DOCKET NO. D-2013-020-1

DELAWARE RIVER BASIN COMMISSION

Special Protection Waters

Nestle Waters North America Inc.
Groundwater Withdrawal and Discharge
Washington Township, Northampton County, Pennsylvania

PROCEEDINGS

This docket is issued in response to an Application submitted by Nestle Waters North America Inc. (NWNA or docket holder) to the Delaware River Basin Commission (DRBC or Commission) on December 13, 2013 for approval of an allocation of groundwater and review of a groundwater water withdrawal project and approval of a discharge of groundwater (Application). The Pennsylvania Department of Environmental Protection (PADEP) approved the temporary discharge on January 13, 2014, subject to approval by the DRBC.

The Application was reviewed for approval under Section 3.8 of the *Delaware River Basin Compact*. The Lehigh Valley Planning Commission has been notified of pending action on this docket. A public hearing on this project was held by the DRBC on June 10, 2014.

A. DESCRIPTION

1. Purpose. The purpose of this docket is to approve a withdrawal of up to 11.696 million gallons per month (mgm) of groundwater from Well IW-1 and a discharge of the withdrawn groundwater to Greenwalk Creek. The project is designed to intercept groundwater containing elevated concentrations of total dissolved solids (TDS), sulfate and calcium, apparently emanating from upgradient former slate mining areas in order to manage NWNA's downgradient existing sources. The operation of Well IW-1 may also have an added benefit of avoiding or mitigating impacts on neighboring private well supplies.

On January 14, 2014, the DRBC Executive Director approved an emergency certificate for this groundwater interception project. The emergency certificate granted permission to NWNA to proceed with the groundwater withdrawals and discharges at rates of up to 200 gpm (8.928 mgm), pursuant to Section 2.3.9.B of the Administrative Manual, Part II, Rules of Practice and Procedure (Rules). After receiving the Certificate, NWNA informed DRBC that it wished to amend its application to increase the proposed withdrawal allocation and discharge flow to match the pumping test rate of 262 gpm (11.696 mgm). Upon completion of its review

of the project, Commission staff prepared draft Docket No. D-2013-020-1, approving the allocation and discharge rate included in NWNA'a amended application. The draft docket was posted for public comment on February 25, 2014 and scheduled to be heard at the Commission's March 11, 2014 public hearing. On March 6, 2014, the Martins Jacoby Watershed Association (MJWA) wrote DRBC to request that the Commission's hearing and any action on draft Docket No. D-2013-020-1 be postponed until the next public meeting of the Commission, to allow time for a scheduled meeting between MJWA and NWNA to take place beforehand. NWNA advised the Commission that it concurred with the request for postponement and requested that the DRBC issue a new or revised emergency certificate to allow the withdrawal and discharge of up to 11.696 mgm (262 gpm) to meet the objectives of the project pending the Commission's action on its application. On March 14, 2014, the Executive Director amended the January 14, 2014 Certificate authorizing NWNA to withdrawal and discharge up to 11.696 mgm (262 gpm) of groundwater from the interception well.

2. Location. The project is located in the Waltz Creek Watershed in Washington Township, Northampton County, Pennsylvania. Well IW-1 is screened in the unconsolidated sand and gravel deposits overlying the Martinsburg Formation. The project withdrawals and discharges are located within the drainage area of the Lower Delaware which is classified as Special Protection Waters. Greenwalk Creek at the project site is designated by the Pennsylvania Department of Environmental Protection (PADEP) as supporting Cold Water Fishes (CWF) and Migratory Fishes (MF).

Specific location information has been withheld for security reasons.

Groundwater withdrawn from Well IW-1 is discharged to the land surface through an energy dissipater and drains to Greenwalk Creek at River Mile 190.65 – 4.59 – 2.35 – 1.67 (Delaware River – Martins Creek – Waltz Creek – Greenwalk Creek) via Outfall 001 as follows:

OUTFALL NO.	LATITUDE (N)	LONGITUDE (W)
001	40° 51' 52"	75° 13' 51"

3. Area Served. The project withdrawals and discharges will be used only for the purpose of intercepting and removing groundwater containing elevated TDS concentrations at the project site as delineated on various maps included in the application. For the purpose of defining the Area Served, Section B (Type of Discharge) and D (Service Area) of the docket holder's Application are incorporated herein by reference, to the extent consistent with all other conditions contained in the DECISION Section of this docket.

