



# SUSQUEHANNA RIVER BASIN COMMISSION

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**Docket No. 20041211**

**Approval Date: December 15, 2004**

## **KNOUSE FOODS COOPERATIVE, INC. GARDNERS PLANT**

Consumptive Water Use of Up to 0.475 mgd,  
for Food Processing and Juice Bottling,  
Tyrone Township, Adams County, Pennsylvania

### **Review Authority**

This project is subject to review pursuant to Article 3, Section 3.10 of the Susquehanna River Basin Compact, P.L. 91-575, 84 Stat. 1509 et seq., and Commission Regulations §803.4, relating to projects requiring review and approval, and §803.42, relating to the consumptive use of water. The Commission received the application on July 2, 2001.

### **Description**

**Purpose.** The purpose of the application is to request approval for the consumptive use of water associated with processing fruit for production of canned goods and bottling of drink products.

**Location.** The project is located in the Lower Susquehanna Subbasin, HUC 02050306, Opossum Creek watershed, Tyrone Township, Adams County, Pennsylvania.

**Project Features.** The project sponsor has requested approval for the consumptive water use of up to 0.475 million gallons per day (mgd). Based on metered water use data submitted by the project sponsor, Commission staff calculates the project's maximum average 30-day consumptive water use to be 0.290 mgd, and the current peak-day consumptive water use to be 0.441 mgd.

Knouse Foods Cooperative, Inc. (Knouse Foods) operates seven bottling/processing facilities in three states; three facilities are in the Susquehanna River Basin. Operations at the Gardners facility began in approximately 1912.

Knouse Foods' Gardners facility processes apples for production of applesauce and apple juice. The majority of apples processed at the facility are stored in off-site cold storage and trucked into the facility for processing. The facility has bottled drink products such as Hawaiian Punch and Coca-cola products in the past, and presently bottles on a limited basis.

Consumptive water use at the facility includes water incorporated into product, steam production for cooking and heating, evaporation by the facility's cooling towers, evapo-transpiration as a result of on-site spray irrigation of treated process wastewater, and any wastewater trucked off-site for disposal.

Water is supplied to the processing facility from five wells and the "Kane Pond", which captures flow from an unnamed tributary to Opossum Creek. The wells supply potable water and Kane Pond supplies non-potable water for cooling and fire suppression. All sources are metered.

Water from the wells is pumped to a covered raw water reservoir. From the raw water reservoir the water is treated to potable standards and stored in a covered "finished" water reservoir. The finished water is used for apple washing, apple transport, domestic uses, steam production, and incorporated into product, as needed. Water discharged from the finished reservoir to the plant is metered.

All wastewater generated at the facility is discharged through a pump station with an hour meter pit to a wastewater storage pond. On-site disposal of stored wastewater is through a spray irrigation system, metered by pump capacity and run time.

Knouse Foods' Gardners facility is regulated by the Pennsylvania Department of Environmental Protection (PADEP). PADEP has issued PWS Permit No. PWS 7010400 for the public water supply of the facility and PADEP Permit No. 019321 for the wastewater disposal by spray irrigation.

### **Findings**

The project is subject to Commission approval and reporting requirements, as per Commission Regulation §803.42.

All water incorporated into product, used for steam production for cooking and heating, evaporated by the facility's cooling towers, evapo-transpired as a result of on-site spray irrigation of treated process wastewater, and trucked off-site for wastewater disposal, is considered to be used consumptively. Consumptive water use as a result of spray irrigation of process wastewater is 85 percent of the total metered amount delivered to the spray system during the months of June through October, and 10 percent of the total metered amount, during the months of November through May.

The wastewater storage pond predates the Commission's consumptive water use regulation; therefore, the project sponsor is not required to provide compensation for the evaporative losses from this pond.

Total influent water supplied to the facility and the total water discharged from the facility is metered. The total water delivered to the waste spray irrigation system is metered. Commission staff recommends that the project's total daily consumptive water use be calculated

by subtracting the facility's metered discharge from total metered influent water supplied to the facility, plus the quantity consumptively used by the spray irrigation system.

Total influent water is the metered sum of potable water and non-potable water supplied to the production facility. Total water discharge is the metered sum of two disposal pumps discharging to the wastewater holding pond. The daily quantity of water consumptively used for spray irrigation of process wastewater is 85 percent of the total metered quantity delivered to the spray system during the months of June through October, and 10 percent of the total metered quantity delivered to the spray system during the months November through May. On the occasion that wastewater is trucked offsite, that quantity of water is considered consumptive.

