Exhibit C

SUSQUEHANNA RIVER BASIN COMMISSION

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Application 20000601

PENNSYLVANIA FISH & BOAT COMMISSION
PLEASANT GAP FISH CULTURE STATION

Ground-Water Withdrawal of 0.619 mgd (30-Day Average)
from Wells H-3 and M&E-1 for Fish Aquaculture,
Benner Township, Centre County, Pennsylvania

Review Authority

Commission staff reviewed the application pursuant to Article 3, Section 3.10 of the Susquehanna River Basin Compact, P.L. 91-575, Commission Regulation 803.43 relating to ground-water withdrawals. The Commission received the application on March 20, 2000.

Description

Purpose. The purpose of the application is to request approval for the withdrawal of ground water to supply a hatchery for fish production (aquaculture).

Location. The project is located in Benner Township, Centre County, Pennsylvania.

Project Features. The applicant has requested approval for the withdrawal of a 30-day average of 0.432 million gallons per day (mgd) (300 gallons per minute or gpm) from Well H-3, 0.187 mgd (130 gpm) from Well M&E-1, and a total of 0.619 (mgd) from both wells. The ground water will supplement the existing spring and stream sources at the fish hatchery during low flow conditions.

The new production wells were developed to augment water supplies of the fish hatchery that are being impacted by two limestone mines located to the east of the hatchery. The Pennsylvania Department of Environmental Protection (Pa. DEP), Bureau of Mining and Reclamation in Hawk Run, believes that flows in the Blue and East Springs have been reduced by the operation of Graybec Lime and Glenn O. Hawbaker Mines.

The hatchery was established in 1903 and currently has an average daily water demand of 5.33 mgd. The peak day demand is reported to be the system capacity of 5.90 mgd. As shown in the table below, the hatchery withdraws most of its water from Blue and East Springs, and Logan Branch, and lesser amounts from Shugart and Hatch Springs and a well at the Visitors' Center. Because of reduced flows from the springs, the hatchery has become increasingly reliant on diversions of water from Logan Branch.

Source	Description	Average Daily Withdrawal	Number of Days Used	Maximum Daily Withdrawal	Metered
Blue Spring	Spring	2.0 mgd	365	5.2 mgd	Yes
East Spring	Spring	2.0 mgd	365	5.2 mgd	Yes
Schugart Spring	Spring	0.15 mgd	365	0.86 mgd*	Yes
Hoy Spring	Spring	0.15 mgd	365	0.86 mgd*	Yes
Logan Branch	Stream	1.0 mgd	120	1.5-2.0 mgd	No

** 0.86 mgd is the combined maximum daily withdrawal from Schugart and Hoy Springs.*

Diversions from Logan Branch amount to an average of 1.0 mgd about 120 days a year. The current diversion dam dates from the 1950's and therefore the surface-water withdrawals predate the effective date of the Commission's surface-water withdrawal regulation. Likewise, the spring withdrawals were in place prior to the effective date of the Commission's surface-water withdrawal regulation. For purposes of this docket, the maximum daily withdrawals noted above are "grandfathered."

All water used by the hatchery is returned to Logan Branch. The distance along Logan Branch between the stream diversion and the return is approximately 4,000 feet; however, springs and seeps downstream from the diversion dam restore flow to the stream reach.

Well H-3, located approximately 200 feet east of Logan Branch, was reportedly drilled in the early 1970's and reconstructed from an 8-inch well to a 12-inch diameter well in November 1999. The well is drilled to a total depth of 397 feet (with 16-inch diameter casing to 25 feet and 12-inch diameter casing to 29 feet) and has a 12-inch diameter borehole to a depth of 200 feet. Well M&E-1, located approximately 450 feet east of Logan Branch, was drilled to a depth of 350 feet in May 1999. The well is 8-inches in diameter and constructed with 29.5 feet of casing. Both wells penetrate the Bellefonte Formation, a dolomite.

