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UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Before Commissioners: Charles B. Curtis, Chairman;
Georgiana Sheldon, and George R. Hall.

Susquehanna Power Company
Philadelphia Electric Power Company

ORDER ISSUING NEW MAJOR LICENSE
(Issued August 14, 1980)

The Susquehanna Power company and the Philadelphia Electric Power Company (referred to jointly hereinafter as "Applicant") filed an application for new major license to authorize the continued operation and maintenance of the Conowingo Project, FERC No. 405. The Conowingo Project is located on the Susquehanna River, a navigable waterway of the United States, in Maryland and Pennsylvania. The project reservoir covers parts of Harford and Cecil Counties in Maryland, and York and Lancaster Counties in Pennsylvania.

Public notice of the application was given. The Pennsylvania Fish Commission (PFC), Maryland Department of Natural Resources (MDNR), and Susquehanna River Basin Commission (SRBC) 1/ petitioned for and were granted intervention in the proceeding.

Project Description

The project consists principally of a concrete gravity dam, a powerhouse, and a reservoir. The dam is 94 feet high and 4,660 feet long. The powerhouse is integral with the dam and contains 11 main units and 2 house units having a total installed capacity of 514.4 MW. The reservoir has a gross storage capacity of 310,000 acre-feet. U.S Highway Route No. 1 crosses the dam.

Safety and Adequacy

The stability of the spillway, powerhouse, and abutment sections under normal and maximum hydrostatic loadings were investigated by a board of independent consultants in accordance with Part 12 of the Commission's regulations. Maximum hydrostatic loading was determined by considering water levels during a flood having a peak inflow of 1,170,000 cfs, the Spillway Design Flood (SDF). As a result, the

1/ The Susquehanna River Basin Commission was established pursuant to the Susquehanna River Basin Compact (Pub. L. 91-575, 84 Stat. 1509 et seq.) with duties and responsibilities for comprehensive planning, programming and management of the water and related resources of the Susquehanna River Basin. The Commission and SRBC executed a memorandum of understanding on November 5, 1975 providing cooperative procedures for processing license applications under Part I of the Federal Power Act and committing themselves to give due regard to the recommendations of each other.

consultant recommended that the Conowingo Dam be strengthened to withstand the SDF by tying the structure into bedrock with post-tensioned anchors consisting of bundles of steel strands placed vertically through the dam into the bedrock and then bonded with cement grout. The Commission-authorized installation and post-tensioning were completed in June 1978 at a cost of \$5.0 million. The 537 tendons are grouted into solid rock up to 55 feet deep. 2/ our staff's stability analyses show that the post-tensioned anchors stabilize the structures sufficiently so that the stresses under normal loading plus combinations of ice and earthquake loads and hydrostatic loading from the SDF are within acceptable limit and the structures would be safe. The project structures under Probable Maximum Flood (PMF) loading would be safe, except for the retaining wall and two unreinforced abutment monoliths which develop tension. Our staff's analyses show that it is preferable not to order post tensioning of the retaining wall and the two abutment monoliths. Simultaneous failure of those structures would not significantly endanger life and property downstream in the communities of Havre de Grace and Port Deposit. Post tensioning the retaining wall and the two abutment sections of the dam to prevent failure would, in the event of the PMF, cause the reservoir to rise and wash the spillway gates downstream and would also restrict operation of the Muddy Run and Peach Bottom Power Plants.

Applicant has filed an emergency action plan which provides for warning downstream interests of impending flood hazards. Our New York Regional Office approved the plan on January 21, 1976. Article 35 would provide for continued implementation of the project emergency action plan.

Based upon the Part 12 Safety Inspection Reports of 1967, 1972, and 1977, the annual operation reports and other special reports, it is concluded that the concrete structures, machinery, and equipment are being properly maintained and are in stable condition.

- 2/ Article 33 requires the Applicant, within 60 days of the date of
- issuance of the license, to file as-built Exhibit L drawings showing the reinforcing tendons in the dam.

Recreation

Recreational activities available at the project include fishing, water skiing, camping, picnicking, boating, and hiking. The Applicant has developed two major public recreation areas at the project, the Conowingo Fishermen's Park (Park) and the Conowingo Creek Boat Launch (Launch). The Park includes an 860-foot long fishermen's platform (along and parallel to the downstream face of the powerhouse), a shelter, restrooms, a fish cleaning facility, and a parking area for 224 automobiles. The Launch area includes a boat ramp with 4 launching lanes, a docking area, restrooms, and a parking area for 20 cars and 30 cars with trailers. In addition to these developments, the Applicant leases numerous project shoreline areas to individuals for cottage developments and to government agencies and local groups for public and quasi-public recreational developments and as natural areas. A 9.4-acre area is also leased to the Pennsylvania Fish Commission for a public boat launching facility.

The Applicant proposes two new public recreation developments at the project. Four other areas are slated for potential development when future needs require. The two initial developments would be Conowingo Recreation Park and Conowingo Visitors Center. The Park would be located on 150 acres on the west bank of the reservoir immediately above the dam. Facilities would include over 200 camping units, 300 picnic units, a boat ramp, restrooms with showers, scenic overlooks, a combined administration/concession building, and other buildings, roads, and parking areas. The Visitors Center at the dam would include exhibition and observation areas and an auditorium which would seat 150 people.

SRBC, commenting on recreational development at the project, recommended that the Applicant maintain public access facilities on the left bank upstream from the dam and on the right bank at the upstream end of the Peach Bottom Nuclear Station; schedule development of access areas at Peters and Fishing Creeks with means for safe railroad crossings; maintain the Launch access area; develop suitably marked harbors of refuge on both banks for use during storms; and, limit or possibly eventually preclude the development of residential or overnight camping areas on upper reservoir islands.

The Applicant stated that, although it did not feel that development of any new public access facilities was warranted at this time because of lack of public use of existing sites, it will continue to monitor the use of the reservoir annually to determine when additional recreational facilities are warranted. Article 17 provides for the development of future recreational facilities at the project. The Applicant has also agreed to repair the vandalism at the Launch, provided a suitable Maryland agency prevents future

vandalism. Temporary safe harbors will be identified, cleared and marked, as requested. With respect to the proposed restriction on use of the islands located in the upper reach of the Conowingo reservoir, Applicant stated that it would investigate the need to protect the islands and, if the ecological or geological values are significant, post the island accordingly. Article 42 directs the Applicant to file within one year of the issuance of the license a report on its investigation of the upper islands along with any recommendations for future use.

The Maryland Department of Natural Resources. in a supplemental letter dated December 6, 1976, stated that the new license should include some provision that would guarantee public access to, and enjoyment of, the lands and islands owned by the Applicant downstream of Conowingo Dam. The Applicant stated that the lands downstream from the dam were not included within the proposed project boundary as shown on the revised Exhibit K drawings because they were not considered essential for the operation of the project. However, we have determined in consultation with other agencies that the existing project lands in the vicinity of the Susquehanna and Tidewater Canal on the west bank of the Susquehanna River downstream from Conowingo Dam, the existing project land on the east bank of the river, and the islands downstream from the dam within the existing project boundary have significant scenic, recreational, historic, and environmental value. For these reasons, we shall direct that all of the existing project land downstream from Conowingo Dam remain within the project boundary, and the Exhibit K drawings, filed on July 29, 1975, be revised to include this land.

We find that the Applicant's plans for water-related recreational facilities adequately satisfy the identified needs in the project area. We shall include in the license Article 39 which requires the installation of warning devices to protect the public in its use of project recreational facilities and Article 40 which requires the filing of revised exhibits to include the previously discussed lands within the project boundary.

Fish and Wildlife Resources

Project lands and waters provide suitable habitat for a diverse wildlife community. Common game animals include white-tailed deer, grey squirrel, and red fox. The Susquehanna River basin is a major flyway for a number a species of waterfowl and Conowingo Reservoir is utilized as a resting area along that flyway during annual migration periods.

Conowingo Reservoir supports an abundance of warm-water fishes. Important sport fish include catfish, crappie, and various sunfish. Certain tributary streams support a put-and-take trout fishery. The powerhouse tailrace also supports an important sport fishery. Resident species harvested in the tailrace include catfish, carp, smallmouth bass, crappie, white perch and the anadromous hickory shad, striped bass, blueback herring, and American shad. A small commercial fishery for American shad exists in the lower reaches of the Susquehanna. Both the sport and commercial fishery for American shad was, however, closed in 1980.

