DOCKET NO. D-86-11 CP-2

DELAWARE RIVER BASIN COMMISSION

Discharge to the Drainage Area of Special Protection Waters

Borough of Stroudsburg
Wastewater Treatment Plant Expansion
Borough of Stroudsburg, Monroe County, Pennsylvania

PROCEEDINGS

This docket is issued in response to an Application submitted to the Delaware River Basin Commission (DRBC or Commission) by Pennoni Associates Inc. on May 13, 2009, on behalf of the Borough of Stroudsburg, for review of a WWTP modification and expansion. The Pennsylvania Department of Environmental Protection (PADEP) issued preliminary effluent limits for the project expansion and is reviewing the NPDES (Part I) permit application, received by PADEP July 31, 2009. PADEP is awaiting the Water Quality Management (Part II) permit application from the docket holder. The Official Act 537 Plan Update / Regional Sewage Facilities Plan for Stroud Township, Stroudsburg Borough, Pocono Township, and Hamilton Township, Monroe County was approved by the PADEP on October 20, 2009.

The Application was reviewed for continuation of the project in the Comprehensive Plan and approval under Section 3.8 of the *Delaware River Basin Compact*. The Monroe County Planning Commission has been notified of pending action. A public hearing on this project was held by the DRBC on October 22, 2009.

A. DESCRIPTION

1. Purpose. The purpose of this project is to upgrade and expand the docket holder's Stroudsburg Borough Wastewater Treatment Plant (WWTP) from a hydraulic design capacity of 2.5 million gallons per day (mgd) to 4.5 mgd.

2. Location. The project WWTP is located in the Borough of Stroudsburg, Monroe County, Pennsylvania. The WWTP discharges to the McMichael Creek and is located in the drainage area to the Middle Delaware Special Protection Waters (SPW), in Water Quality Zone 1D at River Mile 213.0 – 4.0 – 0.2 (Delaware River - Brodhead Creek - McMichael Creek). McMichael Creek is classified by PADEP as a Trout Stocking Fishery (TSF).

The existing Stroudsburg WWTP outfall (Outfall 001) and the proposed project outfall for the expanded WWTP (Outfall 002) are located in the Brodhead Creek Watershed as follows:

OUTFALL NO.	LATITUDE (N)	LONGITUDE (W)
001	40° 59' 15"	75° 11' 11"
002	40° 59' 16"	75° 11' 10"

3. **Area Served**. The docket holder's WWTP will receive domestic and commercial wastewater flows from the Borough of Stroudsburg as well as portions of Pocono Township, Stroud Township, and Hamilton Township along the U.S. Route 611 corridor, as included in the plan entitled "*WWTP SBR Upgrade and Expansion, Service Area and WWTP Location, Brodhead Creek Regional Authority*", dated February 17, 2009, and submitted as part of the Application. The WWTP will also treat an average of 350,000 gpd of pretreated industrial waste from the Sanofi Pasteur Swiftwater Industrial Water Treatment Plant (Sanofi IWTP), which is included in the project service area. Additionally, the following existing WWTP facilities are expected to connect to the expanded Stroudsburg WWTP: the Pocono Mountain School District WWTP; the Barton Court Mobile Home Park WWTP; Crossing Outlet Stores (also referred to as Outletter Associates) WTTP; and the Great Wolf Lodge WWTP. The aforementioned WWTPs will be closed upon connection to the expanded Stroudsburg WWTP.

For the purpose of defining the Area Served, the Application is incorporated herein by reference consistent with conditions contained in the DECISIONS section of this docket.

4. **Physical features**.

a. **Design criteria**. The docket holder will upgrade the existing WWTP treatment system to a Sequencing Batch Reactor (SBR) system and increase the hydraulic design capacity of the plant from 2.5 million gallons per day (mgd) to 4.5 mgd.

b. **Facilities**. The existing WWTP consists of grit chamber, bar screen/ comminutor, two (2) aeration tanks utilizing a fine bubble diffuser system; two (2) final settling tanks, a sludge holding tank, chemical treatment, and chlorine disinfection. The existing WWTP is designed to treat a design flow of 2.5 mgd.

The proposed upgrades and modifications to the WWTP include the construction of an SBR system (including four new SBRs) and associated modifications to the existing treatment processes, as detailed below:

Influent Equalization Tank: New headworks, equalization tank, and odor control system will be constructed at the WWTP site. Influent from the expanded service area (Pocono and Hamilton Townships, including the additional 350,000 gpd from Sanofi IWTP and the wastewater from the 4 WWTPs to be abandoned) will enter the equalization tank through the first new headworks facility, which will include an aerated grit chamber, two (2) rotating drum screens, and continuous oil and grease removal in order to protect downstream pumping equipment and reduce sedimentation in the equalization tank. The wastewater will be held in an aerated tank until pumped at a controlled rate to the proposed SBR system.

Wastewater Treatment Plant Expansion: Influent from Stroud Township and the Borough of Stroudsburg (the existing service area) will enter the WWTP by gravity and flow into the existing influent pump station. The existing pump station will be modified to include a new coarse screen. Wastewater will then be pumped to the new headworks facility described above

The SBR system will provide Carbonaceous BOD (CBOD) and TSS removal and biological nutrient removal for nitrate-nitrogen and phosphorous. Chemical addition will be used for alkalinity adjustment and phosphorous reduction.

Effluent from the SBRs will be decanted and then sent to the converted Post Aeration/Equalization Tank (converted from the existing sludge holding tank) for storage and aeration, and then pumped to three (3) new Tertiary Cloth Media Filters for TSS and phosphorous removal and polishing. Wastewater will then flow by gravity to the new Ultraviolet Light (UV) Disinfection System prior to discharge to the McMichael Creek.

Waste sludge will be sent to two (2) Sludge Thickeners (converted from the existing clarifiers) and then sent to two (2) Sludge Digesters (converted from the existing aeration tanks). The thickened sludge will be pumped to belt presses for dewatering, and then discharged to dumpters via conveyors. Wasted sludge will be hauled off-site by a licensed hauler for deposit at a (State-approved) facility.