Pumping Test. Wells H-3 and M&E-1 were pumped simultaneously during a 48-hour period from November 16 to 18, 1999. Well M&E-1 was pumped at a constant rate of 130 gpm (0.187 mgd); however, the pumping rate of Well H-3 declined with time from 500 gpm to 310 gpm (0.72 to 0.446 mgd) over the 48 hours. Water levels were measured in the production wells, six private wells of the adjacent property owners, and five springs. Impacts to Logan Branch were measured using three weirs and seven streambed piezometers.

Maximum drawdowns observed in Wells H-3 and M&E-1 at the end of the pumping test were approximately 173 feet and 150 feet, respectively. Drawdown in residential wells ranged from negligible to approximately 10 feet. Two of the residential wells (Rice's and Immel's) and one spring used for domestic water supply (Krout's spring) were substantially impacted by the test pumping.

Flow also declined in Spring K-2, from 0.25 gpm to no flow, and in Springs K-3, from 3 to 2 gpm. These springs are unused or have a possible occasional use by cattle. Pumping had no noticeable impact on the Schugart Spring, one of the springs supplying water to the hatchery. The monitoring instrumentation at the Hoy Spring (also a hatchery water supply) failed to operate during most of the test, and monitoring data are inconclusive with respect to impacts from pumping.

As expected, flow in a maximum 900-foot reach of Logan Branch decreased during the pumping test. The flow decreased by approximately 130 gpm at the pumping rates used during the test.

Findings

The withdrawals from Wells H-3 and M&E-1 are subject to approval and reporting requirements as per Commission Regulation 803.43 regarding ground-water withdrawals.

Results from the pumping test indicate Wells H-3 and M&E-1 tap a very transmissive aquifer in the carbonate bedrock. The water-bearing zones supplying Wells H-3 and M&E-1 are located at 45, 58, 66, and 146-147 feet, and 65, 123, 140, 181-185, and 322 feet, respectively. Based on the position of the water bearing zones, the declining pumping rate of Well H-3, and the declining water levels during testing, the combined long-term yield of the wells may not produce more than 300 gpm.

The applicant is aware of these potential limitations but wishes to augment hatchery water supplies with colder water than is now provided by diversions from Logan Branch. These diversions currently amount to up to 2.0 mgd and, for purposes of this docket, this withdrawal is "grandfathered." Because the applicant intends to use the wells only as supplemental sources of supply, staff recommends approving the ground-water withdrawals at the requested rates.

During the pumping test, total drawdown in several neighboring water supply wells and Kraut's spring was substantial. Therefore, staff concluded that the Rice's well, the Immel's well and Kraut's spring should be mitigated before the project's wells are placed in production. The applicant has reported that a well has been drilled for Mr. Kraut and the new wells for the Rices and Immels are scheduled for drilling in early June. Staff finds no additional monitoring of domestic wells is necessary, providing the Rice's and Immel's new wells prove satisfactory.

Streamflow measurements during the pumping test demonstrated an impact to Logan Branch from pumping Wells H-3 and M&E-1. Water level data from the seven stream piezometers indicate the baseflow contribution to Logan Branch is apparently captured by the two pumping wells. The applicant has agreed to provide a passby flow in Logan Branch equivalent to the combined pumping rates of the wells. A passby flow of this magnitude would always exceed the impact of the pumping.

The applicant proposes and staff agrees that this passby flow be established at 300 gpm (0.67 cfs) initially. If the pumping rate can be sustained at 430 gpm, the passby should be increased accordingly.

The weir at the stream diversion from Logan Branch has two keyways but may need additional modifications to provide for the passby flow. Staff should review and approve any construction for the passby.

Staff recommends a minimum passby flow equal to the combined pumping rate be maintained any time withdrawals are made from Wells H-3 and M&E-1. The passby will eliminate concerns of reduced streamflows from pumping in the vicinity of the wells and increase flows in Logan Branch downstream of the diversion to the hatchery. The applicant has agreed to monitor the pumping rates and passby flows on a daily basis.

The applicant will meter the quantity of water withdrawn from Wells H-3 and M&E-1.