Large numbers of anadromous fish once migrated up the Susquehanna River. Since the completion in 1928 of Conowingo Dam, the lowermost of the Susquehanna River dams, the American shad fishery in the river below the dam has declined. In addition to the physical obstruction of migration, problems of water quality and fishery management also appear to have contributed to the decline of anadromous fish in the Susquehanna River Basin. A number of federal and state agencies commenting on the application, including the intervenors (PFC, MDNR and SRBC) proposed the construction of fish passage facilities at the dam as the only feasible means to re-establish the anadromous fishery. Applicant maintains that construction of fish ladders is unwarranted at this time. e By separate order, we are providing for a hearing on the issue of installation of fish passage facilities at the Conowingo Project No. 405 and three other licensed projects on the - Susquehanna River (Project Nos. 1025, 1881 and 1888). Article 15 of the license expressly reserves to the Commission the authority to order the construction, maintenance and operation of facilities and modifications of project structures and operation in the interest of fish and wildlife resources. Inasmuch as the project is currently operating under annual licenses, and would continue to do that until a new license went into effect, nothing would be gained by deferring issuance of the new license until the questions we are setting for hearing are ripe for resolution. 3/

Streamflow and Water Quality

At present, the dissolved oxygen (DO) levels of the river immediately below the project, and also within the reservoir, sometimes fall to less than 1.0 mg/l during low-flow periods, and thus, do not always meet state standards. Immediately downstream, particular DO problems are encountered related to the peaking regime of the project, which curtails all flow during most week-ends of July through October, except for certain minimum flows noted below. During at least 70 percent of the period from July through October the project is utilized for peaking purposes. This mode of operation requires reservoir recharge, which can stop the flow from the project from 8 to 48 hours each weekend. During these no-flow periods, pools for at least a mile below the project may approach anoxic condition (no oxygen); this condition effectively eliminates that stretch of the river for many biologic activities, including spawning, rearing, and feeding of fish.

Complicating this problem are the reduced DO levels encountered in the reservoir. During the low-flow season, July through October, DO levels in the lower reservoir strata near the dam approach anoxic

3/ This holds for the licenses we are concurrently issuing for the upstream Projects Nos. 1025, 1881, and 1888, as well.

levels. Thus, when a flow of water is released, the beneficial impact on anoxic pools for some distance downstream is minimal, since the released water has a DO concentration similar to that in the pools.

MDNR requested that for assured maintenance of aquatic habitat the Applicant should be required to maintain a minimum flow of 5,000 cfs and a dissolved oxygen (DO) level of at least 5mg/l in the tailrace.

The Applicant maintains that suitable aquatic habitat is being maintained below the dam, and that a minimum flow of 5,000 cfs is provided from March 15 to June 1, when MDNR determines it necessary for water quality maintenance during anadromous fish runs. This minimum flow requirement is the subject of a 1972 agreement between the Applicant and MDNR as well as discharge permits the Applicant sought and obtained from MDNR's Water Resources Administration. 4/ The Applicant also noted that DO is being continuously monitored immediately downstream of the dam.

fl In 1975, the Water Resources Administration issued a water quality certification for the Conowingo Project under Section 401 of the Federal Water Pollution Control Act (FWPCA), 33 U.S.C. §1341, conditioned upon compliance with state discharge permit No. 75-DP-0491. That permit incorporated the 5,000 cfs minimum flow agreement. On July 1, 1980, the state transferred responsibility for administering water quality programs to its Department of Health and Mental Hygiene (MDHMH). On July 29, 1980, MDHMH filed a letter with the Commission purporting to rescind or revoke the 1975 water quality certification and issue a new temporary certification, pending completion of field studies of water quality and fishery below the dam, on the conditions in state permit No. 75-DP-0491 and an additional condition. The additional condition would demand that, from about March 15 to about October 15 of each year, the Applicant release flows as directed by MDHMH, to maintain dissolved oxygen and temperature standards at an unspecified point below the dam. Neither Section 401 of the FWPCA nor the U.S. Environmental Protection Agency's (EPA) regulations under Section 401 (40 C.F.R. Part 121) provide for rescission or revocation of a water quality certification once issued by the state. (Maryland has no statute or regulations implementing Section 401 of the FWPCA, even assuming it would have any authority to enact or issue them.) The EPA regulations permit a certifying state agency to modify a certification only if, among other things, the permitting or licensing federal agency agrees. 40 C.F.R. §121.2(b). Even assuming that EPA has authority to issue regulations permitting a state agency to modify a state certification after the one-year action period prescribed in Section 401 has expired, we believe it would be inappropriate to agree to any modification of the 1975 certification for the Conowingo (footnote continued on p.7)

Harford County, Maryland in the interests of possible future use of the stream for water supply requested that the license ensure that no restrictions are placed on flows below the Conowingo dam. The Applicant responded that project operation does not cause major flow restrictions. The project has relatively limited storage capacity and, on a weekly basis, the quantity of water that flows into the reservoir is released through the dam.

SRBC emphasized the lack of water quality data for the Conowingo pool and tailrace area. SRBC stated that applicable water quality standards are not met at all times in the pool and in the project tailrace. SRBC recommended that any license for the Conowingo Project require development and implementation of a program to monitor water quality at appropriate locations in the Conowingo pool, in the project tailrace, and at some suitable location in the area downstream of the spillway, on a continuous basis throughout the period May 1st through October 31st of each year and on a weekly basis for the remainder of the year. SRBC also stated that specific water quality parameters to be measured should include dissolved oxygen and temperature values.

Pointing to the requirements of its Comprehensive Plan stating that water releases at darns on the Susquehanna River should be consistent with instream flow needs of indigenous and migrating fishes and the protection of the stream's natural biological community, SRBC stated that there is a need to modify the overall power generation schedules if other uses are to be satisfactorily met. SRBC set forth an interim schedule of initial flow releases to be required from the project, ranging from 3,500 cfs to 15,000 cfs, but did not provide any rationale for the specific flows recommended. SRBC indicated that any license issued should include these interim flow releases or releases "determined adequate on a temporary basis by the U.S. Fish and Wildlife Service and Pennsylvania Fish Commission, to support at all times a full range of life processes for indigenous and, as necessary, anadromous fisheries...." SRBC would further require that the licensee develop a study plan in consultation with appropriate agencies to validate or modify the interim flow schedule imposed to assure it would: (1) provide for the optimum use of flow

(Footnote 4 continued from p. 6)

Project. MDHMH's proposed new condition has no specification of a limit on minimum flows that might be required and acknowledges that its own studies to determine appropriate flows are not completed. As explained below, we are requiring additional studies on appropriate minimum flow requirements. For these reasons, this license is issued pursuant to the 1975 state water quality certification. As noted below, we retain authority to impose any additional minimum flow requirements that may prove to be in the public interest.

for power generation, cooling, public water supply, and general recreation; (2) effectively attract and lead, during the migration period, anadromous fish from the Chesapeake Bay into the Susquehanna River upstream to the Conowingo Dam; and (3) support a full range of life processes for indigenous and anadromous fishes in the Susquehanna River between the Conowingo Dam and the head of tidewater at all times of the year.

In response to SRBC's recommendation, Applicant stated that it has cooperated in various flow studies and that the Applicant has not seen the results or any test or study that clearly shows the need to provide a continuous flow. Applicant evaluated, in June 1979, the added cost to its customers of a modified operating procedure as proposed by SRBC and asserts that it would increase the annual cost by about \$3,800,000. Applicant states that it will continue to cooperate with the appropriate agencies in the conduct of studies but submits that the prime responsibility rests with SRBC.