New Outfall to McMichael Creek: The existing outfall consists of one 14-inch diameter pipe and one 16-inch diameter pipe. The existing 16-inch outfall will be maintained as a stormwater outfall. The existing 14-inch pipe is proposed to be grouted and abandoned. A new 30-inch diameter outfall will be constructed from the expanded WWTP. The proposed outfall will be located on the McMichael Creek approximately 100' feet downstream of the existing outfall. During periods of normal and low flow in the McMichael Creek, the WWTP effluent will discharge via gravity through the proposed outfall. When the creek level is above the discharge pipe elevation, the WWTP effluent will be pumped to the McMichael Creek through the same 30-inch outfall pipe.

The docket holder's WWTP discharges to the drainage area of SPW and is required to have available emergency power. The docket holder has indicated that the existing WWTP currently has emergency generators that provide back-up power to the existing facilities. The WWTP expansion project includes all critical treatment components will be provided with a backup power source and/or emergency generators to protect against power outages. The docket holder is required to provide for emergency power for the expanded Stroudsburg WWTP 6 months prior to the expanded WWTP going into operation (See Condition II.s.).

The docket holder's wastewater treatment facility is not staffed 24 hours per day, and is required to provide a remote alarm system that continuously monitors plant operations. (SPW projects) The docket holder has indicated that the existing WWTP currently includes a

remote alarm system. The WWTP expansion project includes a remote alarm system that continuously monitors plant operations, including an installed auto-dialer programmed to telephone a list of contacts (including the plant operator) in case of high water level, failure, or emergency conditions at the plant. A Supervisory Control and Data Acquisition System (SCADA) will be incorporated into the WWTP control system for remote monitoring of process and alarm conditions at the treatment plant. The docket holder is required to install remote alarm controls for the expanded Stroudsburg WWTP 6 months prior to the expanded WWTP going into operation (See Condition II.s.).

The docket holder's wastewater treatment facility does not discharge to Outstanding Basin Waters (OBW), and is not required to have a nonvisible discharge plume.

The docket holder shall prepare and implement an emergency management plan suitable to Commission standards for the expanded WWTP 6 months prior to the expanded WWTP going into operation. The docket holder shall provide to the DRBC an emergency management plan for the existing WWTP by April 22, 2010 (See Condition II.s.).

The existing WWTP is located adjacent to the McMichael Creek to the south and the Brodhead Creek to the east. The proposed expansion is located adjacent to the McMichael Creek to the south. The existing and proposed project WWTP facilities are located outside the 100-year flood zone as a result of an existing United States Army Corps of Engineers (USACE) levee that is located between the WWTP and the McMichael Creek and Brodhead Creek. The levee was constructed in 1962 in order to protect the Borough of Stroudsburg (including the Stroudsburg WWTP) from elevated flood waters in the McMichael and Brodhead Creeks. The flood protection project (levee) is inspected annually by the PADEP Bureau of Waterways Engineering and USACE, which issue a dual certification for the inspection. The most recent certification was issued by PADEP on May 26, 2009, and the levee was found to be "Acceptable".

c. **Water withdrawals**. The potable water supply in the project service area is provided by the Brodhead Creek Regional Authority, whose water supply was approved by DRBC Docket No. D-1991-01 CP-2 on May 10, 2006.

d. **NPDES Permit / DRBC Docket**. NPDES Permit No. PA0029289 was issued by the PADEP on May 31, 2007 for the existing 2.5 mgd Stroudsburg WWTP. On July 10, 2008, the PADEP issued a letter to the docket holder (based on the docket holder's request) which provided preliminary effluent limits for the proposed expansion to 4.5 mgd in response to an Act 537 Plan initiation, not an NPDES permit application. The following DRBC effluent limits are effective upon approval of the docket and are to be incorporated into the PADEP NPDES Permit unless PADEP's effluent limits are more stringent. The effluent limits contained in Table A-3 for the discharge above 2.5 mgd to McMichael Creek, a Trout Stocking Fishery (TSF), were developed from DRBC Special Protection Water (SPW) No Measurable Change (NMC) to Existing Water Quality (EWQ) analyses.

EFFLUENT TABLE A-1: DRBC Parameters included in the NPDES Permit for Outfall 001 for the existing 2.5 mgd WWTP

OUTFALL 001		
PARAMETER	**LIMIT**	**MONITORING**
pH (Standard Units)	6 to 9 at all times	As required in the NPDES permit
Total Suspended Solids	30 mg/l (85% removal*)	As required in the NPDES permit
CBOD5	25 mg/l (85% removal*)	As required in the NPDES permit
Nitrogen - Ammonia (5/1 – 10/31)	10.0 mg/l	As required in the NPDES permit
Fecal Coliform (5/1 – 9/30) (10/1 – 4/30)	200 / 100 ml * 2000 / 100 ml *	As required in the NPDES permit

EFFLUENT TABLE A-2: DRBC Parameters NOT included in the NPDES Permit for Outfall 001 for the existing 2.5 mgd WWTP

OUTFALL 001		
PARAMETER	**LIMIT**	**MONITORING**
Total Dissolved Solids **	1,000 mg/l*	Monthly
Nitrate Nitrogen (May – Oct)	Monitor & Report only	Monthly
Total Phosphorous	Monitor & Report only	Monthly

EFFLUENT TABLE A-3: DRBC Parameters for the new Outfall 002 for the expanded WWTP (new SBR system) effective upon completion of the new expanded plant (see Condition II.d.)

