities.

4.0 AGENCY CONSULTATION AND PUBLIC INVOLVEMENT

The licensee, along with the permittee, consulted with the Virginia Department of Environmental Quality (Virginia DEQ), the Virginia Department of Conservation and Recreation (Virginia DCR), the Virginia Department of Health (VDH), the Virginia Department of Game and Inland Fisheries (Virginia Fisheries), the Virginia Department of Historic Resources (VDHR), and local governments.

The Grand Harbour site was rezoned from agricultural to residential, multi-family with conditions in 1988. The property was rezoned for the purpose of constructing 126 apartment or condominium units with a maximum of 30 boat slips. Public hearings were held in 2002 to amend the conditions and to conceptualize a plan to build 30 detached patio home villas.

On December 9, 2002, APC publicly noticed the application with request for comments. Agency comments on the proposal were received from Virginia DEQ, Virginia DCR, and VDH. Virginia DEQ, in an E-mail dated December 13, 2002, commented that the project should be denied as proposed based on the small amount of shoreline relative to the total amount of boat slips being proposed. Virginia DEQ pointed out the potential for long-term water quality problems.

Virginia DCR filed a letter on January 15, 2003, stating that it does not anticipate that this project would adversely impact natural heritage resources within the project area. Virginia DCR also stated that the planned facilities are not anticipated to have adverse impacts on existing or planned recreational facilities and would not impact any streams on the National Park Service Nationwide Inventory, Final List of Rivers, potential Scenic Rivers, or existing or potential State Scenic Byways. Virginia DCR also stated that no impacts on any documented state-listed plants or insects are expected from the planned activities.

VDH, in a letter dated January 15, 2003, has asked that an onsite sewage pump-out and dump station be provided. VDH has stipulated that, if any homes serviced by the boat slips are located more than 1,000 feet from the shore end of the docks, restrooms shall be provided. In its response dated February 11, 2003, the Grand Harbour subdivision requested an exemption for Grand Harbour Docks for the sewage pump-out

station and bathroom facilities at the dock area. The permittee has agreed with Franklin County that no one would be able to store a boat at the docks except homeowners or their tenants; therefore, they would have access to bathroom facilities. In addition, there would be Grand Harbour covenants that state any boats with a porta-potty moored at the Grand Harbour docks must dispose of the sewage at their private residence, or at nearby Bridgewater Marina.

Virginia Fisheries, in a letter dated February 19, 2003, stated that the pier structures appear to be consistent with other shoreline structures located upstream on Indian Creek and should therefore present no undue hazard to navigation. To increase visibility, Virginia Fisheries recommends that white lights be installed at the end of each pier showing an unobstructed light with minimum visibility distance of 250 feet. In addition, Virginia Fisheries recommends that 100 square inches of white retro-reflective tape be applied not more than every 20 feet for the length of the piers. AEP has stated that the type of lighting that Virginia Fisheries recommends is not generally desirable and can be distracting to lake users and adjoining property owners; therefore, AEP has recommended that only the reflective tape be used.

The Commission issued a Notice of Application for Amendment of License and Soliciting Comments, Motions to Intervene, and Protests related to the Grand Harbour proposal on May 1, 2003. A 30-day period for interested parties to file comments was provided. This EA addresses the comments received by the Commission.

The Commission received the following filings related to Grand Harbour LTD's boat docking facility proposal during the comment period for its application notice.

Entity	Filing Date	Type of Filing
Indian Pointe Property Owners' Association (POA)	May 12, 2003	Intervention/Protest
Indian Pointe POA	May 12, 2003	Intervention/Protest
John Y. Barr	May 13, 2003	Comments/Protest
Jim and Karen Klepak	May 15, 2003	Intervention/Protest
Nancy Atkins	May 15, 2003	Intervention/Protest
Cedar Ridge POA, Inc.	May 21, 2003	Comments/Protest
Barry Jones	May 21, 2003	Protest
Jim and Karen Klepek	May 21, 2003	Intervention/Protest
Daniel H. Agee, Jr.	May 25, 2003	Comments/Protest
Mary C. Hall	May 27, 2003	Protest
Laurieann Grenier & Susie Henry	May 27, 2003	Comments/Protest
Anthony Cusumano	May 27, 2003	Comments/Protest

Alan C. Strain	May 28, 2003	Comments/Protest
John Snidow	May 28, 2003	Comments/Protest
Mindy Atkins	May 29, 2003	Comments/Protest
Marcia Owens	May 29, 2003	Comments/Protest
Ray and Tina Ramirez	May 29, 2003	Comments/Protest
Douglas Conary	May 29, 2003	Comments/Protest
John Snidow	May 29, 2003	Comments/Protest
Connie Hall	May 30, 2003	Protest
Nancy Atkins	May 30, 2003	Comments/Protest

The above filings raise a number of environmental issues that are relevant to the proposed action. Section 5, *Environmental Analysis*, of this EA considers resource-related concerns in these filings about effects on:

- Shoreline stability and soil erosion
- Wildlife and riparian habitat
- Water quality
- Fisheries
- Wetlands
- Threatened and endangered species
- Boating use and navigational safety
- Shoreline access
- Archeological and historic properties
- The visual character and scenic quality of the landscape
- Ambient noise levels
- Business employment, tax revenues, and tourism

Additional comments were filed by Jimmy and Cynthia Stiles after the comment period. These comments address the same issues as listed above.