In light of our determination to set the question of fish passage facilities for consolidated hearing, we can see no justification at this time for imposing flows or requiring, as a separate matter apart from that proceeding, the licensee to study flows to attract and protect anadromous fish. Such a requirement will properly be a matter for consideration in the fish passage facility hearings. 5/ On the issue of minimum flows to enhance indigenous fishery resources and water quality, we do, however, feel that certain additional measures must be taken, although the information available in the record is insufficient to permit us to establish any particular flow release now. Appropriate rates of release can only be established through studies carried out by the licensee in consultation with state and federal agencies. Accordingly, we are including license Article 34, which requires the licensee to develop, in consultation with the Maryland Department of Natural Resources, the Maryland Department of Health and Mental Hygiene, the Pennsylvania Fish Commission, the U.S. Fish and Wildlife Service, and the Susquehanna River Basin Commission, a mutually satisfactory study plan to determine dissolved oxygen and temperature levels, the effect of project operation on dissolved oxygen levels, the extent of oxygen-demanding materials in the project reservoir, the most feasible methods for ensuring the releases meet state water quality standards and minimum flow releases necessary to protect and enhance fish and wildlife resources, and the effects of the operations of other projects located on the upper reaches and tributaries of the river. The study plan is to be coordinated with coincident study plans of dissolved oxygen and temperature

5/ We are not, however, ruling out the possibility that data obtained under the required flow release/water quality study may be relevant to anadromous fishery issues in the consolidated proceeding.

conditions and flow releases being developed for three other licensed projects on the Susquehanna River, Project Nos. 1025, 1881 and 1888. The study plan is to be filed for approval within 4 months from the date of issuance of this license. After the studies are completed, the Applicant must file for approval a report on them and its proposals for minimum flow releases or other water quality measures, with copies to the interested agencies. We are convinced that this procedure will provide adequately for the concerns raised by these agencies, in particular SRBC and MDHMH. As we noted with respect to the fish passage issues, 6/ there is no purpose in deferring issuance of a new license pending resolution of these matters. Under Articles 9 and 12 of this license, we retain authority to impose any minimum flow requirements or other water quality measures that may prove to be in the public interest.

Debris Management

Floating debris passing down the Susquehanna River is an issue of concern that was discussed by SRBC in its comments on the application. At the Conowingo Project some of the floating debris passing down river collects along the west bank and is passed through a spillway gate. The hazards to recreationists and property presented by this floating debris has been a subject of concern to private and public interests in Maryland. It is SRBC's position that "[w]hile it would seem unreasonable and impractical to require collection of all floating debris at all dams along the river, debris removal should be required at dams having controlled spill and/or where large amounts of floating debris accumulate within easy reach of appropriate snagging equipment." SRBC recommends an overall cooperative debris removal and management program among the licensees of the licensed projects on the Susquehanna River (Project Nos. 405, 1025, 1881 and 1888).

The Applicant has indicated its willingness to cooperate in such a program and has suggested that it will agree to remove the debris from the water if others will make arrangements for its disposal. The Applicant maintains that this debris problem must be treated as a basin-wide problem and cannot be solved by action only at the last dam on the river.

We agree that a cooperative debris removal and management program is required for the Susquehanna River licensed projects. The removal of debris is the proper responsibility of a licensee in the interests of public safety and project operation. We cannot state, however, that regardless of the magnitude or source of the debris, a licensee must bear the complete expense and responsibility for the removal of all floating debris. Should the debris problem be of such a magnitude that substantial expense would

/ Supra p.5 n.3 and accompanying text.

be involved in its removal, that burden should be allocated among all concerned parties including the licensees and proper government agencies. Accordingly, we are including Article 41 in this license to require the licensee, in consultation with the Corps of Engineers, SRBC, and the licensees of the other Susquehanna River licensed projects (Project Nos. 1025, 1881 and 1888) to conduct a study to determine both the magnitude and an appropriate plan for the disposition of river borne debris. The result of this study and the management plan shall be filed within two years of the issuance of this license. Should there continue to be disagreement regarding the allocation of expense and responsibility for debris removal, the Commission will determine the extent of its licensees' responsibilities at that time.

Historical and Archeological Resources

Comments on the application were solicited from the Historic Preservation Officers of Pennsylvania and Maryland. Pennsylvania offered no significant comments and Maryland did not respond. A review of the National Register of Historic Places revealed one historic site within the project boundary, the terminal facilities of the Susquehanna and Tidewater Canal located with the City of Harve de Grace. That site located on two contiguous tracts of project land was conveyed in fee to the City of Harve de Grace with Commission approval by order issued April 13, 1979. 7/ To protect any cultural resources that may be affected by-the project during the new license term, Article 37 will be included in the license to require consultation with the State Historic Preservation Officers prior to commencement of any construction or development of facilities at the project.

Water Supply

The Conowingo reservoir is used for power production, recreation, and municipal water supply purposes. The reservoir supplies 230 cfs (in the future 460 cfs) to the City of Baltimore and 50 cfs to the Chester Water Authority. It serves as the lower reservoir for the 800-MW Muddy Run Pumped Storage Project No. 2355 and as a source of processing, service, and condenser cooling water in the amount of 3,462 cfs for the 2,170-MW Peach Bottom Nuclear Plant. 8/

7/ In that order the Commission stated that a companion request to grant an easement to the Arundel Corporation for industrial development would be dealt with in a future order. That request is still pending and will not be acted upon in this order.

8/ The use of the project reservoir for water supply for the Peach Bottom Nuclear Plant was approved by Commission order issued October 13, 1970. The use of the Conowingo reservoir as the lower reservoir for the Muddy Run Pumped Storage Project No. 2355 was authorized in the order granting a license for Project No. 2355 issued September 21, 1964.

SRBC has recommended that "any FERC license should defer to the SRBC the task of allocating water from the Project reservoir for public water supply, and make any right to use river flowage conferred by such license, subject to the SRBC's responsibility and authority for water supply." SRBC states that the Applicant "requires reimbursement on the basis of capacity and energy loss charges, for withdrawals of water...from the Conowingo Project reservoir." SRBC suggests that such charges imposed by the licensee are "predicated on the presumption by the Licensee that the present FERC license allocates the total flow of the river for the sole use of the Licensee to generate hydroelectricity thereby overriding all other public interests and uses."

SRBC's concerns are based on a misunderstanding of the nature of the charges imposed at the Conowingo Project and the effect of an FERC license. The Applicant has agreements with the City of Baltimore (City) and the Chester Water Authority (CWA) whereby a fee is charged for withdrawing water from the project reservoir. The charge is imposed not on the water itself but rather on the use made of the project reservoir by placing their respective structures there. These agreements, approved by the Commission, provide compensation to the licensee for the benefit received by the City and CWA in using the project reservoir. Absent the project dam, the City and CWA would have to construct an impoundment to facilitate their intake structure requirements. The licensee makes no claim that its FERC license allocates the flow of the river for its sole use to generate electricity, as alleged by SRBC.

A license issued under the Federal Power Act does not allocate the flow of the stream on which the project is located. No water rights at all are granted by the license. A licensee is directed to obtain sufficient property rights, including water rights, for project purposes and hold those rights for the duration of the license (see, e.g., Article 5, Form L-3 (October 1975)). Any utilization of project property by a third party for a previously unauthorized use is subject to the prior approval of the Commission to insure comprehensive development. This arrangement accommodates a variety of uses of project property including municipal water uses and local water resource management authority such as SRBC's authority in managing the waters of the Susquehanna River Basin. Standard license Article 13 directs licensees upon order of the Commission to permit reasonable use of project reservoirs and properties in the interests of, inter alia, conservation and utilization of the water resources of the region for purposes of municipal or similar uses. Provision is also made for compensation for the use of the project reservoir or other project properties. 9/

9/ For an extended discussion of the standard license condition on joint use of project boundary, see Rumford Falls Power Company, Project No. 2333, 36 FPC 605 (1966).

SRBC's concerns are thus adequately assured by the terms and conditions of this license. No right to allocate the flow of the stream is conferred by this or any FERC license. Should any entity wish to use the project reservoir or other project properties for the purpose of withdrawing water from the reservoir for municipal purposes, that entity would first obtain permission for that allocation of water from the SRBC. The Commission, having reserved the authority to direct the licensee to permit reasonable joint use of project property, would not act to approve such joint use until SRBC had acted on the third party's allocation request indicating its judgment of the compatibility of the joint use proposal with its Comprehensive Plan. The terms of any compensation to the licensee for the use of project property would be fixed by the Commission by approval of an agreement between the licensee and the joint user or, in the absence of agreement, after notice and opportunity for hearing. The views of SRBC with respect to compensation to the licensee will be welcomed in the Commission's deliberations. We are confident that this cooperative procedure will properly protect SRBC's responsibility for water supply and the Commission's interest in supervising the use of project property.

Flood Control

In the interests of preventing loss of life and significantly reducing future damage from floods, SRRC recommended that **licensees at** the other licensed projects on the Susquehanna River conduct a review of the leasing of project lands and discontinue leasing involving residential or nonconforming commercial development within the 100 year floodplain or areas subject to frequent ice jam related flooding.