OUTFALL 002		
PARAMETER	**LIMIT**	**MONITORING**
pH (Standard Units)	6 to 9 at all times	Monthly
Total Suspended Solids	10 mg/l (85% removal)*	Monthly
CBOD5	10 mg/l (85% removal)*	Monthly
Nitrogen - Ammonia (May – Oct)	1.5 mg/l*	Monthly
Nitrogen - Ammonia (Nov – April)	4.5 mg/l*	Monthly
Nitrate Nitrogen (May – Oct)	4.0 mg/l*	Monthly
Fecal Coliform	200 / 100 ml*	Monthly
Total Phosphorous	1.0 mg/l*	Monthly
Dissolved Oxygen	7 mg/l (minimum at all times)*	Monthly
Total Dissolved Solids **	1,000 mg/l *	Monthly

* DRBC Requirement ** See Condition II.bb.

e. **Cost**. The overall cost of this project is estimated to be $36,810,000. This construction cost is planning phase estimate and not based on final design of the project expansion. The docket holder is responsible for any additional project review fees associated with the final design costs, which will be based on the difference between the estimate and the final design project cost (See Condition II. k.)

f. **Relationship to Comprehensive Plan.** The existing Stroudsburg WWTP was incorporated into the Comprehensive Plan with the approval of Docket No. D-1986-011 CP-1 on

April 29, 1986. The WWTP expansion from 2.5 mgd to 4.5 mgd will be incorporated into the Comprehensive Plan upon approval of this docket.

B. FINDINGS

The docket holder has requested approval to upgrade the existing WWTP to a Sequencing Batch Reactor (SBR) system and to increase the hydraulic design capacity of the plant from 2.5 million gallons per day (mgd) to 4.5 mgd. The expanded WWTP will receive domestic and commercial wastewater flows from their current service area, which includes the Borough of Stroudsburg and portions of Stroud Township, and an additional service area along the U.S. Route 611 corridor, which includes additional portions of Stroud Township, as well as portions of Pocono Township and Hamilton Township. The WWTP will treat an average of 350,000 gpd of pretreated industrial waste from the Sanofi Pasteur Swiftwater Industrial Water Treatment Plant (Sanofi IWTP), also included in the project service area.

Project History: The additional 2.0 mgd of wastewater generated by the WWTP's expanded service area was originally to be treated by the proposed Pocono Township 2.0 mgd WWTP project, approved by DRBC Docket No. D-2006-17 CP-1 on December 12, 2006. The Pocono Township project proposed a new 2.0 mgd discharge to Brodhead Creek. The proposed Stroudsburg Borough expansion from 2.5 mgd to 4.5 mgd to McMichael Creek, is in lieu of the Pocono Township WWTP, and will serve the service area previously approved for the Pocono Township WWTP.

Special Protection Waters: In 1992, the DRBC adopted Special Protection Waters requirements, as part of the DRBC *Water Quality Regulations, Administrative Manual - Part III* (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 has been 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 Commission's WQR were modified to include new definitions and requirements related to projects in SPW areas.

The docket holder's WWTP discharges to McMichael Creek, a tributary to the Brodhead Creek. The Brodhead Creek is a tributary to the Middle Delaware River Special Protection Waters. The docket holder's WWTP discharge is located in the drainage area of Special Protection Waters and is required to comply with the Special Protection Waters requirements, as outlined in Article 3.10.3A.2. of the *Water Quality Regulations.* The relevant sections of the WQR include, but are not limited to, Section 3.10.3A.2.b.1., Water Quality Management Policies, Sections 3.10.3A.2.d.1, 2, 4 and 5 Policies Related to Wastewater Treatment Facilities,

Section 3.10.3A.2.e. Policies Concerning the Control of Non-Point Sources, Section 3.10.3A.2.f. Classified Special Protection Waters and Tables 1 and 2.

Existing WWTPs located in SPW areas are required to perform a Natural Treatment Alternatives (NTA) analysis when they propose *"Substantial Alterations or Additions"* or are an "*Expanding Wastewater Treatment Plant*" (DRBC *Water Quality Regulations Section 3.10.3A.2.a.*). The hydraulic design capacity increase from 2.5 mgd to 4.5 mgd and the construction of the SBR system are considered to be a *"Substantial Alterations or Additions"* and an "*Expanding Wastewater Treatment Plant*".

During DRBC's review of the previously approved Pocono Township WWTP (DRBC Docket No. D-2006-17 CP-1), Pocono Township performed a non-discharge alternatives / natural treatment alternatives (NTA) analysis for PADEP in the Act 537 Plan titled "Pocono Township Regional Act 537 Special Study Route 611 Corridor", Volumes 1, 2, 3, and 4, dated December 21, 2005, December 29, 2005, April 11, 2006, June 2, 2006 and October 9, 2006. The non-discharge alternatives analysis included a decentralized wastewater analysis that included some natural wastewater treatment alternatives, such as on-lot disposal (subsurface), drip irrigation, seasonal spray and stream discharge and year round spray. The analysis demonstrated that decentralized alternatives for spray irrigation, drip irrigation and subsurface disposal systems were not considered viable for the project service area. Based upon the DRBC's review of the alternatives analysis, the Commission concurred with PADEP's determination that a natural wastewater treatment technology was not feasible (WQR Section 3.10.3A.2.d.5.) for the Pocono Township WWTP service area. Since the service area for Stroudsburg expansion from 2.5 mgd to 4.5 mgd is the same as the service area for the Pocono Township 2.0 mgd, the NTA analysis requirement for the Stroudsburg expansion is satisfied by the Pocono Township submittal, and DRBC staff concur with the previous analysis that the use of NTA is not technically/financially feasible for the Stroudsburg expanded WWTP service area.

SPW regulations require a demonstration that the project discharge will not result in a "Measurable Change" to the "Existing Water Quality" (EWQ) in the Brodhead Creek at the western boundary of the National Park Service's Delaware Water Gap National Recreational Area (DWGNRA). Section 3.10.3A.2.a.4. of the WQR defines "Measurable Change to Existing Water Quality" as an actual or estimated change in a seasonal or non-seasonal mean (for SPW waters upstream of and including River Mile 209.5) or median (for SPW waters downstream of River Mile 209.5) in-stream pollutant concentration that is outside the range of the two-tailed upper and lower 95 percent confidence intervals that define existing water quality.

"Existing Water Quality" for purposes of the Special Protection Waters program is defined for a limited set of parameters, consisting of those listed in Tables 1 and 2 (WQR pages 18-49). Existing water quality is defined in Table 1 for stream reaches between Hancock, New York and the Delaware Water Gap and in Table 2 for stream reaches between the Delaware Water Gap and Trenton, New Jersey. Where existing water quality is not defined in Table 1 and 2, existing water quality may be defined by extrapolation from the nearest upstream or

downstream Interstate Control Point, from data obtained from sites within the same ecoregion, or on the basis of best scientific judgment.