5.0 ENVIRONMENTAL ANALYSIS

5.1 General Setting

Smith Mountain Lake is a man-made lake located on the Roanoke River in west-central Virginia, about 30 miles southwest of Lynchburg, Virginia. The lake, Virginia's second largest, was formed in 1966 by damming the Blackwater and Roanoke rivers and was originally created to generate electricity for the surrounding area. The Smith Mountain Project contains an upper pumped storage development (Smith Mountain) and a lower conventional development (Leesville). The facilities proposed by the permittee

would be located in the Smith Mountain reservoir which has an elevation of 795-foot mean sea level, a surface area of 20,600 acres, and 500 miles of shoreline.

The terrain around the Smith Mountain development is rolling to hilly and contains primarily forestland with some grasslands and croplands. Pine and hardwood species are mixed in a secondary growth forest along the reservoir shoreline. The primary wildlife in the area includes wild turkey; whitetail deer; and small game species, such as rabbit and squirrel.

The local economy is dependent primarily upon recreation and tourism. There are a variety of recreational activities at Smith Mountain Lake, including boating, fishing, swimming, picnicking, camping, and golfing. The Smith Mountain Lake State Park lies along the east side of the reservoir. The Recreation Use Assessment completed in December 1996 by the Louis Berger Group, Inc., estimates that the annual visitation rate for recreational purposes at the Smith Mountain Project is 1.4 million recreation visits. A recreation visit is defined as each visit by a person for recreational purposes during a 24-hour period. A majority of the recreational use is by private landowners with residences around Smith Mountain Lake. Residences along the lake range from mid-to-high income single-family units to multi-family structures. Smith Mountain Lake also supports a diverse recreational fishery, including largemouth and smallmouth bass, striped bass, walleye, muskellunge, catfish, and various sunfish species.

The proposed site is located along the southern shoreline of the Indian Creek cove off the Roanoke River portion of Smith Mountain Lake. The Indian Creek cove is about 8,200 feet long and 600 feet wide at its entrance to Smith Mountain Lake, and about 75 feet deep at its deepest point. Indian Creek enters the Roanoke River approximately 22 miles upstream of the Smith Mountain Lake dam. The site is off Virginia Route 616, and it is currently undeveloped. Single-family residential dwellings and a multi-family development occupy the back portion of the cove. Figure 1 depicts the location of the proposed boat docking facility within the Indian Creek cove.

5.2 Proposed Action

This section of the EA analyzes the impacts of the proposed boat docking facility on the project's environmental resources. The direct and indirect effects of the proposed boat docking facility are analyzed first under each resource section. These effects are then analyzed within each section, from a cumulative impact standpoint. The geographic and temporal scope of these analyses varies with each resource and issue under consideration.

5.2.1 Terrestrial Resources

Affected Environment

Shoreline Stability and Soil Erosion—The terrain around Smith Mountain Lake is rolling to hilly. Portions of the lake's shoreline are steep, and exposed bedrock is present in some of the steeper areas. The natural vegetation of the shoreline consists of forestland with some grasslands. Lawns and croplands are present along the portions of the shoreline that have been modified by landowners. Much of the shoreline of Smith Mountain Lake with adjacent development has been stabilized by the placement of riprap along the shoreline. Soil erosion in isolated areas along the shoreline is generally related to ongoing or recent construction of buildings and docks and clearing for access to the shoreline.

Approximately 300 ft of the shoreline of the Grand Harbour site has been previously stabilized with riprap. Clearing of a portion of the trees on the property outside of the project boundary has occurred. A narrow band of mature deciduous trees was present at the time of a site visit by Commission staff on October 14, 2003. A silt fence was present perpendicular to the slope, and a sediment trap with a stone check dam was apparent on a terrace between the crest of the site and the shoreline. At the time of the site visit, the shoreline did not present any signs of a lack of stability or erosion.

Wildlife and Riparian Habitat—The terrain around Smith Mountain Lake is rolling hills. Pine and hardwood species are mixed in a secondary growth forest along much of the lake's shoreline. The Smith Mountain Lake area contains populations of wild turkey and whitetail deer and supports numerous small mammals (rabbit and squirrel) and reptiles, as well as a variety of bird species. The lake region also includes the Smith Mountain Wildlife Management Area.