We share this concern for public safety and the need to minimize property damage in flood-prone areas within the project boundary and will include Article 29 which directs the licensee to prepare a floodplain management Report in consultation with SRBC and other appropriate agencies. The report will identify any project lands within the 100 year flood plain and subject to frequent ice jam related flooding, inventory current uses of flood plain lands, assess the hazard presented by such uses, involve consultation with current lessees, provide guide-lines for future use of project flood plain lands and recommendations for retiring nonconforming uses. With respect to future leases of project lands, Article 38 confers on the licensee the authority without prior approval to permit certain minor uses of project lands and waters. Uses encompassed by this authorization include, inter alia, retaining walls, boat docks roads, sewers. All other uses of project lands, including leasing of project lands for residential development, are subject to review to determine if prior Commission approval is required. It is incumbent upon the applicant to demonstrate to the Commission that the proposed conveyance and use of project lands would be in the public interest, including the safety of persons and property.

Upon completion of its flood plain management report pursuant to Article 29, Applicant will also have guidelines for future use of project flood plain lands developed in consultation with appropriate agencies.

Other Environmental Considerations

Approval of a new license for Project No. 405 would permit continued operation of a facility which began operation over 50 years ago. Although the ecosystem of the project area has reached some state of equilibrium, certain environmental impacts as discussed in this order are still occurring and we have therefore conditioned this license to provide for the protection of the environmental resources of the project area. On the basis of the record, including agency and intervenor comments and the Commission staff's independent analysis, we conclude that issuance of this new license for Project No. 405, as conditioned, would not constitute a major federal action significantly affecting the quality of the human environment.

Comprehensive Development

The Conowingo Project utilizes all available head from the tailwater of the upstream Holtwood Project to tidewater in Maryland. Operation of the project is coordinated with the operation of the 800-MW Muddy Run Pumped Storage Project No. 2355, located 12 miles upstream from Conowingo Dam on the east bank of the Susquehanna River. Articles 31 and 32 provide for the coordinated operation of the Conowingo and Muddy Run Projects.

The continued operation of the Conowingo Project would provide 514,400 kW of installed capacity capable of an average annual generation of 1.7 million MWh, and would utilize a renewable resource that would save the equivalent of approximately 2.8 million barrels of oil a year.

A review of the staff's Evaluation Report for the upstream York Haven Development and SRBC's Comprehensive Plan for Management and Development of the Susquehanna Basin indicates that the project is not in conflict with the plan. There are 12 existing hydroelectric installations located upstream of the project with a total installed capacity of 1,169,535 kilowatts. All of the plants operate principally on a run-of-river basis, with sufficient pondage for daily peaking operations. In addition, there are several potential hydroelectric project sites within the Susquehanna River Basin, all of which are located upstream from the project area. Conowingo, in conjunction with the Muddy Run Pumped Storage Project, fully utilizes the power potential at the site.

Considering that the project fully develops the available head, utilizes practically all of the flow of the Susquehanna River at the site, and provides a multipurpose reservoir, it is concluded that

the project will be best adapted to a comprehensive plan for developing the Susquehanna River, upon compliance with the terms and conditions of this license.

Federal Takeover

Section 14 of the Federal Power Act reserves to the United States the right to take over a non-publicly owned project upon expiration of the license, after paying to the licensee the net investment in the project, not to exceed the fair value of the property taken, plus severance damages, if any. No federal department or agency, state, or municipality recommended takeover or redevelopment of the project by the United States or any other entity. The project is not in conflict with any project authorized or under study by the United States. None of the above governmental units has objected to the relicensing of the project. We know of no reason why federal takeover of the project would better serve the public interest than issuance of this license. Consequently, we shall not recommend federal takeover.

Term of License

The original license for Project No. 405 was issued on February 20, 1926 for a fifty-year period terminating February 19, 1976. The project has been operating under successive annual licenses since that time.

The Commission policy enunicatcd in the Order Issuing New License (Major) for Project No. 2301 provides that, in general, the term of relicense for projects issued under Section 15 of the Act, where no substantial redevelopment is contemplated or proposed, should be limited to 30 years from the expiration date of the original license. In the instant case, that would result in the new license terminating in 2006. However, inasmuch as the Conowingo Project No. 405 and the Muddy Run Pumped Storage Project No. 2355 are contiguous and their operations are coordinated, it would be desirable to provide for concurrent relicensing of the two projects. The 40 year license for the Muddy Run Pumped Storage Project will expire September 1, 2004. Accordingly, we will provide for concurrent relicensing by issuing the license for the Conowingo Project for a period to expire on September 1, 2004. 10/

10/ New licenses issued this same day for Holtwood Project No. 1881 and York Haven Project No. 1888, both upstream of Conowingo, also provide for expiration of those licenses on September 1, 2004. Only the Safe Harbor Project No. 1025 will not expire concurrently with the other licensed projects on the Susquehanna River but will be subject instead to a 50 year license term due to the substantial redevelopment authorized by that license.

The Commission orders:

(A) A license is hereby issued under Part I of the Federal Power Act (Act) to the Susquehanna Power Company and the Philadelphia Electric Power Company for a period effective the first day of the month of in which this license is issued, and terminating September 1, 2004, for the continued operation and maintenance of the Conowingo Project No. 405 located on the Susquehanna River, a navigable waterway of the United States, in Maryland and Pennsylvania, subject to the terms and conditions of the Act which is incorporated by reference as a part of this license and subject to the regulations the Commission issues under the provisions of the Act.

(B) The Conowingo Project consists of:

(i) all lands to the extent of the Licensee's interests in those lands, constituting the project area and enclosed by the project boundary. The project area and project boundary are shown and described by certain exhibits that form part of the application for license and that are designated and described as:

<u>EXHIBIT</u>	<u>FERC NO. 405-</u>	<u>SHOWING</u>
J, Sheet 1	163	General Map
K, Sheets 1 through 41	164 through 204	Project Map

(ii) Project works consisting of:

(1) a concrete dam 94-feet high at the crest (maximum) section consisting of: (a) a non-overflow gravity section 1,225 feet long at elevation 115.0 msl; (b) on ogee shaped spillway section, the major portion of which is 2,250 feet long and having a crest elevation of 86.0 feet msl controlled by 50 crest gates, each 40 feet wide and 22.5 feet high; and the minor portion of which is 135 feet long adjacent to the powerhouse and having a crest elevation of 98.5 feet msl, controlled by 3 lift-type gates each 40 feet wide and 10 feet high; (c) an intake-powerhouse section 950 feet long; (d) a gravity non-overflow section 100 feet long; (2) the reservoir extending 14 miles upstream at normal maximum surface water elevation of 109.5 feet covering 8,640 acres with a gross storage capacity of 310,000 acre-feet, 71,000 acre-feet of which are usable in nine feet of drawdown; (3) one-foot-high stop logs for all gates to keep the pool elevation at 109.5 feet; (4) two 60-ton and one 90-ton spillway gate crane; (5) a powerhouse integral with the dam, housing; (6) seven indoor generating units each comprised of a 54,000-hp turbine and a 36,000-kW direct-coupled generator and four outdoor units each comprised of 85,000-hp turbine and a direct-coupled 65,000-kW generator; (7) two 1,900-hp house turbines each coupled to 1,200-kW generators; (8) the two 220-kV transmission lines extending from the project substation to East Nottingham; (9) the 13.8-kV generator leads,

13.8/33-kV step-up transformers, the 33-kV bus and other transmission equipment, and (10) appurtenant facilities. The location, nature and character of these project works are generally shown and described by the exhibits cited above and more specifically shown and described by certain other exhibits that also form part of the application for license and that are designated and described as:

<u>EXHIBIT L</u> <u>SHEET NO.</u>	<u>FERC NO.</u>	<u>TITLE</u>
1 of 17	405-74	Plan Of Development
2 of 17	405-75	General Plan and Sections of Dam
3 of 17	405-85	General Plan and Sections of Spillway
4 of 17	405-56	Plan and Sections - Railroad Dike
5 of 17	405-57	Power Station - General Plan Sheet No. 1
6 of 17	405-58	Power Station - General Plan Sheet No. 2
7 of 17	405-86	Power Station - General Plan Sheet No. 3
8 of 17	405-60	Power Station - Section Elevation Sheet No. 1
9 of 17	405-61	Power Station - Section Elevation Sheet No, 2
10 of 17	405-87	Power Station - Section Elevation Sheet No, 3
11 of 17	405-63	Power Station - Cross Section Unit No. 4
12 of 17	405-64	Power Station - Cross Section Unit No. 5
13 of 17	405-65	220-kV Transmission Line R/W Showing Towers
14 of 17	405-66	220-kV Transmission Line Susquehanna River Crossing

15 of 17	405-88	Power Station - Cross Section Unit No. 8
16 of 17	405-89	Power Station - Cross Section Unit No. 10
17 of 17	405-80	Power Station - East End Elevation

Exhibit M - consisting of six pages, entitled "General Description of Mechanical, Electrical, and Transmission Equipment and Appurtenances" filed with the Commission on November 8, 1972.