4. Physical features.

a. Design criteria. NWNA currently withdraws groundwater from two boreholes (Boreholes B-1 and B-2) that are associated with springs located on the Greenwaltz Springs Facility property located in the Greenwalk Creek watershed in Washington Township, Northampton County, Pennsylvania. DRBC Docket No. D-1998-055-5, issued by the

Commission on December 8, 2011 allows NWNA to withdraw up to 17.05 mgm of groundwater from the two spring water boreholes.

As part of its routine monitoring, NWNA detected increases in TDS, sulfate and calcium concentrations of groundwater flowing toward its spring water sources, with concentrations in certain monitoring wells approaching federal and state drinking water standards. Expanded sampling in 2013 found that groundwater with elevated TDS, sulfate and calcium was naturally discharging via springs that feed Greenwalk Creek.

In June 2013, NWNA informed PADEP of the changes in groundwater quality and in the water quality of Greenwalk Creek. Based on subsequent investigations conducted by PADEP, it appears that constituents in certain spoil material placed in an abandoned, water-filled slate quarry located upgradient of the Greenwaltz Springs Facility is the cause of the elevated concentrations. Constituents in the spoil material used for quarry reclamation had oxidized to form gypsum; and upon placement of this material in the water-filled quarry, the material leached relatively high levels of sulfate, calcium and magnesium resulting in elevated sulfate, calcium and TDS concentrations in the quarry water. Back filling of the abandoned quarry commenced in April 2011 and continued until suspended at PADEP's direction in late June 2013. Water containing elevated TDS, sulfate, and calcium from the quarry area continues to flow into and through a buried sand and gravel aquifer toward the Greenwaltz Springs sources. Additionally, surface water from the former quarry at times flows from the toe of a waste slate pile into Greenwalk Creek.

In August 2013, NWNA drilled an interception well (IW-1) to mitigate impacts of elevated inorganic constituents on NWNA's spring sources. Well IW-1 is screened in the sand and gravel aquifer, which is believed to convey the majority of the impacted groundwater from the upgradient quarry. The well intercepts a portion of the groundwater plume emanating from the quarry and discharges it directly to Greenwalk Creek. Groundwater is withdrawn at a rate of up to 262 gpm, which based on pumping test data described in the FINDINGS Section of this docket, is within the capability of the well. The withdrawals will allow NWNA to remove additional constituent mass from the aquifer to limit further migration toward NWNA's sources. The operation of this well may also have an added benefit of mitigating impacts on neighboring private well supplies. NWNA estimates that the interception well will need to be pumped for at least one (1) year.

Discharge from Well IW-1 is conveyed approximately 300 feet via overland pipe to a 15 square foot stone-lined discharge structure located approximately 50 feet from the bank of Greenwalk Creek. Water flows from the discharge structure through a permeable wattle filtration berm and disperses as overland flow to Greenwalk Creek. Water pumped from well IW-1 is not treated as it contains the same dissolved constituents as are present in the groundwater and currently discharging to Greenwalk Creek at some on-site springs. The piping and discharge structure is located outside any delineated wetlands and 100-year floodplain boundaries. With the exception of a limited amount of temporary earth disturbance associated with the installation of Well IW-1 and the rock energy dissipater, no earth disturbance will occur from the operation of the groundwater interception project.

b. Facilities. The existing project well IW-1 has the following characteristics:

WELL NO.	DEPTH / DIAMETER	SCREENED INTERVAL	PUMP CAPACITY	YEAR DRILLED
IW-1	50' / 8"	40' to 50' bgs	262 gpm	2013

bgs- below ground surface

Well IW-1 is metered.

The project is not located within FEMA mapped flood hazard areas.