Environmental Effects

Shoreline Stability and Soil Erosion—The shoreline along the location of the proposed boat docking facility has been stabilized by the placement of riprap. The entire length of shoreline has been stabilized.

The Indian Pointe Property Owner's Association, John Snidow, and Nancy Atkins express concern that there will be severe erosion and lake silt deposition from the area that has been clear-cut for dock parking lots and roads. A sediment and erosion control plan for the portion of the proposed subdivision outside of the project boundary has been submitted to the appropriate authority. It is expected that this plan would be implemented during construction activities to take place outside of the project boundary,

thereby reducing the potential of soil erosion from the site. At the time of the site visit on October 14, 2003, by Commission staff, a silt fence and a sediment trap were present on-site. During the site visit, no evidence of shoreline or other erosion was evident from the water, even though clearing activities outside of the project boundary had been conducted prior to the site visit. However, the Commission staff is monitoring this situation to ensure that no erosion will occur inside the project boundary.

Wildlife and Riparian Habitat—The shoreline has been previously altered from a natural state by the clearing of some of the mature trees just behind the shoreline (a narrow band of mature trees were left in place along the shoreline) and the placement of riprap along the shoreline. Because of the existence of other docking facilities nearby and the associated disturbances caused by the use of the area by boaters, wildlife and waterfowl are not likely to extensively use the area adjacent to the shoreline of this site. Nevertheless, the proposed construction of the docks and the resultant increases in boat traffic and human disturbance would further discourage wildlife use along this section of shoreline. However, because minimal ground-disturbing activities are required to install the proposed boat docking facilities effects on existing wildlife communities would be minimal.

5.2.2 Aquatic Resources

Affected Environment

Water Quality—Virginia DEQ classifies the lake as "nutrient enriched" (9 VAC 25-260-350 Water Quality Standards). The lake's water quality classification includes Class III (Nontidal), Class IV (Mountainous Zone), and Class V (Stockable Trout) waters.[2]

Virginia DEQ collects water quality information from 13 sites on Smith Mountain Lake. For monitoring year 1999 (July 1, 1998 – June 30, 1999), median dissolved oxygen (DO) at the 13 sites in Smith Mountain Lake varied from 3.39 milligrams per liter (mg/L) to 10.64 mg/L.

[2]The minimum and daily average dissolved oxygen (DO) standards for Class III and IV waters are 4.0 milligrams per liter (mg/L) and 5 mg/L, respectively. The DO standards for Class V waters are 5.0 mg/L (minimum) and 6.0 mg/L (daily average). The maximum water temperature standards are 32 degrees centigrade (°C) (Inland Waters), 31°C (Mountainous Zone), and 21°C (Stockable Trout). See 9 VAC 25-260-50 Water Quality Standards.

Fisheries—Smith Mountain Lake provides an outstanding recreational fishery that supports a variety of warm-water species. Game species include striped bass, largemouth and smallmouth bass, muskellunge, walleye, flathead catfish, and crappie. Various sunfish species are also present. The forage base consists of gizzard and threadfin shad, as well as alewife. Virginia Fisheries presently stocks the lake with striped bass, smallmouth bass, largemouth bass, walleye, muskellunge, catfish, and various sunfish species.

The majority of game fish species found in Smith Mountain Lake are members of the sunfish, bass, and perch families. These fishes include crappie, rock bass, Roanoke bass, large and smallmouth bass, white and striped bass, walleye and perch. The striped bass fishery is the most notable fishery at Smith Mountain Lake. Fish in the 20-inch to 12-pound size range are common. Largemouth bass fishing on the lake is considered excellent. The largemouth bass fishery has steadily improved in the lake over the past 10 years. The size and numbers of flathead catfish in the upper section of the lake have significantly increased in recent years.[3] According to the Virginia Department of Game and Inland Fisheries' State Fishing Guide,[4] the spawning seasons for these species are from late February through June.

Indian Creek is a popular fishing location, and it is used by local residents and others visiting Smith Mountain Lake.

Environmental Effects

Water Quality—Virginia DEQ, in an E-mail dated December 13, 2002, pointed out the potential for long-term water quality problems and commented that the project should be denied as proposed based on the small amount of shoreline relative to the total amount of boat slips being proposed.

Nancy Atkins states that, with the proposed development of 30 additional docks, there would be almost 60 boats docked within 500 feet of the shoreline. All of the docks are located in shallow water going back into a very small and still water cove. Nancy Atkins states that any oil and gas pollution from these additional boats would have a negative impact on the water quality of the cove due to the stagnant water.