The Revised Exhibit R filed July 29, 1975, consisting of:

(A) 5 pages of Text, and 3 tabulations,

(B) The folloing 10 drawings:

<u>SHEET NO.</u>	<u>FERC NO.</u>	<u>TITLE</u>
1	405-205	Detailed Inventory of Existing Recreation above Conowingo Dam
2	405-206	Detailed Inventory of Existing Recreation below Conowingo Dam
3	405-153	Key Map, Initial and Ultimate Recreational Development
4	405-154	Conowingo Creek Boat Launching Facility
5	405-155	Conowingo Fishermen's Park and Fishermen's Warning System
6	405-156	Conowingo Fishermen's Park, Picnic Pavillion, Floor Plans
7	405-157	Proposed Conowingo Recreation Park--Plot Plan
8	405-158	Proposed Conowingo Recreation Park--Admini- stration Building
9	405-159	Proposed Conowingo Recreation Park--Washroom and Laundry
10	405-160	Proposed Conowingo Recreation Vistors Center

(iii) all of the structures, fixtures, equipment, or facilities used or useful in the maintenance or operation of the project and

located within the project boundary, all portable property that may be employed in connection with the project, located within or outside the project boundary, as approved by the Commission, and all riparian or other rights, that are necessary or appropriate in the maintenance or operation of the project.

Exhibit S - consisting of 23 pages of text filed July 29, 1975.

(C) Exhibits J, L, M and R, as designated and described in paragraph (B) above, are approved and made a part of the license. Exhibit K is approved to the extent that it shows the general locations, description and nature of the project.

(D) The license is also subject to the Articles 1 through 28 set forth in Form L-3 (Revised October, 1975) entitled, "Terms and Conditions of License for Constructed Major Project Affecting Navigable Waters of the United States," attached to and made a part of this license. This license is also subject to the following additional articles.

Article 29. In consultation with appropriate Federal, State and local agencies, including the Susquehanna River Basin Commission, the Licensee shall prepare a flood plain management report to be filed with the Commission within one year of the issuance date of this license. The report shall: (1) identify all project lands within the 100 year flood plain: (2) specify which of those lands are subject to frequent flooding due to ice jamming: (3) identify the type of use of each designated parcel of project flood plain lands: (4) assess the consistency of each specified use with any hazard to life or property presented by its location in the flood plain: (5) detail consultation with current lessees: (6) include any recommendations for retiring any existing uses of the project flood plain that are incompatible with public safety and prudent flood plain management: and, (7) provide guidelines for future uses of project flood plain lands.

Article 30. The Licensee shall pay the United States, for the costs of administration of Part I of the Act, a reasonable annual charge as determined by the Commission in accordance with the provisions of its regulations, in effect from time to time. The authorized installed capacity for such purposes is 686,000 horsepower.

Article 31. The Conowingo Reservoir shall be available to the Muddy Run Project, FERC No. 2355, as a lower pool for pumped-storage operations and to the Peach Bottom Nuclear Plant as a source of cooling water.

Article 32. The Licensees shall operate the Conowingo Reservoir between minimum elevation 100.5 feet and normal maximum elevation 109.5 feet, shall permit the Licensee of Muddy Run Project, FERC No. 2355, to utilize a maximum of 35,500 acre-feet of pondage weekly from Conowingo Reservoir, and shall coordinate the operation of the Conowingo Project with the Muddy Run Project in such a manner as to maximize total power benefits from both projects.

Article 33. The Licensee shall file within 60 days from the issuance date of the license "as-built" Exhibit L drawings showing the tendons in the dam.

Article 34. Licensee shall, in consultation with the Maryland Department of Natural Resources, the Maryland Department of Health and Mental Hygiene, the Pennsylvania Fish Commission, the U.S. Fish and Wildlife Service of the Department of the Interior, and the Susquehanna River Basin Commission, develop a mutually satisfactory study plan to determine: (1) the seasonal variations of dissolved oxygen (DO) concentration and temperature in the project reservoir, in the discharge from the project, and in the Susquehanna River downstream to the Interstate Highway 95 bridge: (2) the effects of project operation on temperature and DO levels in the reservoir, in the discharge from the project, and downstream: (3) the source, nature, and quantity of oxygen-demanding materials present in and entering the project reservoir: (4) the most feasible methods for ensuring that water released from the project meets State water quality standards: and (5) the minimum flow releases from the project that are necessary to protect and enhance fish and wildlife resources. The development of the plan shall be coordinated with the coincident study plans of DO conditions and flow releases being developed for the Holtwood Project, FERC No. 1881, the Safe Harbor Project, FERC No. 1025, and the York Haven Project, FERC No. 1888, and shall include consideration of the operation of other headwater developments in the basin. Within four months after the date of issuance of this license, the Licensee shall file with the Commission for approval a mutually satisfactory study plan. If the Licensee and the agencies consulted cannot agree on a study plan, then within four months from the date of issuance of this license the Licensee shall file its proposed study plan with the Commission for approval, together with any reports or comments it has received on the plan from any consulted agency. At the same time, copies of the filing shall be served upon the agencies consulted. The Commission reserves the right to require modifications to the study plan. (\

The Licensee shall conduct the study as approved by the Commission. Within three months after the date of completion of the study, the Licensee shall file with the Commission for approval a report on the results of the study, including a schedule of minimum flow releases from the project and recommended measures for the maintenance of State water quality standards. At the same time, copies of the report shall be served upon the agencies consulted.

Article 35. Licensee shall implement and modify when appropriate the emergency action plan on file with the Commission designed to provide an early warning to upstream and downstream inhabitants, property owners, and recreational users if there should be an impending or actual sudden release of water caused by an accident to, or failure of, project works. That plan shall include: instructions to be provided on a continuing basis to operators and attendants for actions they are to take in the event of an emergency: detailed and documented plans for notifying law enforcement

agents, appropriate Federal, State, and local agencies, operators of water-related facilities, and those residents, owners of properties, and recreational users that could be endangered; actions that would be taken to reduce the inflow to the reservoir, if possible, by limiting the outflow from upstream dams or control structures; and actions to reduce downstream flow by controlling the outflow from dams located on tributaries to the stream on which the project is located. Licensee shall also submit a summary of the study used as a basis for determining the areas that may be affected by any emergency, including criteria and assumptions used. Licensee shall monitor any changes in upstream or downstream conditions which may influence possible flows or affect areas susceptible to damage, and shall promptly make and file with the Commission appropriate changes in the emergency action plan. The Commission reserves the right to require modifications to the plan.

Article 36. Pursuant to Section 10(d) of the Act, a specified reasonable rate of return upon the net investment in the project shall be used for determining surplus earnings of the project for the establishment and maintenance of amortization reserves. One-half Of the project surplus earnings, if any, accumulated under the license, in excess of the specified rate of return per annum on the net investment, shall be set aside in a project amortization reserve account as of the end of each fiscal year: Provided, that, if and to the extent that there is a deficiency of project earnings below the specified rate of return per annum for any fiscal year under the license, the amount of such deficiency shall be deducted from the amount of any surplus earnings accumulated thereafter until absorbed, and one-half of the remaining surplus earnings, if any cumulatively computed, shall be set aside in the project amortization reserve account; and the amounts thus established in the project amortization reserve account shall be maintained therein until further order of the Commission.

The annual specified reasonable rate of return shall be the sum of the weighted cost components of long-term debt, preferred stock, and the cost of common equity, as defined herein. The weighted cost component for each element of the reasonable rate of return is the product of its capital ratios and cost rate. The current capital ratios for each of the above elements of the rate of return shall be calculated annually based on an average of 13 monthly balances of amounts properly includable in the Licensees' long-term debt and proprietary capital accounts as listed in the Commission's Uniform System of Accounts. The cost rates for such ratios shall be the weighted average cost of long-term debt preferred stock for the year, and the cost of common equity shall be the interest rate on 10-year government bonds (reported as the Treasury Department's 10-year constant maturity series) computed on the monthly average for the year in question plus four percentage points (400 basis points).

