



November 18, 2016

Commissioners
Delaware River Basin Commission
P.O. Box 7360, 25 Police Drive
West Trenton, NJ 08628-0360

Re: Birdsboro Power, LLC
Consumptive Use
Birdsboro Borough and Exeter and Robeson Townships, Berks County, Pennsylvania
DOCKET NO. D-2016-004-1

Dear Commissioners,

The Delaware Riverkeeper Network (DRN), a private non-profit organization, champions the rights of our communities to a Delaware River and tributary streams that are free-flowing, clean, healthy, and abundant with a diversity of life. DRN has over 16,000 members throughout the Delaware River Watershed including residents of Birdsboro and Berks County.

Birdsboro Power, LLC (BP), an applicant before the Delaware River Basin Commission (DRBC), seeks approval for the applicant's proposed energy generating facility project and its consumptive water use. The project consists of the construction of a 485 megawatt (MW) electric generation facility in Birdsboro. This docket also includes appurtenant water and electric transmission lines in Exeter and Robeson Townships. A 14-mile, 12- to 16-inch diameter natural gas supply pipeline, proposed to be installed by DTE Midstream Appalachia, LLC (DTE), will be reviewed by DRBC separately.

BP proposes to consume up to 2.72 million gallons per day (MGD) of surface water to be provided by the Reading Area Water Authority (RAWA). The docket also constitutes a special use permit in accordance with Section 6.3.4 of the DRBC's *Flood Plain Regulations*.

DRN has reviewed BP's proposed docket and we submit these comments:

Timing of this Docket

The DRBC is appropriately reviewing the natural gas-fired combined-cycle (NGCC) power plant BP proposes to build in Birdsboro, due to the substantial effect on the water resources of the Delaware River Basin that would result from this facility and its appurtenant structures. However, given that the power

DELAWARE RIVERKEEPER NETWORK
925 Canal Street, Suite 3701
Bristol, PA 19007
Office: (215) 369-1188
fax: (215) 369-1181
drn@delawareriverkeeper.org
www.delawareriverkeeper.org

plant's operation is dependent upon the construction of a pipeline to supply gas, it is premature for DRBC to even consider a docket for the power plant. Even though DRBC has assigned DTE a pre-application docket number to the proposed pipeline, DTE has not yet submitted an application submittal. The [Most Recent DRBC Pending Project Status Matrix](#) (dated October 21, 2016) does not list an application from DTE. Until the pipeline has been reviewed and approved by DRBC, action on DOCKET NO. D-2016-004-1 should be deferred.

DRBC Review of DTE Gas Pipeline

DRN has been informed that DRBC is not necessarily treating the DTE gas pipeline as a separate docket, and we are asking for clarification. To not treat the DTE gas pipeline as a separate docket contradicts language in this draft docket:

The Birdsboro Power Facility shall not connect to the DTE Midstream Appalachia, LLC natural gas supply pipeline that is the subject of pre-application No. D-2016-008-1 until DTE secures the approval it seeks from the DRBC

This DOCKET NO. D-2016-004-1 language suggests that DRBC will review the DTE gas pipeline separately, but it imperative that DRBC's review process for the gas pipeline be clarified immediately. If DRBC is considering DTE's pre-application No. D-2016-008-1 concurrently with this docket, DRN asks DRBC to remove DOCKET NO. D-2016-004-1 from consideration at DRBC's Business Meeting on December 14, 2016, and extend the comment period so that DTE's proposed pipeline can be reviewed as well.

DRN also believes that DRBC has a clear responsibility to review natural gas pipelines in the Delaware River Basin. The 14 mile long DTE gas pipeline will involve significant disturbance of ground cover in Berks County and affect both surface and ground water resources. The proposed pipeline path crosses both streams and wetlands, and at times runs in the floodplain of waterways along its route.

The DRBC is tasked with evaluating the cumulative impacts of natural gas pipeline projects in the Delaware River Basin. To meet its obligations under the Compact and the Water Code to ensure that all approved projects are consistent with the Comprehensive Plan, DRBC must fully review, and separately docket, the proposed DTE gas pipeline.

Conflict with the DRBC Comprehensive Plan / Regulatory Floodplain

DRN asserts that the proposed project conflicts with the DRBC's Comprehensive Plan and therefore this docket should be disapproved. The proposed project is located within the 100-year regulatory floodplain, specifically in the flood fringe according to DRBC's *Flood Plain Regulations*. Included in the DRBC's Comprehensive Plan among existing major reservoir projects is the Blue Marsh Project. Among the functions stated for this reservoir is the reduction of flood damages at principal damage centers on the Schuylkill River from Reading to Philadelphia.