The project sponsor has requested a consumptive water use approval of up to 0.475 mgd. Based on an analysis of water use records supplied by the project sponsor, Commission staff recommends approval of up to 0.475 mgd, which represents an increase of approximately 7 percent above the current peak-day use of 0.441 mgd. Should the project's future consumptive water use exceed or be expected to exceed 0.475 mgd, the project sponsor must apply for a modification to this docket at that time.

The project sponsor was consumptively using water at the facility for apple processing and bottling drink products before January 23, 1971, the effective date of Commission Regulation §803.42. Commission staff determined pre-1971 consumptive water use to be 0.215 mgd. For purposes of this docket, this quantity of water is considered "grandfathered," and is exempt from water compensation requirements.

The project's consumptive use of water in excess of the "grandfathered" quantity is subject to water compensation requirements, as per Commission Regulation §803.42. To satisfy these requirements, the project sponsor proposes to make quarterly payments to the Commission in-lieu-of providing actual compensation water.

Four of the five wells were in use prior to 1978. The fifth well was installed in 1988. Commission staff calculated the present peak 30-day average groundwater withdrawal from all wells is to be 0.183 mgd, based on submitted data. Commission staff determined the peak 30-day pre-1978 groundwater withdrawal to be 0.101 mgd. Should the project's future groundwater withdrawal exceed or be expected to exceed 0.201 mgd as a 30-day average, the project sponsor must apply for approval of its groundwater withdrawal at that time.

The well field is situated near the topographical divide of the Bermudian Creek and the Opossum Creek watersheds. In support of the consumptive use application, the project sponsor's consultant performed a water budget analysis of the Bermudian Creek watershed and concluded that the withdrawal presents no adverse or adverse cumulative impacts to the watershed. Commission staff accepts that analysis.

Commission staff recognizes the Opossum Creek watershed to be an area of significant water use and potential future stress due to municipal and industrial uses. Knouse Foods' existing groundwater withdrawal captures more recharge from the Opossum Creek watershed than the Bermudian Creek watershed, and the withdrawal is located in the extreme headwaters of

an unnamed tributary to Opossum Creek. Commission staff has determined that the withdrawal potentially impacts base flow to the unnamed tributary to Opossum Creek, a trout stocked fishery.

In addition, the project sponsor has a withdrawal from Kane Pond (surface area 3.2 acres) an off-stream pond that captures water from an unnamed tributary to Opossum Creek. Flow is captured by a riser pipe in the unnamed tributary and diverted to the pond. The project sponsor has installed a rectangular cut concrete impoundment structure immediately downstream of the riser pipe intake. Overflow from the pond spills back to the unnamed tributary via a natural stream course.

Based on submitted data, Commission staff calculated that Knouse Foods' peak 30-day average withdrawal from Kane Pond is 0.125 mgd. The withdrawal existed prior to 1995, the effective date of Commission Regulation §804.44, relating to surface-water withdrawals. Commission staff determined the pre-1995 peak 30-day surface-water withdrawal to be 0.124 mgd. Should the project's future withdrawal from Kane Pond exceed or be expected to exceed 0.224 mgd as a 30-day average, the project sponsor must apply for approval of its surface water withdrawal at that time.

Commission staff calculated the 7-day 10-year low flow (Q7-10 flow) for the unnamed tributary to Opossum Creek to be 0.011 cubic feet per second (cfs) [5 gallons per minute (gpm)] and the average daily flow (ADF) to be 0.348 cfs (156 gpm) at the point of withdrawal. The project sponsor's taking exceeds 10 percent of the Q7-10 flow, thereby requiring a passby to protect downstream aquatic habitat and users. The unnamed tributary to Opossum Creek is designated a Trout Stocked Fishery. Therefore, Commission staff recommends a passby flow equal to 0.070 cfs (31.4 gpm) which is 20 percent of average daily flow (ADF). To ensure the passby requirement is met, Commission staff recommends modifying the existing intake by elevating the riser pipe and installing a "V" notch weir on the rectangular cut. The finished elevation of the riser pipe should be such that the intake will only accept streamflow greater than 32 gpm.

The project is subject to the Commission's water conservation requirements, as per Commission Regulation §804.20(b).