It is the policy of the Commission that there be no measurable change (NMC) in EWQ except towards natural conditions in waters considered by the Commission to have exceptionally high scenic, recreational, ecological, and/or water supply values. Waters with exceptional values may be classified by the Commission as Outstanding Basins Waters (OBW) or Significant Resource Waters (SRW).

The Brodhead Creek at the boundary of the National Park Service's Delaware Water Gap National Recreational Area is considered an Outstanding Basin Water (OBW). Outstanding Basin Waters are to be maintained at their existing water quality. DRBC *Water Quality Regulations* Section 3.10.A.2.b.1. reads in part: "Point and non-point sources of pollutants originating from outside the boundaries of stream reaches classified as OBW shall be treated as required and then dispersed in the receiving water so that no measurable change occurs at Boundary and Interstate Special Protection Waters Control Points (BCPs and ICPs)". The applicable BCP for this project is the point where the Brodhead Creek enters the boundary of the DWGNRA (see Section 3.10.A.2).

EWQ is defined as the actual concentration of a water constituent at an in-stream site or sites, as determined through field measurements and laboratory analysis of data collected over a time period determined by the Commission to adequately reflect the natural range of the hydraulic and climatologic factors which affect water quality. EWQ is described in terms of:

(a) an annual or seasonal mean of the available water quality data,

(b) two-tailed upper and lower 95 percent confidence limits around the mean, and

(c) the 10^{th} and 90^{th} percentiles of the data set from which the mean was calculated.

EWQ for the Brodhead Creek at the DWGNRA BCP was determined in conjunction with the review of the Sanofi Pasteur Swiftwater IWTP expansion project's No Measurable Change (NMC) analysis (see DRBC Docket No. D-1999-071-2; Table B-1, approved 5/10/2006). The EWQ that is protected at the BCP is that which existed at the time of SPW classification in 1992. Water quality data prior to 1993 from EPA's Storet database was used to define EWQ for the DWGNRA Brodhead Creek BCP.

Table B-1: EWQ for Brodhead Creek BCP

	BOD5 (mg/l)	TSS (mg/l)	Total P (mg/l)	Nitrate – Nitrite N (mg/l)	Ammonia – N (mg/l)	D.O. (mg/l)
Mean	2.01	7.40	0.13	0.51	0.07	8.9
95% C.L.	2.54	9.90	0.15	0.56	0.08	8.5

A water quality model, using the USEPA's QUAL2K platform, was developed by Sanofi's consultant, Weston Solutions, for the Brodhead Creek Watershed in support of DRBC Docket No. D-1999-071-2 (Sanofi IWTP expansion project). The Weston Brodhead Creek Water Quality Model (BC-WQM) was developed with input and close coordination and review by Commission staff. The Weston BC-WQM was used to analyze the impact to EWQ at the BCP from the proposed increased discharge from 0.35 mgd to 0.55 mgd from the Sanofi Pasteur IWTP to Swiftwater Creek. Commission staff noted that as the remaining 29 watershed facilities (including the docket holder's existing Borough of Stroudsburg WWTP) increase their flows and loadings to the docketed and permitted allowances, the Weston BC-WQM model predicted a measurable change to EWQ at the DWGNRA BCP. The Weston BC-WQM was calibrated using in stream water quality data sets from 1992 and watershed-wide WWTP discharge information, including actual flows and effluent concentrations, available from the discharge monitoring reports (DMRs). Also included in the model was an analysis of all WWTPs discharging at their full permitted design flows and loads. For those contaminants for which there was no discharge information, typical effluent data was used from DMRs from New Jersey facilities (New Jersey facility DMRs were used because more nutrient data was available than from facilities monitoring in Pennsylvania.)

DRBC staff updated the Weston BC-WQM in late 2006, using the USEPA's latest updated QUAL2K platform, and made other improvements to the model. DRBC staff used the model update (referred to as the 2006 BC-WQM) to evaluate the proposed 2.0 mgd Pocono Township WWTP (D-2006-017 CP-1, approved 12/6/2006).

The 2006 BC-WQM was used to identify the effluent requirements for the Pocono Township WWTP discharge necessary to meet NMC to EWQ at the park boundary. Similar to the NMC requirements applied in the Sanofi project, the NMC requirements applied to the proposed Pocono Township WWTP project only required Pocono Township to mitigate any potential net increase to NMC to EWQ caused by its discharge. Any measurable change (MC) to the EWQ caused by the existing dischargers (i.e., the docket holder's Borough of Stroudsburg WWTP) would need to be mitigated by those dischargers when they undertake projects that are considered "*Substantial Alternatives and Additions*" or an "*Expanded Wastewater Treatment Project*".

During the 2006 BC-WQM development and calibration, it was determined that for some water quality parameters, additional data would be useful. The majority of the existing WWTPs in the Brodhead Creek Watershed did not have effluent limits or monitoring requirements for Total Phosphorous, Ammonia, and Nitrates in either their NPDES permit or in their DRBC Docket. The 2006 BC-WQM used typical values for effluent concentrations for these parameters (as provided by Weston Solutions, the consultant for Sanofi). Obtaining discharger specific effluent data for these parameters would help further refine the BC-WQM.