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[3] See Virginia Fisheries Regional Fishing Guide (2002).

[4] See www.dgif.state.va.us/fishing/virginia_fishes

The Indian Pointe Property Owner's Association expresses concern that there are no community restroom facilities for the Grand Harbour dock users. They also say that this is a health concern due to the great inconvenience of driving or walking back to resident homes. VDH had expressed similar concerns to Grand Harbour LTD and states that restrooms should be provided. The permittee is working with VDH to ensure compliance with VDH conditions. Grand Harbour LTD clarified the maximum distance from the proposed boat docking facility to the residences and has requested an exemption from VDH concerning the addition of bathroom facilities at the dock area. Grand Harbour LTD has also entered into an agreement with a local marina with pumpout capabilities to accept boat wastes from the residents of Grand Harbour.

The construction of the new docks and boat slips would have localized short-term impacts on water quality in Indian Creek cove. Installation of the docks and associated anchoring points on the lake bottom would cause sediment disturbance and a short-term increase in turbidity and suspended solids in the immediate area.

During and post-construction of the Grand Harbour subdivision outside of the project boundary, there is a potential for surface-water drainage and sediment-laden runoff from rainfall events to affect water quality. Nutrients attached to these sediments could be carried into Indian Creek and affect DO levels and water clarity. An erosion and sediment control plan has been submitted and approved by Franklin County. At the time of the field visit by Commission staff (October 14, 2003), silt fence and a sediment basin were observed at the Grand Harbour site. The existing silt fence and sediment trap would minimize water quality impacts due to construction activities.

Potential long-term impacts on the reservoir’s water quality could arise from increased boating-related point sources attributable to the proposed boat docking facility, including petroleum products from refueling and potential overboard discharges of wastes. However, given the relatively small increase in boating activity associated with the proposed boat docking facility in relation to the Smith Mountain Lake as a whole, any water quality impacts on Smith Mountain Lake are expected to be insignificant. Water quality impacts on the immediate area adjacent to the proposed boat docking facility may occur if spills were to take place, but given the small size of the facilities and boats and the small amount of oil or gas on site, these impacts would be minimal.

Fisheries—During construction of the docks and boat slips, fish likely would be temporarily displaced from the area. Construction at the project has the potential to disturb sediment which could become suspended in the water column and then be deposited in areas used for spawning by some of these fish species. This could decrease spawning success of important game fishes to some degree. This would result in a short-

term impact on the area's fish populations. Following construction of these facilities, the new structures would provide additional overhead cover for fish.

5.2.3 Wetlands

No wetlands were observed along the shoreline at the location of the proposed boat docking facility during the site visit conducted on October 14, 2003, by Commission staff. We conclude that the proposed boat docking facility would have no effect on beneficial wetland functions and values.

5.2.4 Threatened and Endangered Species

No threatened and endangered species are known to exist in the vicinity of the proposed boat docking facility.

5.2.5 Recreation and Other Land and Water Uses

Affected Environment

Smith Mountain Lake offers excellent recreational opportunities, 500 miles of waterfront, and a variety of water sports. Recreational activities generally include boating, fishing, swimming, picnicking, camping, and golf. Water activities at Smith Mountain Lake include power boating, canoeing, sailing, parasailing, swimming, fishing, water-skiing, wakeboarding, and jet skiing. In addition, the Smith Mountain lakefront includes seven public boat-launching sites and numerous marinas. Smith Mountain Lake also offers a variety of land-based recreation opportunities, including golf, trail hiking, picnicking, camping, hunting, sightseeing, antiquing, shopping, and relaxing. From the latest Licensed Hydropower Development Recreation Report (Form 80) filed with the Commission in 2003, more than 1.4 million annual daytime visitors recreate at the project.

The Smith Mountain Lake State Park, a 1,248-acre park, lies on the east side of the lake. The state park offers activities that include hiking, camping, picnicking, and a variety of special programs, such as night hikes, canoe trips, and wilderness skills training. The park also offers fishing with an Americans with Disabilities Act (ADA)-compliant, barrier-free fishing pier and a public boat-launching ramp. It also contains a 500-foot-long swimming beach. Except at the Smith Mountain Lake State Park, public shoreline fishing access at Smith Mountain Lake is generally limited.

Boating Use and Navigational Safety—A commercial marina is located approximately 0.6 mile from the site of the proposed boat docking facility. A multi-use dock is located to the east of the site, and single-family homes with private docks are located to the west and north of the site. A public boat access, Halesford Boat Launch, is located approximately 5.5 miles from the site and can accommodate 30 vehicles at the boat launch area.