The project is subject to SRBC water conservation requirements, as per Commission Regulation 804.20.

The applicant, as an agency of a signatory party to the Commission, is not required to pay an application fee, pursuant to Commission Regulation 803.28 and in accordance with Commission Resolution 98-19. The applicant has provided all proofs of required notification as called for in Commission Regulation 803.25.

The project, as approved below, does not conflict with or adversely affect the SRBC Comprehensive Plan, is physically feasible, and does not adversely influence the present or future use and development of the water resources of the basin.

Decision

The total combined ground-water withdrawal of 0.619 mgd (30-day average) from Wells H-3 and M&E-1, is approved pursuant to Article 3, Section 3.10 of the Compact subject to the following conditions:

a. The applicant shall comply with all SRBC regulations, including ground-water reporting requirements, as per Commission Regulation 803.43. The applicant shall keep daily records of the project's well pumping rate and water withdrawal and shall provide the results to the Commission annually and as otherwise requested.

b. The applicant shall install meters, accurate to within five percent, to determine the amount of water withdrawn from Wells H-3 and M&E. The Commission reserves the right to inspect the measurement equipment and audit all measurement records.

c. The applicant shall comply with SRBC water conservation requirements, as per Commission Regulation 804.20.

d. The applicant shall monitor and record water levels in Wells H-3 and M&E-1 weekly. The applicant shall provide the results to the Commission annually and as otherwise requested.

e. The applicant shall provide alternate water supplies for the Rices and Immels before Wells H-3 and M&E-1 are used. If the Commission determines that operation of the proposed ground-water withdrawal significantly affects any additional existing ground-water or surface-water withdrawal, the applicant shall be required to provide, at its expense, an alternate water supply or other mitigating measures.

f. A passby flow equal to the pumping rate of the wells, but initially established at 432,000 gallons per day (300 gpm), shall be maintained in Logan Branch immediately downstream from the stream diversion weir any time the wells are operating. The applicant shall install accurate measuring and recording instruments or devices to determine the amount of flow in the stream channel. The design and layout of said measuring devices shall be submitted to and be approved by the Commission before installation. Records of daily passby flow readings shall be submitted to the Commission annually and as otherwise requested, and the original field records shall be available at all times for inspection by representatives of the Commission. The required measuring devices shall be installed and readings shall begin when withdrawals are made from Wells H-3 and M&E-1.

g. This action shall not be construed to exempt the applicant from obtaining all necessary permits and/or approvals required for the project from other federal, state or local government agencies having jurisdiction over the project. The Commission reserves the right to modify, suspend or revoke this action if the applicant fails to obtain or maintain such approvals.

h If the project applicant fails to comply with any term or condition of this docket, the Commission may suspend, modify or revoke its approval of same. Upon written notice by the Commission, the project applicant shall have thirty (30) days to correct such non-compliance, unless an alternate period is specified in the notice. Failure to comply within thirty (30) days, or within the alternate period identified in the notice, shall result in a ninety (90) day suspension of approval of this docket. If the project applicant fails to address the non-compliance to the satisfaction of the Commission within the suspension period, this approval may be revoked. Nothing herein shall preclude the Commission from exercising its authority to immediately modify, suspend or revoke this approval where it determines exigent circumstances warrant such action.

i. The Commission reserves the right, based upon new findings, to reopen any project docket and make additional orders that may be necessary to mitigate or avoid adverse impacts or otherwise to protect the public health, safety, welfare or the environment. Commission approval confers no property rights upon project sponsors.

j. This approval is effective until June 8, 2025. In order to continue operation beyond this time, the applicant shall submit a renewal application by December 8, 2024.

k. The applicant has a period of three years from the date of this approval to implement the project or such approval will automatically expire, unless an extension is requested by the applicant and approved by the Commission. Likewise, if the project is discontinued for such a period of time and under such circumstances that an abandonment of the project may be

reasonably inferred, the Commission may rescind the approval of the project unless a renewal is requested by the applicant and approved by the Commission.

By the Commission:

Dated: June 8, 2000

Chair

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