Birdsboro is specifically included among the principal damage centers intended to benefit from flood stage reductions afforded by the Blue Marsh Reservoir. In this docket, DRBC is proposing to allow filling of the floodplain at the proposed project site with compacted fill to raise the land surface by 4 feet. The final grade is intended to be at least 1 foot above the regulatory flood elevation. Given the footprint of the proposed power plant facilities (estimated to be in the range of 200,000 to 400,000 square feet), this floodplain filling would displace at minimum of 600,000 cubic feet of floodwaters when inundated by the regulatory flood.

The power plant project site may be located in the flood fringe, that portion of the flood hazard area outside the floodway. DRBC appropriately notes that the food fringe is inundated by the regulatory flood. Allowing this development within the 100-year regulatory floodplain will exacerbate flooding in the vicinity of the project site as well as downstream. Past flooding in Birdsboro has been attributed to backup of the Hay Creek from high stages of the Schuylkill River. The proposed fill on this site will only exacerbate the issue of Hay Creek backup during high Schuylkill flows.

DRBC's *Flood Plain Regulations* indicate that floodplain use shall not result in nuisance to other properties, yet that very harm is likely to result from the floodplain filling proposed in this docket. Despite this impact on the floodplain, no analysis of displaced floodwaters has been undertaken by BP. Until such an analysis is undertaken, and a plan to mitigate for the both environmental and economic impacts of these displaced floodwaters, DRBC should defer approval or disapprove this docket.

Water-Dependence

The NGCC power plant that BP proposes to build in Birdsboro is not water-dependent. A water dependent use is one that can only be conducted on, in, over, or adjacent to the water. BP proposes to secure water for cooling from RAWA. Discharged effluent will be directed to the Birdsboro Municipal Authority's (BMA's) wastewater treatment plant (WWTP). This proposed power plant could be located anywhere. No public interest is served by locating a power plant in the Schuylkill River's floodplain. In fact, the public's interest in reducing flood impacts contraindicates development of a power plant in the floodplain.

Moreover, the siting of this power plant at this location in Birdsboro appears to set a harmful precedent. This power plant will be built within 500 feet of occupied homes. An attempt to assess the impact that this power plant would have on home values by a consultant for the Delaware Riverkeeper Network (Appendix A) could not be completed because an initial screening of power plants could not identify a facility for comparison with homes located closer than one mile. Even when significantly broadening the sample, fewer than 25 homes were found to be located within a one-half mile radius of the power plants reviewed in Pennsylvania, New York, or New Jersey. It is remarkable that this power plant will presumably be the only plant located within 500 feet of occupied homes and that only 25 homes were found to be within a half mile of power plants in the three adjoining states. This encroachment on a residential area represents an unjust infringement that is unusually burdensome to the residents with an untested impact on their health, safety, and their economic well-being.

Building on Compacted Fill

DRBC is proposing to allow filling of the floodplain at the proposed project site with compacted soil fill to raise the land surface by 4 feet. The final grade is intended to be at least 1 foot above the regulatory flood elevation. DRN has serious concerns as to the use of compacted fill to make the site suitable for the proposed power plant.

When it is necessary to build on compacted fill, it is essential that this work be undertaken with extreme care. Very specific constraints are suggested for placement of fill:

Fills constructed above the natural ground surface increase the load on underlying soils, causing larger settlements unless construction of the structure is postponed until fill-induced settlements have taken place. Settlements beneath a proposed fill can be computed using methods outlined in the technical literature. If computed settlements are excessive, consider surcharging and postponing construction until the expected settlement under the permanent

fill loading has occurred. Extend the fill well beyond the loading area, except where the fill is placed against a cut slope. Where the fill is relatively thick and is underlain by soft materials, check its stability with respect to deep sliding. If the fill is underlain by weaker materials, found the footings on the fill unless settlement is excessive. If the fill is underlain by a stronger material, the footings may be founded on the fill or on the stronger material. ¹

Given the timing of this docket, there is likelihood that BP will be moving to undertake filling during the coming winter months. However, this is contraindicated by guidance for use of compacted fill:

Backfill should be placed in lifts no greater than shown in Table 1, preferably 8 inches or less and depending on the soil and type of equipment available. No backfill should be placed that contains frozen lumps of soil, as later thawing will produce local soft spots. Backfill should not be placed on muddy, frozen, or frost-covered ground. ²

Under the proposed docket, DRBC is requesting that the project final grade be at least 1 foot above the regulatory flood elevation to comply with the DRBC's *Flood Plain Regulations*. DRN asks how DRBC will ensure that the fill will be placed in accordance with best practices for use of compacted fill, and that no fill is placed on muddy, frozen, or frost-covered ground, especially given the soil load of the placed fill.