Shoreline Access—Access to the waters of Smith Mountain Lake from the land is limited. The 2003 Licensed Hydropower Development Recreation Report submitted by APC for the Smith Mountain Project states that 5 percent of the shoreline of the Smith Mountain development is safely accessible to the general public by land travel without trespassing. The majority of the recreational users of Smith Mountain Lake are private landowners with residences around Smith Mountain Lake (Hydropower Development Recreation Report, 2003).

Environmental Effects

Boating Use—The boat docking facility, as proposed, includes the placement of 3 docks with 10 slips and 1 floating dock each for a total of 30 slips and 3 floating docks. The 3 docks would extend 96, 104, and 108 feet from the shoreline.

Commenters feel that the proposed dock design would severely curtail boating, tubing, and water skiing and other activities by drastically reducing the available space. One commenter agrees with Virginia DEQ about denying the project as proposed based on the small amount of shoreline relative to the total amount of boat slips.

Several property owners state that the high concentration of boats, personal watercrafts, docks, and other recreational activities associated with the development of additional docks would certainly have a negative long-term effect on its immediate neighbors and on the lake in general. They state that there are already over 6,000 boat docks on this lake, but the high-density shoreline development where boat docks are squeezed into every 13 feet of shoreline would accelerate the lake's demise. They recommend considering the lasting effects of the docks and others like them would have on the lake for generations to come. In addition, they ask to consider "normal shoreline" development for the Grand Harbour subdivision.

The number of boats using this portion of Indian Creek would increase as a result of the proposed project. The number of boat docks within a 1,500-foot radius of the Grand Harbour shoreline is approximately 29, with an approximate total of 80 slips within these docks. The addition of 30 proposed slips to the approximately 80 existing slips would be an increase of approximately 38 percent over the existing condition within

1,500 feet of the Grand Harbour shoreline. The layout plan proposed by Grand Harbour LTD would have an adverse impact on the existing boating activities of the immediate area.

Non-fishing recreational opportunities would be adversely affected by the construction of the docks, as proposed. The placement of the docks would reduce the current use capacity of the affected portion of the cove by pleasure boaters, jet skiers, water skiers, and tubers. Indian Creek is a popular destination for local residents as well as visitors to Smith Mountain Lake. Clients of the marina closest to the site have the opportunity to rent personal water crafts at the marina. The placement of the boat docking facility, as proposed, would reduce the availability of this area for use by permanent residents and visitors.

Virginia Fisheries, in a letter dated February 19, 2003, stated that the pier structures appear to be consistent with other shoreline structures located upstream on Indian Creek and should therefore present no undue hazard to navigation. To increase visibility, Virginia Fisheries recommended that white lights be installed at the end of each pier showing an unobstructed light with minimum visibility distance of 250 feet. In addition, Virginia Fisheries recommends that 100 square inches of white retro-reflective tape be applied not more than every 20 feet for the length of the piers. AEP has stated that the type of lighting that Virginia Fisheries recommends is not generally desirable and can be distracting to lake users and adjoining property owners; therefore, AEP has recommended that only the reflective tape be used.

Navigational Safety—The configuration of the cove at the site and the proposed layout of the boat docking facility would combine to create potential navigational difficulties. Many of the residents familiar with the area and the proposed boat docking facility have offered comments on the proposed boat docking facility.

Several commenters state that floating docks at the end of 100-foot docks that project into a waterway should not be allowed for safety reasons. They say that, if the docks proposed were allowed, there would be no more water skiing and tubing. They state that, if floating docks are permitted, then floating dock lighting should be required.

One property owner states that the developers' plan calls for 3 covered docks, 10 units each, stretching into the lake for over 120 feet. He states that this length just meets the Franklin County 1/3 distance rule, which ensures that dock owners in small coves can get in and out of their dock safely. The 1/3 distance rule allows for the landowner on the opposite side of the lake to extend a structure 1/3 of the distance retaining the remaining 1/3 for navigation. He further states that this plan does not cover the 50-foot no wake

zone, which leaves approximately 20 feet for boat traffic, and no ski or tube boat can operate safely in this area.[5]

The Cedar Ridge POA, Inc. states that the proposed shoreline plan would result in the deterioration of the lake, become a safety hazard to boaters, and reduce the viability of the lake as an ecological entity. The Cedar Ridge POA, Inc., recommends that the density of docks should be controlled at 2 docks/100 feet of shoreline.

Several commenters state that the proposed boat docks would create a hazard to boaters and swimmers in the area that may result in accident, injury, or death. They say that the cove is not wide enough to accommodate the number of boat docks proposed. In addition, several commenters state that there is a sand bar located directly across from the proposed site that protrudes out of the water when the lake is 5 feet below full pond and poses a safety hazard. In addition, one commenter states that the site is proposed on an "S" curve, and there is a shoal located across from the site that extends approximately 75 feet from the opposite shoreline and this shoal has been dry for 4 of the last 5 years. In addition, he states additional docks and the traffic on the blind curve would not allow sufficient room to maneuver boats through the area safely.