Since 2006, the Commission has required some docket holders in the Brodhead Creek to perform effluent monitoring for nutrients. Those docket holders include the following:

Docket Number	Facility	Approval Date
D-2006-013-1	Skytop Lodge WWTP	July 19, 2006
D-2006-019-1	Caesars Brookdale WWTP	September 27, 2006
D-2006-020-1	Caesars Paradise Stream WWTP	September 27, 2006
D-2003-025-2	Great Wolf Lodge WWTP	September 27, 2006
D-1977-058-3	Mount Airy Lodge WWTP	May 9, 2007
D-2006-026-1	Pocono Manor WWTP	May 9, 2007
D-2007-039 CP-1	East Stroudsburg Boro WFP	May 14, 2008
D-1999-020 CP-2	Penn Estates Utilities WWTP	May 14, 2008
D-2006-041-1	Rock Tenn Co. IWTP	May 14, 2008
D-1999-071-3	Sanofi Pasteur IWTP	December 10, 2008
D-1991-014-2	PAWC Blue Mountain WWTP	May 6, 2009
D-2009-001-1	Buck Hill Falls WWTP	July 15, 2009

Additionally, the BC-WQM was calibrated with in-stream water quality data. For some of the in-stream water quality data, results were consistently "below detection limits" for CBOD5 and Ammonia. Obtaining additional in-stream water quality for CBOD5 and ammonia at better (lower) detection limits and at specific times and locations throughout the watershed would also be useful in refining the BC-WQM. As part of the Pocono Township WWTP docket approval, Pocono Township was required to gather additional in-stream water quality data to help refine the BC-WQM (referred to as the "Brodhead Creek Monitoring Program" {BC-MP}). On March 7, 2007, the Executive Director of the DRBC approved the BC-MP. The BC-MP consists of 5 years of in-stream water quality sampling at 5 locations throughout the Brodhead Creek Watershed. The five locations are sampled in February, July, August, and September annually. An annual report is required to be submitted to the DRBC by December 1 of each year. Pocono Township has submitted BC-MP reports in 2007 and 2008. The docket holder is required to continue the BC-MP until 2011 (See Condition II.y.). During late 2008 and early 2009, Commission staff used information generated by the BC-MP, additional in-stream data assembled by the Commission, and discharger specific effluent monitoring data to refine the BC-WQM (2009 version).

As stated previously, the Boundary Control Point (BCP) at which there shall be NMC to EWQ, as defined by the *Water Quality Regulations*, is the western boundary of the National Park Service's Delaware Water Gap National Recreational Area (DWGNRA). The BCP location is approximately ¼ of a mile upstream of the Brodhead's confluence with the Delaware River. Marshalls Creek, a tributary of the Brodhead Creek, joins the Brodhead Creek approximately ¾ of a mile upstream of the Brodhead Creek's confluence with the Delaware River. The location on the Brodhead Creek at which water quality data was collected in order to establish EWQ on the Brodhead Creek BCP is at USGS Gaging Station No. 01442500 (Brodhead Creek at Minisink Hills). Gaging Station No. 01442500 is located on the Brodhead Creek approximately

one (1) mile upstream of its confluence with the Delaware River. Since the monitoring point for the existing water quality in the Brodhead Creek is upstream of Marshalls Creek, the analysis point (BCP) of the model is upstream of Marshalls Creek Therefore, the 2006 and 2009 model analysis included an evaluation and prediction of water quality upstream of Marshalls Creek's confluence with the Brodhead, because that is the location where EWQ data existed.

The 2009 model analysis was performed similar to the model analysis in 2006; however, Marshalls Creek tributary was added to the 2009 BC-WQM's domain. Two locations were analyzed using the 2009 model: 1) the original 2006 model location, upstream of Marshalls Creek; and 2) the regulatory BCP, located downstream of Marshalls Creek. The results of the analyses indicated that for all the parameters of concern, there was not a significant change in in-stream concentrations between the two locations.

Note: Sufficient background water quality data from prior to 1992 was not available for Marshalls Creek. Since background water quality data from prior to 1992 was available for the Brodhead Creek, an assumption was made that Marshalls Creek had similar in-stream concentrations for the parameters of concern as the Brodhead Creek. As part of its Scenic Rivers Monitoring Program (SMRP), the National Park Service has commenced monitoring of existing water quality at the Interstate 2028 bridge over the Brodhead. This location on the Brodhead Creek is downstream of Marshalls Creek (closer to the regulatory BCP) and downstream of all tributaries and WWTP dischargers to the Brodhead Creek. As sufficient data from this monitoring location becomes available in the future, the data will be used to evaluate EWQ at the BCP.

In order to demonstrate compliance with the NMC requirement, DRBC staff evaluated several discharge scenarios (model runs) which included all thirty (30) NPDES permitted dischargers with design flows equal to or greater than (≥) 10,000 gpd within the Brodhead Creek watershed. The model was used to predict in-stream concentrations of CBOD5, TSS, Total Phosphorous (P), Nitrite-Nitrate Nitrogen (NO2-NO3-N), Ammonia Nitrogen (NH3-N), and Dissolved Oxygen (D.O.) under different discharge scenarios.

Discharge Scenario (Model Run) No. 1 evaluated all 30 existing permitted dischargers (including the 2.5 mgd Stroudsburg WWTP and the 0.90 mgd Sanofi IWTP) discharging at their current average flows and effluent concentrations. Where current flow information was not available for a specific discharger, the flow equal to half the discharger's NPDES permitted flow was used in **Model Run No. 1**.

Model Run No. 2 evaluated all 30 existing permitted dischargers (including the 2.5 mgd Stroudsburg WWTP and the 0.90 mgd Sanofi IWTP) discharging at their fully permitted flows and their permitted effluent concentration limits.

Model Run No. 3 evaluated the other 28 existing permitted dischargers discharging at their fully permitted flows and their permitted effluent concentration limits, plus the proposed project; which includes Stroudsburg WWTP discharging at 4.5 mgd and the Sanofi IWTP discharging at 0.55 mgd. Since the proposed Stroudsburg expansion is proposed in lieu of the previously approved Pocono Township WWTP, the effluent concentration limits for the Stroudsburg WWTP used in **Model Run No. 3** are equal to the DRBC-approved Pocono

Township WWTP effluent limits. These effluent limits (referred to as the Pocono Township Phase III limits) were approved by DRBC Docket No. D-2006-17 CP-1, and were to "*be effective at the discretion of the Executive Director* (of the DRBC)". The effluent concentration limits for the 0.55 mgd Sanofi IWTP used in **Model Run No. 3** are included in the DRBC Docket No. D-1999-071-2. The permitted flow for Sanofi is reduced to 0.55 mgd since the Stroudsburg 4.5 mgd expansion project proposes to take 0.35 mgd of Sanofi's permitted 0.9 mgd flow. Additionally, the four (4) WWTPs that are scheduled to connect to the Stroudsburg plant after the expansion were removed from this model run, since the four (4) WWTPs will be abandoned upon completion of the Stroudsburg WWTP expansion.