Article 37. Prior to the commencement of any construction or development of any project works or other facilities at the project, the Licensee shall consult and cooperate with the State Historic Preservation Officer (SHPO) to determine the need for, and extent of, any archeological or historic resource surveys and any mitigative measures that may be necessary. The Licensee shall provide funds in a reasonable amount for such activity. If any previously unrecorded archeological or historic sites are discovered during the course of construction, construction activity in the vicinity shall be halted, a qualified archeologist shall be consulted to determine the significance of the sites, and the Licensee shall consult with the SHPO to develop a mitigation plan for the protection of significant - archeological or historic resources. If the Licensee and the SHPO cannot agree on the amount of money to be expended on archeological or historic work related to the project, the Commission reserves the right to require the Licensee to conduct, at its own expense, any such work found necessary.

Article 38. (a) In accordance with the provisions of this article, the Licensee shall have the authority to grant permission for certain types of use and occupancy of project lands and waters and to convey certain interests in project lands and waters for certain other types of use and occupancy, without prior Commission approval. The Licensee may exercise the authority only if the proposed use and occupancy is consistent **with** the purposes of protecting and enhancing the scenic, recreational, and other environmental values of the project. For those purposes, the Licensee shall also have continuing responsibility to supervise and control the uses and occupancies for which it grants permission, and to monitor the use of, and ensure compliance with the covenants of the instrument of conveyance for, any interests that it has conveyed, under this article. If a permitted use and occupancy violates any condition of this article or any other condition imposed by the Licensee for protection and enhancement of the project's scenic, recreational, or other environmental values, or if a covenant of a conveyance made under the authority of this article is violated, the Licensee shall take any lawful action necessary to correct the violation. For a permitted use or occupancy, that action includes, if necessary, cancelling the permission to use and occupy the project lands and waters and requiring the removal of any non-complying structures and facilities.

(b) The types of use and occupancy of project lands and waters for which the Licensee may grant permission without prior Commission approval are: (1) landscape plantings: (2) non-commercial piers, landings, boat docks, or similar structures and facilities: and-(3) embankments, bulkheads, retaining walls, or similar structures for erosion control to protect the existing shoreline. To the extent feasible and desirable to protect and

enhance the project's scenic, recreational, and other environmental values, the Licensee shall require multiple use and occupancy of facilities for access to project lands or waters. The Licensee shall also ensure, to the satisfaction of the Commission's authorized representative, that the uses and occupancies for which it grants permission are maintained in good repair and comply with applicable State and local health and safety requirements. Before granting permission for construction of bulkheads or retaining walls, the Licensee shall: 1) inspect the site of the proposed construction, (2) consider whether the planting of vegetation or the use of riprap would be adequate to control erosion at the site, and (3) determine that the proposed construction is needed and would not change the basic contour of the reservoir shoreline. To implement this paragraph (b), the Licensee may, among other things, establish a program for issuing permits for the specified types of use and occupancy of project lands and waters, which may be subject to the payment of a reasonable fee to cover the Licensee's costs of administering the permit program. The Commission reserves the right to require the Licensee to file a description of its standards, guidelines, and procedures for implementing this paragraph (b) and to require modifications of those standards, guidelines, or procedures.

(c) The Licensee may convey easements or rights-of-way across, or leases of, project lands for: (1) replacement, expansion, realignment, or maintenance of bridges and roads for which all necessary State and Federal approvals have been obtained; (2) storm drains and water mains; (3) sewers that do not discharge into project waters; (4) minor access roads; (5) telephone, gas, and electric utility distribution lines; (6) non-project overhead electric transmission lines that do not require erection of support structures within the project boundary; (7) submarine, overhead, or underground major telephone distribution cables or major electric distribution lines (69 kv or less); and (8) water intake or pumping facilities that do not extract more than one million gallons per day from a project reservoir. No later than January 31 of each year, the Licensee shall file three copies of a report briefly describing for each conveyance made under this paragraph (c) during the prior calendar year, the type of interest conveyed, the location of the lands subject to the conveyance, and the nature of the use for which the interest was conveyed.

(d) The Licensee may convey fee title to, easements or rights-of-way across, or leases of project lands for: (1) construction of new bridges or roads for which all necessary State and Federal approvals have been obtained; (2) sewer or effluent lines that discharge into project waters, for which all necessary Federal and State water quality certificates or permits have been obtained; (3) other pipelines that cross project lands or waters but do not discharge into project waters; (4) non-project overhead electric transmission lines that require erection of support structures within the project boundary, for which all necessary Federal and State approvals have been obtained; (5) private or public marinas that can accommodate no more than 10 watercraft at one time and are located at least one-half mile from any other private or public marina; (6) recreational development consistent with an approved Exhibit R or approved report on recreational resources of an Exhibit E; and (7) other uses, if: (i) the amount of land conveyed for a particular use is five acres or less; (ii) all of the land conveyed is located at least 75 feet, measured horizontally, from the edge of the project reservoir at normal maximum surface elevation; and (iii) no more than 50 total acres of project lands for each project development are conveyed under this clause (d)(7) in any calendar year. At least 45 days before conveying any interest in project lands under this paragraph (d), the Licensee must file a letter to the Director, Office of Electric Power Regulation, stating its intent to convey the interest and briefly describing the type of interest and location of the lands to be conveyed (a marked Exhibit G or K map may be used), the nature of the proposed use, the identity of any Federal or State agency official consulted, and any Federal or State approvals required for the proposed use. Unless the Director, within 45 days from the filing date, requires the Licensee to file an application for prior approval, the Licensee may convey the intended interest at the end of that period.

(e) The following additional conditions apply to any intended conveyance under paragraphs (c) or (d) of this article:

(1) Before conveying the interest, the Licensee shall consult with Federal and State fish and wildlife or recreation agencies, as appropriate, and the State Historic Preservation Officer.

(2) Before conveying the interest, the Licensee shall determine that the proposed use of the lands to be conveyed is not inconsistent **with** any approved Exhibit R or approved report on recreational resources of an Exhibit E; or, if the project does not have an approved Exhibit R or approved report on recreational resources, that the lands to be conveyed do not have recreational value.

(3) The instrument of conveyance must include covenants running with the land adequate to ensure that: (i) the use of the lands conveyed shall not endanger health, create a nuisance, or otherwise be incompatible with overall project recreational use: and (ii) the grantee shall take all reasonable precautions to ensure that the construction, operation, and maintenance of structures or facilities on the conveyed lands will occur in a manner that **will** protect the scenic, recreational, and environmental values of the project.

(4) The Commission reserves the right to require the Licensee to take reasonable remedial action to correct any violation of the terms and conditions of this article, for the protection and enhancement of the project's scenic, recreational, and other environmental values.

(f) The conveyance of an interest in project lands under this article does not in itself change the project boundaries. The project boundaries may be changed to exclude land conveyed under this article only upon approval of revised Exhibit G or drawings (project boundary maps) reflecting exclusion of that land. Lands conveyed under this article will be excluded from the project only upon a determination that the lands are not necessary for project purposes such as operation and maintenance, flowage, recreation, public access, protection of environmental resources, and shoreline control, including shoreline aesthetic values. Absent extraordinary circumstances, proposals to exclude lands conveyed under this article from the project shall be consolidated for consideration when revised Exhibit G or K drawings would be filed for approval for other purposes.

Article 39. The Licensee shall, to the satisfaction of the Commission's authorized representative, install and operate any signs, lights, sirens, barriers or other safety devices that may reasonably be needed to warn the public of fluctuations in the flow from the project, and to protect the public in its recreational use of project lands and waters.

Article 40. The Licensee shall, within one year from the date of issuance of this license, file a revised Exhibit F and, for commission approval, revised Exhibit K and R drawings which include within the project boundary all recreational lands developed or proposed for development, and all existing project land downstream from Conowingo Dam.

Article 41 / Licensee shall, in consultation with the Department of the Army Corps of Engineers and the Susquehanna River Basin Commission, and in cooperation with the licensees of Holtwood Project, FERC No. 1881, Safe Harbor Project, FERC No. 1025, and York Haven Project. FERC No. 1888 conduct a study to determine both the magnitude and an appropriate plan for disposition of river borne debris. The results of the debris study, and a plan for implementing the recommendations contained therein shall be filed with the Commission within two years from the date of issuance of this license.

Article 42. Licensee shall conduct a study of the islands in the upper reach of the project reservoir to determine the ecological characteristics of the islands and the need for restricting or precluding recreational or other use. A report of the results of the study--- along with any recommendations for the use of the islands shall be filed with the Commission within one year of the issuance of the license.

(E) This order is final unless an application for rehearing is filed within 30 days from the date of its issuance, as provided in Section 313(a) of the Act. The filing of an application for rehearing does not operate as a stay of the effective date of this license or of any other date specified in this order, except as specifically ordered by the Commission. Failure of the Licensee to file an application for rehearing shall constitute acceptance of this license. In acknowledgment of acceptance of this license, the license shall be signed for the Licensee and returned to the Commission within 60 days from the date of issuance of this order.