Douglas Conray and Nancy Atkins state that allowing 30 docks to extend as much as 108 feet into a busy cove is unsafe and would lead to accidents. The docks would be too close to existing docks in the cove and would again be unsafe. Nancy Atkins states that there are two blind curves with very shallow water that exist across from the proposed area where the docks would be built.

Although VGDIF has commented that the proposed pier structures appear to be consistent with other shoreline structures located upstream on Indian Creek, and therefore should not pose an undue hazard to navigation, many commenters have pointed out local conditions that may not have been included in Virginia Fisheries' review of the proposed project. Commission staff went to the site of the proposed boat docking facility and agree with the commenters that the placement of the proposed boat docking facility would pose navigational safety issues. This is due to the placement of the proposed boat docking facility near an "S" curve, in a narrow portion of Indian Creek, with a significant sand bar on the opposite shore (see Figure 2). The line of sight is less than optimal due to the 'S" curve, and oncoming boats would be left with little room to maneuver if the

[5]Staff notes that the boat docking facility plans show that the dock with the greatest projection into Indian Creek would have a total length of 108 feet, not 120 feet as discussed in the comment.

proposed boat docking facility were to be placed up to 108 feet from the shoreline. The sand bar on the opposite side of the cove also reduces the availability of open water to maneuver through the "S" curve due to a lack of safe water depths. Staff believes that the layout plan proposed by Grand Harbour LTD would have an adverse impact on navigational safety of the immediate area.

Recreation and Shoreline Access—The proposed facilities would contribute slightly to boating activity in the immediate area. Virginia DCR has reported in the past that there is a strong demand for boating access and use of Smith Mountain Lake, and the proposed facilities would help to meet that need. As proposed, the boat docking facility would be used exclusively by owners of the residences within the Grand Harbour subdivision. This additional boat activity would fluctuate depending on the season, day of week, or time of day. Public access to the shoreline from the water would be reduced due to the construction of the boat docking facility. Given the presence of the existing marina facilities, public boat access, and private boat access near the site, the development of docking facilities would be consistent with existing uses in the area.

Virginia Fisheries states that the proposal would have no significant adverse effects upon the environmental and scenic values at Smith Mountain Lake, but expressed concern that the new boat slips would reduce angling opportunities for boaters fishing along the shoreline, and thereby adversely affect the recreational value of the area. It recommended the permittee compensate for the adverse recreational impact due to the loss of public fishing and boating access. If no specific proposal is offered, Virginia Fisheries recommended that the applicant contribute $6,148 toward enhancement of public boating and fishing access to the lake. The recommended contribution of $6,148 is an estimate based on recreational value for the 0.424 acres lost for the life of the project. These funds could be provided to Franklin County for use at the county park.

Several commenters state that they do not agree with the donation of $6,148 to Franklin County to be used for their state park to compensate for the permanent loss of the lake's recreational area. They state that this is an acknowledgement of the negative recreational impact the proposed dock would have. In addition, the proposed park is approximately 20 miles away from the Grand Harbour site.

5.2.6 Cultural Resources

APC has had a search of VDHR archives performed. According to that search, no significant historic or archaeological sites are known to exist within the project boundary at the site. The results of the search indicated that the area has been previously disturbed. However, as a condition of APC's approval for the work, the permittee would be required to notify APC should any potential archaeological or historically significant artifacts be

discovered. In such event, all work in the vicinity of the discovered property would be stopped, and the licensee would notify VDHR. An evaluation would be made of the newly discovered site, and the permittee would be notified when it could resume construction.

5.2.7 Landscape Aesthetics

Affected Environment

Visual Character and Scenic Quality—The area surrounding the proposed development contains both undeveloped parcels and residential properties with access to the water. There are existing marina facilities, public boat access, and private boat access near the site of the proposed boat docking facility.

Ambient Noise Levels—Motorboats and residential homes are located adjacent to the Grand Harbour site. The presence of these features contributes to the ambient noise levels in the area.

Environmental Effects

Visual Character and Scenic Quality—The Indian Pointe Property Owner's Association and Nancy Atkins state that Grand Harbour docks would interfere with the view of the mountains and lake for all neighboring homeowners who live at or near the water's edge in that area. They comment that the project would do nothing to enhance the scenic beauty of the lake. They say that many large hardwood trees in the area have been removed to accommodate parking for the docks, and roads to the docks. The Indian Pointe Property Owner's Associations comments that the area around Grand Harbour was once an environmentally and aesthetically pleasing development site and now has been clear-cut, with the exception of a buffer area along the Indian Pointe property boundary.