Model Run No. 4 evaluated the other 28 WWTPs discharging at the Commission's Best Demonstrable Technology (BDT) effluent limits, the Stroudsburg WWTP discharging at 4.5 mgd at the Pocono Phase III limits, and the Sanofi IWTP discharging at 0.55 mgd at its permitted effluent concentration limits. The BDT effluent limits are generally considered to be somewhere between what is considered traditional secondary treatment and tertiary treatment. Although not required of tributary dischargers, BDT was chosen for the analysis to determine potential watershed-wide effluent limits necessary in order for the existing dischargers to meet EWQ, when they were discharging at permitted flow conditions.

Table B-2: 2009 BC-WQM Results

Model Run	CBOD5 (mg/l)	TSS (mg/l)	Total P (mg/l)	Nitrite–Nitrate N (mg/l)	Ammonia – N (mg/l)	D.O. (mg/l)
Mean	2.01	7.40	0.13	0.51	0.07	8.9
95% C.L. (EWQ Target)	2.54	9.90	0.15	0.56	0.08	8.5
Run # 1 (All 30 WWTPs at existing conditions)	1.28	1.59	0.03	0.36	0.06	9.44
Run # 2 (All 30 WWTPs at permit limits)	2.21	2.52	0.04	0.85	0.29	9.32
Run # 3 (28 WWTPs at permit limits - Stroudsburg at Pocono Phase III limits, Sanofi IWTP at 0.55 mgd limits)	2.04	2.28	0.05	0.65	0.18	9.34
Run # 4 (28 WWTPs at BDT limits, Stroudsburg at Pocono Phase III limits, Sanofi IWTP at 0.55 mgd limits)	1.50	1.75	0.05	0.53	0.07	9.37

Brodhead Creek Water Quality Model Results (Table B-2)

Model Run No. 1 predicted no calculated measurable change to EWQ at the BCP for the parameters included in the model as a result of the existing dischargers discharging at their current loads and effluent concentrations.

Model Run No. 2 predicted a measurable change to EWQ for Nitrate-Nitrite (0.56 mg/l vs. 0.85 mg/l) and Ammonia (0.08 mg/l vs. 0.29 mg/l). This model run predicted that as the 30 existing WWTPs in the BC-WQM approach their permitted flow rates, there will be a measurable change (MC) to EWQ for the in-stream concentrations of Ammonia and Nitrates/Nitrites at the DWGNRA BCP.

Model Run No. 3 predicted a measurable change to EWQ for Nitrate-Nitrite (0.56 mg/l vs. 0.65 mg/l) and Ammonia (0.08 mg/l vs. 0.18 mg/l). This model run predicted that as the 30 existing WWTPs in the BC-WQM approach their permitted flow rates, there will be a measurable change (MC) to EWQ for the in-stream concentrations of Ammonia and Nitrates/Nitrites at the DWGNRA BCP. However, the amount by which the in-stream concentrations exceed EWQ is substantially mitigated as compared to **Model Run No. 2**.

Model Run No. 4 predicted that with the 28 WWTPs discharging at BDT, the 4.5 mgd Stroudsburg WWTP discharging the Pocono Phase III limits, and the Sanofi 0.55-mgd IWTP discharging at its permitted effluent concentration limits, EWQ would be preserved at the BCP.

Based on the results of the 2009 Brodhead Creek WQM, the expanded 4.5 mgd Stroudsburg WWTP, operating at Pocono Township Phase III effluent limits concentrations, satisfies the No Measurable Change to Existing Water Quality requirement.

The following is a list of all 30 dischargers (including Sanofi IWTP and Stroudsburg WWTP) included in the Brodhead Creek - Water Quality Model (BCWQM):

WWTP/IWTP Name or Owner	DRBC Docket No.	NPDES No.	Permitted Flow (mgd)
East Stroudsburg Borough WFP	D-2007-039 CP-1	PA0034517	0.090
Patterson Kelly Co.		PA0012394	0.016
Sanofi Pasteur	D-1999-071-3	PA0060071	0.55 (existing) 0.90 (proposed)
Pocono Mt. School District*		PA0040444	0.029 (existing)
Rock Tenn Co.	D-2006-041-1	PA0012963	0.027
Skytop Lodge	D-2006-013-1	PA0029874	0.040
Buck Hills Falls	D-2009-001-1	PA0029483	0.200
Kung Mern Sern		PA0034631	0.030
Ceasars Paradise Stream	D-2006-020-1	PA0061115	0.100
Chateau at Camelback			0.020
Mt. Airy Lodge	D-1977-058-3	PA0060054	0.220
Camelback Ski Corp.	D-1986-021(REV)	PA0060569	0.400
Pinebook Bible Conference		PA0035033	0.021
Kettle Creek (Snydersville Diner)		PA0029220	0.005
Pocono Manor	D-2006-026-1	PA0029149	0.140
Pleasant Valley Manor	D-1991-022-1	PA0060704	0.0850
PAWC Blue Mountain	D-1991-014-2	PA0062464	0.275
Barton Court MHP*		PA0035335	0.0117 (existing)
Caesars Brookdale	D-2006-019-1	PA0061921	0.084
Crossing Outlet Stores*		PA0062979	0.024 (existing)
Monsignor McHugh		PA0029190	0.022
Monroe County Vo-Tech		PA0061093	0.010
Penn Estates Utilities	D-1999-020 CP-2	PA0060283	0.560
Mt. Pocono Municipal Authority	D-1991-027 CP-1	PA0044997	0.200
East Stroudsburg	D-1987-015 CP(REV)	PA0020168	2.250
Smithfield Sewage	D-1992-017 CP-2	PA0061361	0.400
Manwalamink Sewer	D-1988-034 CP-1	PA0061786	0.700
Stroudsburg Borough	D-1986-11 CP-2	PA0029289	2.5 (existing) 4.5 (proposed)
Great Wolf Lodge*	D-2003-025-2	PA0064319	0.090 (existing)
Summit	D-2003-007-1	PA0061051	0.200

* Discharge will be 0.0 mgd under proposed conditions (after the Stroudsburg expansion).