The project sponsor has paid the appropriate application fee, in accordance with Commission Regulation §803.28, and in accordance with Commission Resolution 98-19, as amended by Commission Resolution 2000-06. The project sponsor has provided all proofs of notification, as required by Commission Regulation §803.25.

The project is physically feasible, does not conflict with or adversely affect the Commission's Comprehensive Plan, and does not adversely influence the present or future use and development of the water resources of the basin.

### **Compliance Incentive Program**

Commission staff has determined that the project sponsor is eligible to participate in the Commission's Compliance Incentive Program (CIP). Therefore, the project sponsor would not

be subject to penalties for water consumed in violation of Commission Regulation §803.42 prior to January 1, 2001. In accordance with the CIP, payment to the Commission as a method of compensation for the project's consumptive water use shall be effective and applicable to all consumptive water used by the project beginning January 1, 2001.

### **Decision**

The foregoing findings are hereby adopted and shall be incorporated into and made a part of this decision. The project's consumptive water use of up to 0.475 mgd is approved pursuant to Article 3, Section 3.10 of the Compact subject to the following conditions:

a. The project sponsor shall comply with all Commission regulations, including consumptive water use reporting requirements, as per Commission Regulation §803.42.

b. The project sponsor shall keep daily records of the project's consumptive water use, and shall report the data to the Commission quarterly, and as otherwise required. Quarterly monitoring reports are due within thirty (30) days after the close of the preceding quarter. The daily quantity of water consumptively used shall be the quantity incorporated into product, used for steam production for cooking and heating, evaporated by the facility's cooling towers, evaporated as a result of on-site spray irrigation of treated process wastewater, and trucked off-site for wastewater disposal, to be calculated by subtracting the facility's metered discharge from total metered water supplied to the facility, plus the quantity consumptively used by the spray irrigation system. The daily quantity of water consumptively used for spray irrigation of process wastewater is 85 percent of the total metered quantity delivered to the spray system during the months of June through October, and 10 percent of the total metered quantity delivered to the spray system during the months November through May.

c. The project sponsor shall keep daily records of the project's groundwater withdrawal, and shall report the data to the Commission quarterly, and as otherwise required. Quarterly monitoring reports are due within thirty (30) days after the close of the preceding quarter. The project sponsor may propose alternative monitoring to the Commission for staff review and approval. The Commission reserves the right to inspect all measurement equipment and audit all measurement records. If an increase in the project's groundwater withdrawal exceeds the threshold specified in Commission Regulation §803.43, the project sponsor shall submit the appropriate application for review and approval by the Commission.

d. Within sixty (60) days from the date of this approval, the project sponsor shall install and maintain metering on the water supplied to the facility, the water discharged from the facility, and the water delivered to the spray irrigation system, accurate to within five (5) percent. The project sponsor may propose alternative monitoring to the Commission for staff review and approval. The Commission reserves the right to inspect all measurement equipment and audit all measurement records

e. Within sixty (60) days from the date of this approval, the project sponsor shall install and maintain metering on the surface water withdrawal, accurate to within five (5) percent, and keep daily records of the project's surface water withdrawal. The project sponsor shall report the

data to the Commission quarterly, and as otherwise required. Quarterly monitoring reports are due within thirty (30) days after the close of the preceding quarter. The project sponsor may propose alternative monitoring to the Commission for staff review and approval. The Commission reserves the right to inspect all measurement equipment and audit all measurement records. If the surface water withdrawal exceeds the threshold specified in Commission Regulation §803.44, the project sponsor shall submit the appropriate application for review and approval by the Commission.

f. The project sponsor shall allow a flow to pass in the unnamed tributary to Opossum Creek directly below the intake of not less than 0.070 cfs (31.4 gpm). When the streamflow below the intake is less than this amount, the withdrawal shall be reduced to maintain 0.070 cfs (31.4 gpm) in the stream channel below the intake. When the natural flow is equal to or less than 0.070 cfs (31.4 gpm), no water may be withdrawn, and the entire natural flow shall be allowed to pass the intake to maintain such natural flow in the channel below the intake as may prevail above.

g. The project sponsor shall modify or replace the stream intake structure to incorporate a passive passby flow device. The project sponsor shall submit its design and a proposed construction schedule for a modified or replacement intake structure within sixty (60) days from the date of this approval for review and approval by Commission staff prior to any construction. Following approval, the project sponsor shall complete construction in accordance with the approved schedule and shall certify to the Commission that construction has been completed in accordance with the approved design. The passby system shall be kept fully functional and free of debris.