Douglas Conray says that allowing 30 docks for such a small shoreline and such a busy cove would adversely affect neighboring properties and contribute in a very negative way to the over-development of the lake.

The boat docking facility, as proposed, would project into the cove, blocking the upstream and downstream view of Indian Creek from the water. The position of the dock facility may also block the downstream view of Indian Creek from the existing development west of the Grand Harbour site. It is also possible that the proposed boat docking facility would block the view of the mountains from the properties adjacent to

the proposed site. This alteration of the viewshed of the area immediately adjacent to the proposed docking facility would have an adverse impact on the aesthetic resources of the area.

Ambient Noise Levels—During installation of the proposed boat docking facility, machinery and equipment operation and other construction-related activities would cause noise-producing disturbances. As a result of the boat docking facility, as proposed, the number of boat docks within a 1,500-foot radius of the Grand Harbour shoreline would increase by approximately 38 percent. The additional boats that would result from the boat docking facility would cause intermittent increases of the area's ambient noise levels.

5.2.8 Socioeconomic Considerations

Affected Environment

The Smith Mountain Lake area has a variety of housing, ranging from lakefront studio condominiums to single-family homes. The lake is home to approximately 14,000 permanent residents and supports considerable tourism and recreation.

The properties adjacent to the Grand Harbour site contain single-family homes, multi-family developments, and undeveloped parcels. The owners of the developed properties with access to Indian Creek have invested in boat docking facilities.

Environmental Effects

Construction of the proposed boat docking facility would result in an economic benefit to the area. The construction of the Grand Harbour subdivision with access to Smith Mountain Lake will provide increased tax revenue to the region. The residents of the Grand Harbour subdivision will spend money in the region to purchase, maintain, and operate boats and personal watercrafts in Smith Mountain Lake. Temporary employment opportunities would be created as a result of constructing the proposed boat docking facility

5.3 Action Alternatives

In this section, we list each of the action alternatives identified in section 3.2, followed by a description of their expected environmental benefits. In addition, evaluations of the action alternatives are examined. Our discussion evaluates each option under consideration.

Alter and Reduce the Footprint of the Dock-Layout Plan

The boat docking facility, as proposed, includes the placement of 3 docks with 10 slips and 1 floating dock each for a total of 30 slips and 3 floating docks. The 3 docks would extend 96, 104, and 108 feet from the shoreline. This layout plan proposed by Grand Harbour LTD would have a potential to adversely impact on the navigational safety of the immediate area.

Navigational Safety—Under this action alternative, the total number of slips to be constructed would be reduced to a number that may be safely accommodated within this portion of the cove. Because of the location of the proposed boat docking facility on a point on a curve with limited sight distance, and an area of the cove with limited safe boating water depths, the proposed boat docking facility poses potential navigational safety issues. Reducing the total lengths of the proposed docks would alleviate many of the navigational concerns expressed by those commenting on the proposed boat docking facility.

To mitigate the adverse navigational and recreational effects of Grand Harbour LTD's boat docking facility proposal, the length of dock number 2 and dock number 3 could be shortened. The Commission staff recommends that Grand Harbour LTD shorten dock number 2 by 24 linear feet (i.e., the width of 2 slips on either side of the central pier) so that the overall length of dock number 2 is reduced from 108 to 84 feet. The Commission staff also recommends that Grand Harbour LTD shorten dock number 3 by 12 linear feet (i.e., the width of 1 slip on either side of the central pier) so that the overall length of dock number 3 is reduced from 104 to 92 feet. The Commission staff-recommended reduction in length of dock number 2 and dock number 3 would result in a net reduction of 6 slips. As shown in figure 2, these alterations to the proposed layout plan would: (1) reduce the physical size of the boat docking facility footprint and reduce the distance the docks project into Indian Creek; (2) make the boat docking facility more functionally compatible with existing boat-traffic patterns and reduce navigational hazards; (3) make the boat docking facility less of a recreational obstruction for current recreation uses; and (4) reduce the impact of the boat docking facility on the aesthetic resources of the area. These modifications would reduce the number of boats the boat docking facility could handle, thereby reducing the adverse navigational, visual, and other environmental effects attributed to increased boating activity in the cove.

Evaluation of the Action Alternative to Alter and Reduce the Footprint of the Dock-Layout Plan

Navigational Safety- Reducing the number of slips and therefore the size of the boat docking facility may reduce the selling price of the homes within the Grand Harbour subdivision; however, the reduction of the projection of the boat docking facility into Indian Creek would reduce the navigational and boat safety concerns expressed by the individuals that have commented on this project. Reducing the ultimate footprint of the proposed boat docking facility also would reduce the adverse impact on recreational opportunities within the cove.