The facility is not staffed 24 hours per day nor is it equipped with a remote alarm or emergency generator. Because the facility is discharging groundwater and no additives or treatment of the groundwater is necessary, and the pumping and subsequent discharge of groundwater stops in the event of a power failure, Commission staff recommend approval of the project without SPW treatment facility requirements; remote alarm, emergency generator and an approved emergency management plan.

c. PADEP Temporary Discharge Authorization / DRBC Docket. On January 13, 2014, PADEP approved NWNA to proceed with the temporary discharge from Well IW-1. This authorization expires six months from the approval date, at which time PADEP may consider granting a 6 month extension of the temporary discharge approval. If pumping is expected to exceed the 6 month extension, PADEP will require that NWNA apply for an individual NPDES permit. The docket holder is required to conduct monitoring of the effluent quality as listed in the following table:

EFFLUENT TABLE A-1: Effluent parameters included in PADEP temporary discharge approval.

OUTFALL 001 (WELL IW-1 DISCHARGE)		
PARAMETER	**PADEP LIMIT**	**MONITORING FREQUENCY****
Flow	Monitor and Report	Average Monthly
Total Dissolved Solids*	Monitor and Report	Weekly
Sulfate	Monitor and Report	Weekly
Magnesium	Monitor and Report	Weekly
Calcium	Monitor and Report	Weekly
Sodium	Monitor and Report	Weekly
Chloride	Monitor and Report	Weekly
Alkalinity	Monitor and Report	Weekly
Hardness	Monitor and Report	Weekly
Zinc	Monitor and Report	Weekly

EFFLUENT TABLE A-2: DRBC effluent parameters.

OUTFALL 001 (WELL IW-1 DISCHARGE)		
PARAMETER	**DRBC LIMIT**	**MONITORING FREQUENCY****
Flow	See condition C.I.f.	Weekly
Total Dissolved Solids*	1,000 mg/l	Weekly

*DRBC required parameter

** Depending on the results of the monitoring data, the docket holder may request and the DRBC Executive Director with concurrence from the PADEP, may approve a modification to the monitoring frequency as specified above (see Condition C.I.h.)

In addition, the docket holder is required to monitor for pH, temperature, dissolved oxygen and total dissolved solids in the receiving stream (Greenwalk Creek) above and below the groundwater discharge on a weekly basis. TDS shall also be monitored at the docket holder's weir located on Greenwalk Creek above its confluence with Waltz Creek on a weekly basis. NWNA has the option to conduct simultaneous monitoring of specific conductance and TDS (with specific conductance field readings to be correlated with laboratory TDS results of grab samples) and to request that the Executive Director approve the substitution of specific conductance monitoring for calculation and reporting for TDS once sufficient data are collected to properly correlate the results (see Condition C.I.v.).

d. Cost. The overall cost of this project is estimated to be $100,000.

B. FINDINGS

Background

The purpose of this docket is to approve a withdrawal of up to 11.696 million gallons per month (mgm) of groundwater from Well IW-1 and a discharge of the withdrawn groundwater to Greenwalk Creek in order to manage NWNA's downgradient existing sources. The project is designed to intercept groundwater containing elevated concentrations of total dissolved solids (TDS), sulfate and calcium, apparently emanating from upgradient former slate mining areas. The operation of Well IW-1 may also have an added benefit of avoiding or mitigating impacts on neighboring private well supplies.

IW-1 Pumping Test

A report entitled "Preliminary IW-1 Pumping Test Evaluation" was submitted to the Commission on December 26, 2013. Beginning on November 19, 2013, a 48-hour constant rate pumping test was conducted on Well IW-1 at a pumping rate of 262 gpm. Water levels were measured in the pumping well (IW-1), two overburden wells (Monitoring Wells S-4S and S-6) and one bedrock well (S-2). Background monitoring showed a declining groundwater aquifer trend (approximately 0.1 to 0.15 feet per day) in all of the monitoring points. The natural ambient decline continued through the pumping and recovery phases of the pumping test. The response to pumping on the aquifer was rapid drawdown and stabilization. Within 1 hour of the start of the pumping test, drawdown had stabilized in the pumping and observation wells (i.e., water levels returned to ambient aquifer decline rates). Pumping Well IW-1 experienced a

drawdown of approximately 4.6 feet due to pumping indicating a specific capacity of approximately 57 gpm/ft. Drawdown in the observation wells after 1 hour of pumping (and before well levels returned to the ambient decline rate) was approximately 0.86 feet in Well S-6, located 55 feet from Well IW-1 and 0.14 feet at well S-4S, located 140 feet from Well IW-1. Drawdown in bedrock well S-2 in response to pumping was approximately 0.1 feet. Following the pumping test, water levels in the wells recovered quickly and began declining at the ambient aquifer decline rate within 1 hour after the withdrawals at Well IW-1 had ceased.