h. To satisfy the Commission's current compensation requirements for consumptive water use set forth in Commission Regulation §803.42, the project sponsor shall make quarterly payments to the Commission based on the rate of \$0.14 per 1,000 gallons of water consumptively used by the project in excess of the grandfathered quantity. The daily quantity of water consumptively used shall be the quantity of water incorporated into product, used for steam production for cooking and heating, evaporated by the facility's cooling towers, evaporated as a result of on-site spray irrigation of treated process wastewater, and trucked off-site for wastewater disposal. Payment amounts shall be calculated by applying this rate to the daily amount of water used consumptively by the project, less the grandfathered quantity of 0.215 mgd. If the daily grandfathered quantity exceeds the project's daily consumptive water use, that day's consumptive water use is considered to be zero. Quarterly payments are due and payable within thirty (30) days after the close of the preceding quarter. The rate of payment, after appropriate notice to consumptive users of water using this method of compliance, is subject to change at the Commission's discretion.

i. The project sponsor shall comply with the water conservation requirements specified in Commission Regulation §804.20(b).

j. The project sponsor is eligible to participate in the Commission's Compliance Incentive Program (CIP). Therefore, the project sponsor is not subject to penalties for its prior noncompliance. In accordance with the CIP, payment to the Commission as a method of

compensation for the project's consumptive water use shall be effective and applicable to all water used consumptively by the project beginning January 1, 2001. The project sponsor shall provide records of its consumptive water use and make a payment to the Commission based on the rate of \$0.14 per 1,000 gallons of water consumptively used, above the daily grandfathered quantity of 0.215 mgd, during the period from January 1, 2001, until the effective date of this approval. This payment shall be calculated separately and included in the first quarterly payment made by the project sponsor in accordance with the requirements of condition (f) above.

k. If the Commission determines that the operation of the project's groundwater withdrawal from its well field adversely affects any existing groundwater or surface water withdrawal, the project sponsor shall be required to provide, at its expense, an alternate water supply or other mitigating measure.

l. Commission approval shall not be construed to exempt the project sponsor 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 project sponsor fails to obtain or maintain such approvals.

m. The Commission reserves the right to inspect or investigate the project facility, and the project sponsor shall allow authorized employees or agents of the Commission, without advance notice or a search warrant, at any reasonable time and upon presentation of appropriate credentials, and without delay, to have access to and to inspect all areas where the project is being constructed, operated, or maintained. Such employees or agents shall be authorized to conduct tests or sampling, to take photographs, to perform measurements, surveys, and other tests, to inspect the methods of construction, operation, or maintenance, to inspect all measurement equipment, to audit, examine, and copy books, papers, and records pertinent to any matter under investigation, and to take any other action necessary to assure that the project is constructed, operated, or maintained in accordance with the terms and conditions of this approval or any other rule, regulation, or order of the Commission.

n. If the project sponsor fails to comply with the provisions of the Compact or any rule, regulation or order of the Commission, or any term or condition of this docket, the Commission may suspend, modify, or revoke its approval of same, and may impose appropriate fines and penalties. Upon written notice by the Commission, the project sponsor shall have thirty (30) days to correct such noncompliance, unless an alternate period is specified in the notice. 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, or from imposing fines and penalties, regardless of the period of noncompliance.

o. The Commission reserves the right to reopen any project docket or issue such additional orders, as may be necessary, to mitigate or avoid adverse impacts or otherwise to protect public health, safety, welfare, or the environment.

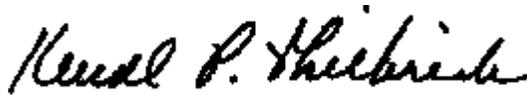
p. Commission approval confers no property rights upon the project sponsor. The securing of all rights necessary and incident to the project sponsor's development and operation

of the project shall be the sole and exclusive responsibility of the project sponsor, and this approval shall be subject thereto.

q. This approval is effective until December 15, 2029. The project sponsor shall submit a renewal application by June 15, 2029, and obtain Commission approval prior to continuing operation beyond December 15, 2029.

r. If the project is discontinued for such a period of time and under such circumstances that an abandonment of the project may reasonably be inferred, the Commission may rescind the approval of the project unless a renewal is requested by the project sponsor and approved by the Commission.

By the Commission:



Dated: December 15, 2004

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Kendl P. Philbrick, Chair  
Maryland Commissioner