The tradeoff between unrealized potential increased income for sale of homes by Grand Harbour LTD would be outweighed by the potential for injury or loss of life posed by the construction of docks 96 feet to 108 feet from the 795-foot contour in this portion of the cove. The loss of non-fishing recreational opportunities within the cove also would outweigh the reduction in the net profit of the homes associated with the proposed boat docking facilities.

Add Lighting and Reflective Tape to Increase Visibility of the Docks

Navigational Safety—Virginia Fisheries has suggested that the proposed boat docking facility have lights and reflective tape added to the structures to increase visibility of the structures from the water. The addition of the lights and the reflective tape would reduce the potential of navigational accidents during periods of reduced visibility or nighttime hours.

Evaluation of the Action Alternative to Add Lighting and Reflective Tape to Increase Visibility of the Docks

Navigational Safety—To increase visibility, Virginia Fisheries recommends that white lights be installed at the end of each pier showing an unobstructed light with minimum visibility distance of 250 feet. In addition, Virginia Fisheries recommends that 100 square inches of white retro-reflective tape be applied not more than every 20 feet for the length of the piers. AEP has stated that the type of lighting that Virginia Fisheries recommends is not generally desirable and can be distracting to lake users and adjoining property owners; therefore, AEP has recommended that only the reflective tape be used.

Due to the specific site conditions associated with the proposed boat docking facility (i.e., it would be located at an "S" curve with limited lines of sight), the Commission agrees with Virginia Fisheries' suggestion of adding both lights and reflective tape to the boat docking facility. If the specific light fixtures recommended by

Virginia Fisheries are an issue of contention with local residents, then APC and Grand Harbour LTD should consider suggesting an alternative light fixture for Virginia Fisheries' approval.

The expense of adding lights and reflective tape to increase the visibility of the dock structures, and therefore reduce potential navigation and safety issues during low light conditions or nighttime hours, would be very small in comparison to the cost for the overall project. Therefore, as a condition of the licensee's permit to Grand Harbour LTD, lights approved by Virginia Fisheries, in addition to white retro-reflective tape, should be installed on the proposed boat docking facility.

5.4 No-action Alternative

Under the no-action alternative, the permittee would be precluded from constructing the proposed facilities, and the environmental effects associated with the facilities would be avoided. Further, the recreational benefits directly related to increased boat access to Smith Mountain Lake associated with the proposed facilities would not occur.

6.0 CONCLUSIONS AND RECOMMENDATIONS

6.1 Summary of the Proposed Action's Environmental Effects

Table 1 summarizes the probable environmental effects of Grand Harbour LTD's proposed boat docking facility, as described in detail section 5.3 of this EA. The table uses the issues identified in section 4.0, *Agency Consultation and Public Involvement*, as a checklist for the impact summary.

Table 1. Environmental Effects of Proposed Action

IMPACT ISSUE	IMPACT RATING		
	1 - Minor 2 - Moderate 3 - Major	A - Adverse B - Beneficial NI - No Impact	S - Short Term L - Long Term R - Recurrent
Terrestrial Resources			
Shoreline Stability	1	A	R
Soil Erosion	1	A	L
Wildlife and Riparian Habitat	1	A	S[a]/L
Aquatic Resources			
14. Water Quality	1	A	S/L
15. Fisheries	1	A	S
Wetlands	NA	NI	NA
Threatened and Endangered Species	NA	NI	NA
Recreation			
16. Boating Use and Navigational Safety	3	A	L/R
17. Shoreline Access	1	A	R
Cultural Resources	NA	NI	NA
Landscape Aesthetics			
18. Visual Character and Scenic Quality	2	A	R
19. Ambient Noise Levels	1	A	S/R
Socioeconomic Considerations	1	B	R

[a] Construction-related effects. Same for all "S" ratings.

6.2 Findings

Based on the information, analyses, and evaluations contained in this EA, we find that the proposed boat docking facility, with our recommended environmental measures, would not constitute a major federal action significantly affecting the quality of the human environment. Our recommended modifications include: (1) reduce the total length of docks 2 and 3; (2) add lights and reflective tape as added safety measures increasing the visibility of the docks; and (3) prohibit in-water construction between February 15 through June 15 each year in order to minimize impacts to fisheries. We also find that Grand Harbour LTD's proposal, with our environmental recommendations,

would not be inconsistent with the operation and maintenance of the project or with the project's public-recreation and resource-protection purposes. Based on these conclusions, we recommend that the licensee's application, as modified with our action-alternative recommendations, be approved.

7.0 LITERATURE AND CORRESPONDENCE CITED

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8.0 LIST OF PREPARERS

Federal Energy Regulatory Commission

Heather Campbell-Outdoor Recreation Planner

EA Engineering, Science, and Technology

Charles Leasure, Terrestrial Ecologist

Suzanne Boltz, Fisheries Biologist