The DRBC typically reviews a wastewater treatment facility project after the project has been designed and submitted to the appropriate state agency for approval. In the case of the Stroudsburg expansion, the project is at the design phase, and the docket holder received Act 537 Plan approval from the PADEP on October 20, 2009. The docket holder has submitted an application to the PADEP for a NPDES permit for the proposed discharge (Part I Permit). The docket holder has not submitted an application to PADEP for a Water Quality Management Permit for the proposed construction of wastewater treatment facilities (Part II Permit). The docket holder requested effluent limitations from the DRBC for the proposed expansion since the project discharge is located in the drainage area to SPW and DRBC requirements are expected to be more stringent than PADEP's requirements. Upon receiving docket approval for the 4.5 mgd WWTP expansion, the docket holder plans to submit the Part II permit application to the PADEP. The docket holder is required to submit plans and specifications for the final WWTP design, for approval by the Executive Director (See Condition II. l.)

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 (NPSPCP) 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 service area of the docket holder is located within the drainage area to the Special Protection Waters. Since this project involves a change to the service area, the non-point source pollution control plan requirement is applicable at this time (See Condition II.u.).

Stroudsburg Borough, Stroud Township, Pocono Township, and Hamilton Township (the municipalities served by the existing and expanded Stroudsburg WWTP) were required to adopt Pennsylvania's Act 167 Plan within the Brodhead-McMichaels Creek Watershed. PADEP approved the Brodhead-McMichaels Creek Watershed Act 167 Plan on March 10, 2006. According to the docket holder, Stroudsburg Borough and Pocono Township have adopted and implemented a stormwater ordinance in accordance with the Brodhead-McMichaels Creek Watershed Act 167 Plan. Stroud Township and Hamilton Township are in the process of adopting a stormwater ordinance in accordance with the Act 167 Plan. The Brodhead Creek Watershed Act 167 Plan's stormwater ordinance requirements satisfy the NPSPCP of the Commission. Stroudsburg Borough, Stroud Township, Pocono Township, and Hamilton Township are required to submit to the DRBC evidence that they have adopted a stormwater ordinance in accordance with the Brodhead-McMichaels Creek Watershed Act 167 Plan prior to approving connections from any service area or new development within the service area identified in Description Section A.3 (See Condition II.u.).

The Official Act 537 Plan Update / Regional Sewage Facilities Plan for Stroudsburg Borough, Stroud Township, Pocono Township, and Hamilton Township, Monroe County, approved by the PADEP on October 20, 2009, provides "[i]n order to promote water reuse and to encourage the use of on-lot wastewater disposal as much as practical, the Plan requires that any

developed lot in the (expanded) service area (Pocono and Hamilton Townships) may connect to the system for its existing flow. If a developed lot proposes a change in flow of more than 800 gallons per day, either by conversion of an existing use or redevelopment, sewage planning on an individual basis is required. This shall include an alternatives analysis for potential and possible land disposal opportunities. Any undeveloped lot within the service area may connect to the system if its proposed flow is 800 gallons per day or less. If its proposed flow is more than 800 gallons per day, individual sewage planning will be required including an evaluation of the potential to accommodate all or a portion of the lot's wastewater needs through onsite disposal." (See Condition II.v.)

The Stroudsburg Borough expansion from 2.5 mgd to 4.5 mgd is being proposed in lieu of the Pocono Township WWTP. The "Findings" presented in this docket are for a 4.5 mgd discharge from the Stroudsburg WWTP and zero discharge from the Pocono Township WWTP. Therefore, the Pocono Township docket approval (DRBC Docket No. D-2006-17 CP-1) will be rescinded upon approval of this docket.

The docket holder has indicated that, upon issuance of the Part II permit by the PADEP for the Stroudsburg WWTP expansion, and prior to the expanded WWTP going into operation, the ownership of the Stroudsburg WWTP will be transferred from the Borough of Stroudsburg to the Brodhead Creek Regional Authority (BCRA). BCRA is required to apply to the Commission for transfer of ownership of Docket No. 1986-11 CP-2.

The limits in the NPDES Permit are in compliance with Commission effluent quality requirements, where applicable.

The project is designed to produce a discharge meeting the effluent requirements as set forth in the *Water Quality Regulations* of the DRBC.

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-1986-11 CP-2 below:

a. The projects described in Docket Nos. D-1986-11 CP-1 (Stroudsburg Borough WWTP) and D-2006-17 CP (Pocono Township WWTP) are removed from the Comprehensive Plan to the extent that they are not included in Docket No. D-1986-11 CP-2; and

b. Docket Nos. D-1986-11 CP-1 and D-2006-17 CP are terminated and replaced by Docket No. D-1986-11 CP-2.

c. The project and the appurtenant facilities described in the Section A "Physical Features" of this docket shall be added to the Comprehensive Plan.

II. The project and appurtenant facilities as described in the Section A "Physical features" of this docket 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 Act 537 Plan, NPDES permit and the Part II Permit, and such conditions, requirements, and limitations are incorporated herein, unless they are less stringent than the Commission's. Commission approval of this docket is contingent on the PADEP's approval of the NPDES permit and the Part II permit.