By the Commission.

(S E A L)



Kenneth F. Plumb,
Secretary.

IN TESTIMONY of its acknowledgement of acceptance of all of the terms and conditions of this Order, the Susquehanna Power Company this _____ day of _____ 19____ has caused its corporate name to be signed hereto by _____, its _____ President, and its corporate seal to be affixed hereto and attested by _____ its _____ Secretary, pursuant to a resolution of its Board of Directors duly adopted on the _____ day of _____, 19____, a certified copy of the record of which is attached hereto.

By _____
President

Attest:

secretary

(Executed in quadruplicate)

IN TESTIMONY of its acknowledgement of acceptance of all of
the terms and conditions of this Order, the Philadelphia Electric Power
Company this _____ day of _____, 19
has caused its corporate name to be signed hereto by

_____, its _____

President, and its corporate seal to be affixed hereto and

attested by _____ its _____

Secretary, pursuant to a resolution of its Board of Directors

duly adopted on the _____ day of _____, 19__ , a

certified copy of the record of which is attached hereto.

By _____
President

Attest:

Secretary

(Executed in quadruplicate)

*Standard License
Articles*

Form L-3
(Revised October, 1975)

FEDERAL ENERGY REGULATORY COMMISSION

TERMS AND CONDITIONS OF LICENSE FOR CONSTRUCTED
MAJOR PROJECT AFFECTING NAVIGABLE
WATERS OF THE UNITED STATES

Article 1. The entire project, as described in this order of the Commission, shall be subject to all of the provisions, terms, and conditions of the license.

Article 2. No substantial change shall be made in the maps, plans, specifications, and statements described and designated as exhibits and approved by the Commission in its order as a part of the license until such change shall have been approved by the Commission: Provided, however, That if the Licensee or the Commission deems it necessary or desirable that said approved exhibits, or any of them, be changed, there shall be submitted to the Commission for approval a revised, or additional exhibit or exhibits covering the proposed changes which, upon approval by the Commission, shall become a part of the license and shall supersede, in whole or in part, such exhibit or exhibits theretofore made a part of the license as may be specified by the Commission.

Article 3. The project area and project works shall be in substantial conformity with the approved exhibits referred to in Article 2 herein or as changed in accordance with the provisions of said article. Except when emergency shall require for the protection of navigation, life, health, or property, there shall not be made without prior approval of the Commission any substantial alteration or addition not in conformity with the approved plans to any dam or other project works under the license or any substantial use of project lands and waters not authorized herein; and any emergency alteration, addition, or use so made shall thereafter be subject to such modification and change as the Commission may direct. Minor changes in project works, or in uses of project lands and waters, or divergence from such approved exhibits may be made if such changes will not result in a decrease in efficiency, in a material increase in cost, in an adverse environmental impact, or in impairment of the general scheme of development; but any of such minor changes made without the prior approval of the Commission, which in its judgment have produced or will produce any of such results, shall be subject to such alteration as the Commission may direct.

Article 4. The project, including its operation and maintenance and any work incidental to additions or alterations authorized by the Commission, whether or not conducted upon lands of the United States, shall be subject to the inspection and supervision of the Regional Engineer, of the Commission, in the region wherein the project is located, or of such other officer or agent as the Commission may designate, who shall be the authorized representative of the Commission for such purposes. The Licensee shall cooperate fully with said representative and shall furnish him such information as he may require concerning the operation and maintenance of the project, and any such alterations thereto, and shall notify him of the date upon which work with respect to any alteration will begin, as far in advance thereof as said representative may reasonably specify, and shall notify him promptly in writing of any suspension of work for a period of more than one week, and of its resumption and completion. The Licensee shall submit to said representative a detailed program of inspection by the Licensee that will provide for an adequate and qualified inspection force for construction of any such alterations to the project. Construction of said alterations or any feature thereof shall not be initiated until the program of inspection for the alterations or any feature thereof has been approved by said representative. The Licensee shall allow said representative and other officers or employees of the United States, showing proper credentials, free and unrestricted access to, through, and across the project lands and project works in the performance of their official duties. The Licensee shall comply with such rules and regulations of general or special applicability as the Commission may prescribe from time to time for the protection of life, health, or property.

Article 5. The Licensee, within five years from the date of issuance of the license; shall acquire title in fee or the right to use in perpetuity all lands, other than lands of the United States, necessary or appropriate for the construction, maintenance, and operation of the project. The Licensee or its successors and assigns shall, during the period of the license, retain the possession of all project property covered by the license as issued or as later amended, including the project area, the project works, and all franchises, easements, water rights, and rights of occupancy and use; and none of such properties shall be voluntarily sold, leased, transferred, abandoned, or otherwise disposed of without the prior written approval of the Commission, except that the Licensee may lease or otherwise dispose of interests in project lands or property without specific written approval of the Commission pursuant

to the then current regulations of the Commission. The provisions of this article are not intended to prevent the abandonment or the retirement from service of structures, equipment, or other project works in connection with replacements thereof when they become obsolete, inadequate, or inefficient for further service due to wear and tear; and mortgage or trust deeds or judicial sales made thereunder, or tax sales, shall not be deemed voluntary transfers within the meaning of this article.

Article 6. In the event the project is taken over by the United States upon the termination of the license as provided in Section 14 of the Federal Power Act, or is transferred to a new licensee or to a non-power licensee under the provisions of Section 15 of said Act, the Licensee, its successors and assigns shall be responsible for, and shall make good any defect of title to, or of right of occupancy and use in, any of such project property that is necessary or appropriate or valuable and serviceable in the maintenance and operation of the project, and shall pay and discharge, or shall assume responsibility for payment and discharge of, all liens or encumbrances upon the project or project property created by the Licensee or created or incurred after the issuance of the license: Provided, That the provisions of this article are not intended to require the Licensee, for the purpose of transferring the project to the United States or to a new licensee, to acquire any different title to, or right of occupancy and use in, any of such project property than was necessary to acquire for its own purposes as the Licensee.

Article 7. The actual legitimate original cost of the project, and of any addition thereto or betterment thereof, shall be determined by the Commission in accordance with the Federal Power Act and the Commission's Rules and Regulations thereunder.

Article 8. The Licensee shall install and thereafter maintain gages and stream-gaging stations for the purpose of determining the stage and flow of the stream or streams on which the project is located, the amount of water held in and withdrawn from storage, and the effective head on the turbines; shall provide for the required reading of such gages and for the adequate rating of such stations; and shall install and maintain standard meters adequate for the determination of the amount of electric energy generated by the project works. The number, character, and location

of gages, meters, or other measuring devices, and the method of operation thereof, shall at all times be satisfactory to the Commission or its authorized representative. The Commission reserves the right, after notice and opportunity for hearing, to require such alterations in the number, character, and location of gages, meters, or other measuring devices, and the method of operation thereof, as are necessary to secure adequate determinations. The installation of gages, the rating of said stream or streams, and the determination of the flow thereof, shall be under the supervision of, or in cooperation with, the District Engineer of the United States Geological Survey having charge of stream-gaging operations in the region of the project, and the Licensee shall advance to the United States Geological Survey the amount of funds estimated to be necessary for such supervision, or cooperation for such periods as may be mutually agreed upon. The Licensee shall keep accurate and sufficient records of the foregoing determinations to the satisfaction of the Commission, and shall make return of such records annually at such time and in such form as the Commission may prescribe.

Article 9. The Licensee shall, after notice and opportunity for hearing, install additional capacity or make other changes in the project as directed by the Commission, to the extent that it is economically sound and in the public interest to do so.

Article 10. The Licensee shall, after notice and opportunity for hearing, coordinate the operation of the project, electrically and hydraulically, with such other projects or power systems and in such manner as the Commission may direct in the interest of power and other beneficial public uses of water resources, and on such conditions concerning the equitable sharing of benefits by the Licensee as the Commission may order.

Article 11. Whenever the Licensee is directly benefited by the construction work of another licensee, a permittee, or the United States on a storage reservoir or other headwater improvement, the Licensee shall reimburse the owner of the headwater improvement for such part of the annual charges for interest, maintenance, and depreciation thereof as the Commission shall determine to be equitable, and shall pay to the United States the cost of making such determination as fixed by the Commission. For benefits

provided by a storage reservoir or other headwater improvement of the United States, the Licensee shall pay to the Commission the amounts for which it is billed from time to time for such headwater benefits and for the cost of making the determinations pursuant to the then current regulations of the Commission under the Federal Power Act.