A fill thickness of even 3 feet is a considerable soil load, which will increase stresses to a substantial depth (approximately 2B, where B = smallest lateral dimension of the fill). Stress increases from the fill may be larger than those from structure footings placed on the fill. ³

The proposed power plant would be built within the footprint of a former heavy industrial operation dating to 1944. The site has been described as having concrete floors ranges from 1 to 4 feet in depth. However, the site has not been maintained for many years. The remains of concrete floors have been degraded by heavy use, neglect, and past flooding. BP proposes to “remediate the pre-existing environmental contamination” and undertake “significant cleanup” (Leisenring, T. communication to Kovach, D. and Damiani, B., 6 October 2016), but it is unclear whether that work includes the removal of the concrete on site or whether BP plans to simply place fill on top of any remaining concrete. DRN asks how DRBC will ensure fill is placed on the project site in a way that ensures consistent settlement across the entire area to be filled.

The characteristics of the soils present at the proposed site must also be considered. In the immediate vicinity of the former industrial operation, site soils are described as UgB—Urban land, 0 to 8 percent slopes and Ua—Udorthents,⁴ reflecting the developed nature of the site. However, these descriptions do not reflect the predevelopment soils on site. These predevelopment soils may have been under paved surface or buried by fill, but may remain in the soil horizons and should be factored in any development, especially when the site is proposed to be used as proposed here.

¹ Guyer, J.P. (2013). *An Introduction to Foundations on Fill and Backfilling*. Guyer Partners. Retrieved from <http://www.pdhonline.com/courses/c643/c643content.pdf>

² Guyer, J.P. (2013). *An Introduction to Foundations on Fill and Backfilling*. Guyer Partners. Retrieved from <http://www.pdhonline.com/courses/c643/c643content.pdf>

³ Guyer, J.P. (2013). *An Introduction to Foundations on Fill and Backfilling*. Guyer Partners. Retrieved from <http://www.pdhonline.com/courses/c643/c643content.pdf>

⁴ USDA Natural Resources Conservation Service. (22 July 2016). *Web Soil Survey*. Retrieved from <http://websoilsurvey.nrcs.usda.gov/app/>

At depth, predevelopment soils are likely similar to adjacent soils which include BmB—Birdsboro silt loam, 3 to 8 percent slopes, PeB—Penn channery silt loam, 3 to 8 percent slopes, and LfA—Lamington silt loam, 0 to 3 percent slopes.⁵ DRN notes that these soils are rated High (BmB—Birdsboro silt loam, 3 to 8 percent slopes) and Moderate (PeB—Penn channery silt loam, 3 to 8 percent slopes, and LfA—Lamington silt loam, 0 to 3 percent slopes) for the risk of corrosion to concrete. The corrosion risk for steel is rated High for all of these soils (see Appendix B and Appendix C). Given the proposed life of the project and the likely corrosion risk to any footers that will be installed, DRN asks that DRBC require BP to undertake a detailed soils analysis that includes groundtruthing and on-site testing. BP should also be required to address concerns of footer corrosion.

In addition, consideration must be given to the source of the borrow material and tests must be done to assess characteristics such as grain size, compaction and soil moisture. DRN asks how DRBC will ensure that the placed fill is appropriate for the site and suitable to elevate the project site at least 1 foot above the regulatory floodplain.

Transmission Line Location

Appurtenant structures supporting this power plant include a transmission line that will be comprised of approximately 29, 110-foot to 140-foot tall steel monopoles that will support three conductor lines. The 40-inch to 60-inch diameter monopoles will be placed on concrete pile foundations of similar diameter. DRN notes that monopole construction usually requires deeper foundations with greater mass than lattice structures. This means the smaller visual footprint may actually require more extensive excavation and concrete work, and therefore result in a greater area of disturbance.⁶

This docket notes that 13 of the 29 monopoles will be located in the flood fringe of the Schuylkill River and one of these monopoles is proposed to be located in the floodway of the Schuylkill River. DRN believes to be inaccurate. The applicant has provided DRBC with a map of the proposed transmission line route (Routing A Overview Proposed 230kV line prepared by CSD Engineers). However, this map does not indicate the location of the floodway, floodplain, stream crossings or wetlands. The applicant has also provide mapping (Transmission Line, by Dawood Engineering) that does appear to indicate the floodplain, but not the floodway. Stream crossings appear to be indicated, but wetland are not. Where waterways are indicated, no indication of the stream or wetland designation is provided.

DRN is reviewed Federal Emergency Management Agency's (FEMA's) National Flood Hazard Layer (NFHL) mapping for the proposed transmission line route (see Appendix D). DRN has determined that 9 of the 29 planned monopoles would actually be located in the regulatory floodway. Placement of transmission line monopoles in the floodway should be done only as last resort.