The results of the pumping test show that Well IW-1 can be pumped at a rate of 262 gpm for an extended period of time. The withdrawals had very limited influence on the sand and gravel aquifer and underlying bedrock aquifer. Based on the pumping test data, IW-1 can be pumped at 262 gpm with minimal influence on groundwater in the sand and gravel aquifer at the site. Additionally, based on the limited amount of drawdown observed in the bedrock monitoring well and the fact that domestic wells in the area are located at a greater distance from IW-1, the withdrawals should not adversely impact the use of domestic bedrock wells in the area.

Water Quality

Interception well IW-1 was sampled on September 5, 2013 and found to have the following concentrations:

Sulfate	300 mg/L
Calcium	85.9 mg/L
Magnesium	29.6 mg/L
Sodium	32.1 mg/L
TDS	580 mg/L
Chloride	48 mg/L
Alkalinity	170 mg/L

IW-1 groundwater quality is similar to the water quality of onsite springs currently discharging to Greenwalk Creek. No impact to aquatic life is expected as a result of the IW-1 discharge.

In consideration of the scope of the project, the Commission did not require monitoring of BOD_5, total suspended solids, ammonia nitrogen, or fecal coliform as the discharge involves untreated groundwater which is already naturally discharging to the receiving stream. However, the DRBC Executive Director has the authority to modify or extend the monitoring program based on changes in the project scope, duration or site conditions (see Condition C.I.h.4.).

Special Protection Waters

In 1992, the DRBC adopted Special Protection Waters requirements, as part of the DRBC *Water Quality Regulations* (WQR), designed to protect existing high water quality in applicable areas of the Delaware River Basin. One hundred twenty miles of the Delaware River from Hancock, New York downstream to the Delaware Water Gap were classified by the DRBC as SPW. This stretch includes the sections of the river federally designated as "Wild and Scenic" in 1978 -- the Upper Delaware Scenic and Recreational River and the Delaware Water Gap National Recreation Area -- as well as an eight-mile reach between Milrift and Milford,

Pennsylvania which is not federally designated. The SPW regulations apply to this 120-mile stretch of the river and its drainage area.

On July 16, 2008, the DRBC approved amendments to its *Water Quality Regulations* that provide increased protection for waters that the Commission classifies as Special Protection Waters. The portion of the Delaware River and its tributaries within the boundary of the Lower Delaware River Management Plan Area was approved for Special Protection Waters designation and clarity on definitions and terms were updated for the entire program.

Article 3.10.3A.2.e.1). and 2). of the *Water Quality Regulations, Administrative Manual - Part III,* states that projects subject to review under Section 3.8 of the Compact that are located in the drainage area of Special Protection Waters must submit for approval a Non-Point Source Pollution Control Plan that controls the new or increased non-point source loads generated within the portion of the docket holder's service area which is also located within the drainage area of Special Protection Waters. The groundwater interception project is located within in the drainage area to the Special Protection Waters. Erosion and sediment control measures such as straw-bailing, mulching, and re-seeding were employed for construction of the interception well. Additionally, a dual-rotary drilling method was employed to drill the well which minimizes sedimentation in the drilling discharge water. Since this project does not entail additional construction and expansion of facilities (i.e., there are not any new or increased non-point source loads associated with this approval), the non-point source pollution control plan requirement is not applicable at this time. Accordingly, Special Condition C.I.u. has been included in the Decision section of this docket.

The project is designed to conform to the requirements of the *Water Code* and *Water Quality Regulations* of the DRBC.

The DRBC estimates that the project withdrawals, used for the purpose of groundwater interception and discharge, result in a consumptive use of nearly 0 percent of the total water withdrawal. The DRBC definition of consumptive use is defined in Article 5.5.1.D of the *Administrative Manual – Part III – Basin Regulations – Water Supply Charges*.

The project does not conflict with the Comprehensive Plan and is designed to prevent substantial adverse impact on the water resources related environment, while sustaining the current and future water uses and development of the water resources of the Basin.