Article 12. The United States specifically retains and safeguards the right to use water in such amount, to be determined by the Secretary of the Army, as may be necessary for the purposes of navigation on the navigable waterway affected and the operations of the Licensee, so far as they affect the use, storage and discharge from storage of waters affected by the license, shall at all times be controlled by such reasonable rules and regulations as the Secretary of the Army may prescribe in the interest of navigation, and as the Commission may prescribe for the protection of life, health, and property, and in the interest of the fullest practicable conservation and utilization of such waters for power purposes and for other beneficial public uses, including recreational purposes, and the Licensee shall release water from the project reservoir at such rate in cubic feet per second, or such volume in acre-feet per specified period of time, as the Secretary of the Army may prescribe in the interest of navigation, or as the Commission may prescribe for the other purposes hereinbefore mentioned.

Article 13. On the application of any person, association, corporation, Federal agency, State or municipality, the Licensee shall permit such reasonable use of its reservoir or other project properties, including works, lands and water rights, or parts thereof, as may be ordered by the Commission, after notice and opportunity for hearing, in the interests of comprehensive development of the waterway or waterways involved and the conservation and utilization of the water resources of the region for water supply or for the purposes of steam-electric, irrigation, industrial, municipal or similar uses. The Licensee shall receive reasonable compensation for use of its reservoir or other project properties or parts thereof for such purposes, to include at least full reimbursement for any damages or expenses which the joint use causes the Licensee to incur. Any such compensation shall be fixed by the Commission either by approval of an agreement between the Licensee and the party or parties benefiting or after notice and

opportunity for hearing. Applications shall contain information in sufficient detail to afford a full understanding of the proposed use, including satisfactory evidence that the applicant possesses necessary water rights pursuant to applicable State law, or a showing of cause why such evidence cannot concurrently be submitted, and a statement as to the relationship of the proposed use to any State or municipal plans or orders which may have been adopted with respect to the use of such waters.

fishway
Article 14. In the construction or maintenance of the project works, the Licensee shall place and maintain suitable structures and devices to reduce to a reasonable degree the liability of contact between its transmission lines and telegraph, telephone and other signal wires or power transmission lines constructed prior to its transmission lines and not owned by the Licensee, and shall also place and maintain suitable structures and devices to reduce to a reasonable degree the liability of any structures or wires falling or obstructing traffic or endangering life. None of the provisions of this article are intended to relieve the Licensee from any responsibility or requirement which may be imposed by any other lawful authority for avoiding or eliminating inductive interference.

Article 15. The Licensee shall, for the conservation and development of fish and wildlife resources, construct, maintain and operate, or arrange for the construction, maintenance and operation of such reasonable facilities, and comply with such reasonable modifications of the project structures and operation, as may be ordered by the Commission upon its own motion or upon the recommendation of the Secretary of the Interior or the fish and wildlife agency or agencies of any State in which the project or a part thereof is located, after notice and opportunity for hearing.

Article 16. Whenever the United States shall desire, in connection with the project, to construct fish and wildlife facilities or to improve the existing fish and wildlife facilities at its own expense, the Licensee shall permit the United States or its designated agency to use, free of cost, such of the Licensee's lands and interests in lands, reservoirs, waterways and project works as may be

reasonably required to complete such facilities or such improvements thereof. In addition, after notice and opportunity for hearing, the Licensee shall modify the project operation as may be reasonably prescribed by the Commission in order to permit the maintenance and operation of the fish and wildlife facilities constructed or improved by the United States under the provisions of this article. This article shall not be interpreted to place any obligation on the United States to construct or improve fish and wildlife facilities or to relieve the Licensee of any obligation under this license.

Article 17. The Licensee shall construct, maintain, and operate, or shall arrange for the construction, maintenance, and operation of such reasonable recreational facilities, including modifications thereto, such as access roads, wharves, launching ramps, beaches, picnic and camping areas, sanitary facilities, and utilities, giving consideration to the needs of the physically handicapped, and shall comply with such reasonable modifications of the project, as may be prescribed here- after by the Commission during the term of this license upon its own motion or upon the recommendation of the Secretary of the Interior or other interested Federal or State agencies, after notice and opportunity for hearing.

Article 18. So far as is consistent with proper operation of the project, the Licensee shall allow the public free access, to a reasonable extent, to project waters and adjacent project lands owned by the Licensee for the purpose of full public utilization of such lands and waters for navigation and for outdoor recreational purposes, including fishing and hunting: Provided, That the Licensee may reserve from public access such portions of the project waters, adjacent lands, and project facilities as may be necessary for the protection of life, health, and property.

Article 19. In the construction, maintenance, or operation of the project, the Licensee shall be responsible for, and shall take reasonable measures to prevent, soil erosion on lands adjacent to streams or other waters, stream sedimentation, and any form of water or air pollution. The Commission, upon request or upon its own motion, may order the Licensee to take such measures as the Commission finds to be necessary for these purposes, after notice and opportunity for hearing.

Article 20. The Licensee shall clear and keep clear to an adequate width lands along open conduits and shall dispose of all temporary structures, unused timber, brush, refuse, or other material unnecessary for the purposes of the project which results from the clearing of lands or from the maintenance or alteration of the project works. In addition, all trees along the periphery of project reservoirs which may die during operations of the project shall be removed. All clearing of the lands and disposal of the unnecessary material shall be done with due diligence and to the satisfaction of the authorization representative of the Commission and in accordance with appropriate Federal, State, and local statute and regulations.

Article 21. Material may be dredged or excavated from, or placed as fill in, project lands and/or waters only in the prosecution of work specifically authorized under the license; in the maintenance of the project; or after obtaining Commission approval, as appropriate. Any such material shall be removed and/or deposited in such manner as to reasonably preserve the environmental values of the project and so as not to interfere with traffic on land or water. Dredging and filling in a navigable water of the United States shall also be done to the satisfaction of the District Engineer, Department of the Army, in charge of the locality.

Article 22. Whenever the United States shall desire to construct, complete, or improve navigation facilities in connection with the project, the Licensee shall convey to the United States, free of cost, such of its lands and rights-of-way and such rights of passage through its dams or other structures, and shall permit such control of its pools, as may be required to complete and maintain such navigation facilities.

Article 23. The operation of any navigation facilities which may be constructed as a part of, or in connection with, any dam or diversion structure constituting a part of the project works shall at all times be controlled by such reasonable rules and regulations in the interest of navigation, including control of the level of the pool caused by such dam or diversion structure, as may be made from time to time by the Secretary of the Army.

Article 24. The Licensee shall furnish power free of cost to the United States for the operation and maintenance of navigation facilities in the vicinity of the project at the voltage and frequency required by such facilities and at a point adjacent thereto, whether said facilities. are constructed by the Licensee or by the United States.

Article 25. The Licensee shall construct, maintain, and operate at its own expense such lights and other signals for the protection of navigation as may be directed by the Secretary of the Department in which the Coast Guard is operating.

Article 26. If the Licensee shall cause or suffer essential project property to be removed or destroyed or to become unfit for use, without adequate replacement, or shall abandon or discontinue good faith operation of the project or refuse or neglect to comply with the terms of the license and the lawful orders of the Commission mailed to the record address of the Licensee or its agent, the Commission will deem it to be the intent of the Licensee to surrender the license. The Commission, after notice and opportunity for hearing, may require the Licensee to remove any or all structures, equipment and power lines within the project boundary and to take any such other action necessary to restore the project waters, lands, and facilities remaining within the project boundary to a condition satisfactory to the United States agency having jurisdiction over its lands or the Commission's authorized representative, as appropriate, or to provide for the continued operation and maintenance of nonpower facilities and fulfill such other obligations under the license as the Commission may prescribe. In addition, the Commission in its discretion, after notice and opportunity for hearing, may also agree to the surrender of the license when the Commission, for the reasons recited herein, deems it to be the intent of the Licensee to surrender the license.

Article 27. The right of the Licensee and of its successors and assigns to use or occupy waters over which the United States has jurisdiction, or lands of the United States under the license, for the purpose of maintaining the project works or otherwise, shall absolutely cease at the end of the license period, unless the Licensee has obtained a new license pursuant to the then existing laws and regulations, or an annual license under the terms and conditions of this license.

Article 28. The terms and conditions expressly set forth in the license shall not be construed as impairing any terms and conditions of the Federal Power Act which are not expressly set forth herein.

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