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

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

d. The docket holder shall comply with the requirements contained in the Effluent Tables in Section A.4.d. of this docket. The effluent limits listed in Tables A-1 and A-2 shall apply until the WWTP expansion is operational. After the WWTP expansion becomes operational, the effluent limits listed in Table A-3 shall apply. The docket holder shall submit DRBC required monitoring results directly to DRBC (Project Review Section). The monitoring results shall be submitted annually absent any observed limit violations. If a DRBC effluent limit is violated, the docket holder shall submit the results and provide a written explanation within 30 days of the violation the action(s) the docket holder has taken to correct the violation and protect against a future violation.

e. Except as otherwise authorized by this docket, if the docket holder seeks relief from any limitation based upon a DRBC water quality standard or minimum treatment requirement, the docket holder shall apply for approval from the Executive Director or for a docket revision in accordance with Section 3.8 of the *Compact* and the *Rules of Practice and Procedure*.

f. If at any time the receiving treatment plant proves unable to produce an effluent that is consistent with the requirements of this docket approval, no further connections shall be permitted until the deficiency is remedied.

g. 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.

h. 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. (Non-tidal, Non-trout Waters)

i. Sound practices of excavation, backfill and reseeding shall be followed to minimize erosion and deposition of sediment in streams.

j. Within 10 days of the date that construction of the project has started, the docket holder shall notify the DRBC of the starting date and scheduled completion date.

k. Since the construction cost was estimated prior to final design of the project expansion, the docket holder shall pay any additional project review fees based on the difference between the estimate included in this docket and the final project cost.

l. A copy of the Part II permit application for the expanded Stroudsburg WWTP, including the design plans and specifications for construction, containing sufficient detail to demonstrate that such plans and specifications are consistent with the approved criteria, shall be submitted to DRBC for review by the Executive Director. The Executive Director will review the plans and specifications promptly and furnish an approval or list of concerns to the docket holder in writing. The docket holder shall respond to any concerns and/or modify the plans and specifications to the satisfaction of the Executive Director. The docket holder shall not initiate construction of the proposed expanded WWTP until the Executive Director has approved the plans and specifications.

m. This docket approval shall expire three years from date below unless prior thereto the docket holder has commenced operation of the subject project or has expended substantial funds (in relation to the cost of the project) in reliance upon this docket approval.

n. The docket holder is permitted to treat and discharge the categories of wastewaters defined in the “Area Served” section of this docket.

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

p. No sewer service connections shall be made to newly constructed premises with plumbing fixtures and fittings that do not comply with water conservation performance standards contained in Resolution No. 88-2 (Revision 2).

q. Nothing in this docket approval shall be construed as limiting the authority of DRBC to adopt and apply charges or other fees to this discharge or project.

r. The issuance of this docket approval shall not create any private or proprietary rights in the waters of the Basin, and the Commission reserves the right to amend, suspend or rescind the docket for cause, in order to ensure proper control, use and management of the water resources of the Basin.

s. The docket holder shall install remote alarm controls, provide for emergency power, and submit an emergency management plan to the DRBC for the expanded Stroudsburg WWTP 6 months prior to the expanded WWTP going into operation. The docket holder is required to submit an emergency management plan for the existing WWTP by April 22, 2010. The docket holder shall certify in writing to the Commission that it has complied with this condition.

t. Upon completion of construction of the approved expansion / new SBR treatment system, the docket holder shall submit a statement to the DRBC, signed by the docket holder's engineer or other responsible agent, advising the Commission that the construction has been completed in compliance with the approved plans, giving the final construction cost of the approved project and the date the project is to be placed into operation. Within 10 days of the expanded plant going into operation, the docket holder shall notify the DRBC the date of operations.

u. In accordance with Section 3.10.3A.2.e. of the Commission's Water Quality Regulations, the docket holder shall approve no connections from any service area or new development within the service area identified in Description Section A.3. without first obtaining from the DRBC Project Review Section written confirmation that a Non-Point Source Pollution Control Plan (NPSPCP) approved by the Commission is in place for the service area or development to be served. Evidence that the host municipality (Stroudsburg Borough) and the remaining municipalities located within the service area of the expanded Stroudsburg WWTP (Pocono Township, Stroud Township, and Hamilton Township) have enacted an ordinance conforming to the PADEP-approved Brodhead-McMichaels Creek Watershed Act 167 Plan and written confirmation that the docket holder will comply with the enacted ordinance can satisfy this requirement.

v. No flows from Pocono and Hamilton Townships shall be accepted by the docket holder except in conformance with the following:

i Any developed lot within the Pocono/Hamilton Township service area may connect to the system for its existing flow.

ii. If a developed lot within the Pocono/Hamilton Township service area proposes a change in flow of more than 800 gpd, either by conversion of an existing use or redevelopment, sewage planning on an individual basis is required. This shall include an alternatives analysis for potential and possible land disposal opportunities.

iii. Any undeveloped lot within the Pocono/Hamilton Township service area may connect to the system if its proposed flow is 800 gpd or less.

iv. If an undeveloped lot within the Pocono/Hamilton Township service area proposes a flow of more than 800 gpd, individual sewage planning will be required

including an evaluation of the potential to accommodate all or a portion of the lot's wastewater needs through onsite disposal.

w. In 1992, this portion of the Delaware River and its tributaries was classified as Special Protection Waters. The docket holder will provide assurance to the Executive Director that it is in compliance with Article 3.10.3.2.A.d.1), 2) and 4) of the DRBC *Water Quality Regulations*.

x. A complete application for the renewal of this docket, or a notice of intent to cease the operations (withdrawal, discharge, etc.) approved by this docket by the expiration date, must be submitted to the DRBC at least 12 months prior to the expiration date below (unless permission has been granted by the DRBC for submission at a later date), using the appropriate DRBC application form. 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, the terms and conditions of this docket will remain fully effective and enforceable against the docket holder pending the grant or denial of the application for docket approval.

y. The docket holder shall continue the stream monitoring program as outlined in the Brodhead Creek Monitoring Program (BC-MP) for the final three years (2009, 2010, 2011). An annual report, which will include the monitoring results for the prior year, will be submitted to the Executive Director on December 1 of 2009, 2010, and 2011. The Executive Director may modify the BC-MP if requested by the docket holder or for good cause.

z. 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.

aa. The docket holder and any other person aggrieved by a reviewable action or decision taken by the Executive Director or Commission pursuant to this docket may seek an administrative hearing pursuant to Articles 5 and 6 of the Commission's *Rules of Practice and Procedure,* and after exhausting all administrative remedies may seek judicial review pursuant to Article 6, section 2.6.10 of the *Rules of Practice and Procedure* and section 15.1(p) of the Commission's *Compac*t.

bb. 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.

BY THE COMMISSION

DATE APPROVED: **October 22, 2009**

EXPIRATION DATE: **October 22, 2014**