C. DECISION

I. Effective on the approval date for Docket No. D-2013-020-1, the project and appurtenant facilities as described in the Section A "Physical features" are approved pursuant to Section 3.8 of the *Compact*, subject to the following conditions:

a. Docket approval is subject to all conditions, requirements, and limitations imposed by the PADEP in its temporary discharge approval, and such conditions, requirements, and limitations are incorporated herein, unless they are less stringent than the Commission's.

b. The docket holder shall register with and report to the PADEP all surface and groundwater sources described in this docket in accordance with the Pennsylvania Regulations (Title 25 - Environmental Protection, [25 PA. CODE CH. 110], Water Resources Planning).

c. The facility and operational records shall be available at all times for inspection by the DRBC.

d. The facility shall be operated at all times to comply with the requirements of the *Water Code* and *Water Quality Regulations* of the DRBC.

e. The docket holder shall comply with the requirements contained in Effluent Tables A-1 and A-2 in Section A.4.c. of this docket. The docket holder shall submit the required monitoring results directly to the DRBC Project Review Section. The monitoring results shall be submitted annually, absent any observed limit violations, by January 31. If a DRBC effluent limit is violated, the docket holder shall submit the result(s) to the DRBC within 30 days of the violation(s) and provide a written explanation that states the action(s) the docket holder has taken to correct the violation(s) and protect against any future violations.

f. The well shall not be pumped above the maximum instantaneous rate and monthly allocation as indicated below:

WELL NO.	MAXIMUM INSTANTANEOUS RATE	MONTHY ALLOCATION
IW-1	262 gpm	11.696 mgm

g. The wells shall be equipped with readily accessible capped ports and minimum ½ inch inner diameter (ID) drop pipes so that water levels may be measured under all conditions. Existing wells are to be similarly equipped, where possible, with readily accessible ports and ½ inch ID drop pipes as repairs or modifications are made at each existing well.

h. A water quality monitoring program is required to obtain data on effluent and surface water conditions in the project area. The docket holder shall implement the surface water quality monitoring program as submitted by the docket holder in the application. This program will include the following:

1. **IW-1 Effluent Monitoring** – The IW-1 effluent discharge shall be sampled on a weekly basis for the parameters listed in Effluent Table A-1 in Section A.4.c. of this docket. Depending on the results of the weekly sampling data, the docket holder may request and the Executive Director may approve with the concurrence of the PADEP a modification to the sampling frequency if appropriate.

2. **Greenwalk Creek Monitoring** – The docket holder shall monitor the receiving stream for pH, temperature, dissolved oxygen and TDS above and below the IW-1 discharge on a weekly basis. The docket holder shall also monitor the TDS concentration at its

gage on Greenwalk Creek above its confluence with Waltz Creek. Depending on the results of the weekly sampling data, the docket holder may request and the Executive Director may approve with the concurrence of the PADEP a modification to the sampling frequency if appropriate.

3. **Reports** - All monitoring data, including records required in Conditions h. and i. herein shall be submitted to the Commission on a monthly basis. Depending on the results of the weekly sampling data, the docket holder may request and the Executive Director may approve with the concurrence of the PADEP a modification to the reporting frequency if appropriate.

4. The Executive Director may modify or extend the monitoring program or temporarily suspend or modify this docket at any time if review of the hydrologic data and/or any other information indicates such action is necessary or appropriate.

i. The project withdrawals shall be metered with an automatic continuous recording device that measures to within 5 percent of actual flow. An exception to the 5 percent performance standard, but no greater than 10 percent, may be granted if maintenance of the 5 percent performance is not technically feasible or economically practicable. A record of weekly withdrawals shall be maintained, and monthly totals shall be reported to the PADEP annually or at another frequency as specified by the PADEP and shall be available at any time to the Commission if requested by the Executive Director.

j. The docket holder shall implement to the satisfaction of the PADEP, a drought or other water supply emergency plan.

k. Sound practices of excavation, backfill and reseeding shall be followed to minimize erosion and deposition of sediment in streams from any new facilities or repair related construction.

l. The docket holder shall discharge wastewater in such a manner as to avoid injury or damage to fish or wildlife and shall avoid any injury to public or private property.

m. Nothing herein shall be construed to exempt the docket holder from obtaining all necessary permits and/or approvals from other State, Federal or local government agencies having jurisdiction over this project.

n. The discharge of wastewater shall not increase the ambient temperatures of the receiving waters by more than 5°F, nor shall such discharge result in stream temperatures exceeding 87°F.

o. The docket holder is permitted to treat and discharge wastewaters as set forth in the Area Served Section of this docket, which incorporates by reference Sections B (Type of Discharge) and D (Service Area) of the docket holder's Application to the extent consistent with all other conditions of this DECISION Section.

p. Unless an extension is requested and approved by the Commission in advance, in accordance with paragraph 11 of the Commission's Project Review Fee schedule (Resolution No. 2009-2), the docket holder is responsible for timely submittal of a docket renewal application on the appropriate DRBC application form at least 12 months in advance of the docket expiration date set forth below. The docket holder will be subject to late charges in the event of untimely submittal of its renewal application, whether or not DRBC issues a reminder notice in advance of the deadline or the docket holder receives such notice. In the event that a timely and complete application for renewal has been submitted and the DRBC is unable, through no fault of the docket holder, to reissue the docket before the expiration date below (or the later date established by an extension that has been timely requested and approved), the terms and conditions of the current docket will remain fully effective and enforceable against the docket holder pending the grant or denial of the application for docket approval.

q. The issuance of this docket approval shall not create any private or proprietary rights in the water of the Basin, and the Commission reserves the rights to amend, alter or rescind any actions taken hereunder in order to insure the proper control, use and management of the water resources of the Basin.

r. If the monitoring required herein, or any other data or information demonstrates that the operation of this project significantly affects or interferes with any domestic or other existing uses of ground or surface water, or if the docket holder receives a complaint by any existing ground or surface water users within the zone of influence of the withdrawal, the docket holder shall immediately notify the Executive Director of any complaints by any ground or surface users within the zone of influence of the withdrawal, and unless excused by the Executive Director, shall investigate such complaints. The docket holder should direct phone call notifications of potential well or surface water interference or complaints of interference to the DRBC Project Review Section at 609-883-9500, extension 216. Oral notification must always be followed up in writing directed to the Executive Director. In addition, the docket holder shall provide written notification to all potentially impacted users of wells or surface water supplies of the docket holder's responsibilities under this condition. Any ground or surface water user which is substantially adversely affected, rendered dry or otherwise diminished as a result of the docket holder's project withdrawal, shall be repaired, replaced or otherwise mitigated at the expense of the docket holder. A report of investigation and/or mitigation plan prepared by a hydrologist shall be submitted to the Executive Director as soon as practicable. The Executive Director shall make the final determination regarding the validity of such complaints, the scope or sufficiency of such investigations, and the extent of appropriate mitigation measures, if required.

s. The Executive Director may modify or suspend this approval or any condition thereof, or require mitigating measures pending additional review, if in the Executive Director's judgment such modification or suspension is required to protect the water resources of the Basin.

t. For the duration of any drought emergency declared by either Pennsylvania or the Commission, water service or use by the docket holder pursuant to this approval shall be subject to the prohibition of those nonessential uses specified by the Governor

of Pennsylvania, the Pennsylvania Emergency Management Council, PADEP, or the Commonwealth Drought Coordinator to the extent that they may be applicable, and to any other emergency resolutions or orders adopted hereafter by the Commission.

u. Prior to commencing any construction of any new facilities, the docket holder shall submit and have approved by the Executive Director of the DRBC a Non-Point Source Pollution Control Plan (NPSPCP) in accordance with Section 3.10.3.A.2.e.

v. The docket holder may request of the Executive Director in writing the substitution of specific conductance for TDS. The request should include information that supports the effluent specific correlation between TDS and specific conductance. Upon review, the Executive Director may modify the docket to allow the substitution of specific conductance for TDS monitoring.

w. Any person who objects to a docket decision by the Commission may request a hearing in accordance with Article 6 of the *Rules of Practice and Procedure*. In accordance with Section 15.1(p) of the Delaware River Basin Compact, cases and controversies arising under the Compact are reviewable in the United States district courts.

BY THE COMMISSION

APPROVAL DATE: **June 11, 2014**

EXPIRATION DATE: **June 11, 2019**