One of the 9 monopoles in the floodway will be placed on the alluvial peninsula of land located between the Hay Creek and the Schuylkill River. A look back at historical USGS maps (see Appendix E) indicates how this narrow reach of the river has significantly changed over time. Given the potential for movement of the Hay Creek and the Schuylkill River, placement of a monopole at this location, in the floodway for both Hay Creek and the Schuylkill River, would seem to be especially unwise.

⁵ USDA Natural Resources Conservation Service. (22 July 2016). *Web Soil Survey*. Retrieved from <http://websoilsurvey.nrcs.usda.gov/app/>

⁶ Molburg, J.C., et al. (2008). The design, construction, and operation of long-distance high-voltage electricity transmission technologies (No. ANL/EVS/TM/08-4). Argonne National Laboratory (ANL). Retrieved from http://solareis.anl.gov/documents/docs/APT_61117_EVS_TM_08_4.pdf

Placement of a monopole at this location puts maintenance of the transmission line at risk. This monopole is at particularly risk from impact forces of woody debris. Debris accumulation at this location is also a risk. Failure of this structure during a flood could result in this transmission line being out of service for extended periods without access due to high waters. The applicant has not demonstrated that no other location for this monopole is possible. DRN ask DRBC to consider requiring a submarine river crossing at this point.

Forest Clearing / Wetland impacts

The draft docket reports that land disturbance for the 4-mile electric transmission line and substation is approximately eight acres, but these numbers don't add up. The total area of the ROW is approximately 72 acres. The overhead portions of the 4-mile long electric transmission line requires a 150-foot wide right of way (ROW) that will be permanently cleared of all non-compatible vegetation, such as trees. DRN review of the proposed transmission line shows that much a significant portion of the land in the proposed 150 foot wide ROW is currently forested. Removal of this vegetation will result in significant disturbance, erosion, and impacts to water quality in waterways and wetlands.

Removal of vegetation for this transmission line is especially concerning given that 9 of the 29 monopoles are located in the regulatory floodway and therefore the proposed clearing will result in removal of riparian buffers in the floodway. Removal of buffers in the floodway is likely to result in have higher peak flow volumes and faster flow rates during periods of high flows.⁷

Furthermore, this draft docket reports disturbance for the transmission line that includes the permanent conversion of approximately 0.04 acres of forested wetlands to palustrine emergent wetlands in areas of the overhead ROW and 162 square feet of temporary wetland disturbance with 11 square feet of permanent wetland impacts. However, no mapping of the proposed wetland impacts has been provided for verification of these wetlands. DRN requests that mapping of wetlands be completed and groundtruthed at the site before this docket is considered.

DRN also requests documentation verifying the how the area of disturbance will be limited as proposed. Although the footprint for monopoles may be smaller than for a lattice tower, the area of disturbance is likely much great than what is indicated. Other studies have shown the area required for tower assembly, tower construction, and conductor pulling for monopoles to be 31,415 square feet per tower,⁸ or nearly 3/4 acre per tower. With 29 monopoles to be constructed, the area of disturbance would be nearly 21 acres.

The docket acknowledges that the proposed transmission line construction and clearing of vegetation will result in permanent alteration of wetland habitat. Forested wetlands along the transmission line route will be converted to emergent wetlands, and likely more extensive alterations than described here will occur. DRN has attached a report by Schmidt Associates (Appendix F) documenting the adverse impacts associated with the conversion of forested to emergent wetlands.

DRN notes that the Schuylkill River is a Scenic River, designated under Pennsylvania's Scenic Rivers Act. As a result of this Scenic River designation, wetlands within the corridor of a watercourse or body of water that has been designated as a Scenic River are protected as Exceptional Value (EV) wetlands, the highest

⁷ Wengelgass, B. & B. Sweeney. (2009) "The importance and benefits of forested buffers," Presentation to the DRBC Floodplain regulations evaluation subcommittee (FRES) March 17, 2009.

⁸ Molburg, J.C., et al. (2008). The design, construction, and operation of long-distance high-voltage electricity transmission technologies (No. ANL/EVS/TM/08-4). Argonne National Laboratory (ANL). Retrieved from http://solareis.anl.gov/documents/docs/APT_61117_EVS_TM_08_4.pdf

level of regulatory protection afforded wetlands in Pennsylvania. No mention of protection for these EV wetlands is included in the draft docket. DRN asks how DRBC will ensure that EV wetlands are given the mandated level of protection.

DRN notes that as this transmission line impacts a Scenic River separate permitting by the Pennsylvania Department of Environmental Protection (PADEP). As this transmission line crosses a navigable river permitting by the U.S. Army Corps of Engineer (USACOE) is required. DRBC approval of this docket should be subject to all the conditions, requirements, and limitations imposed by both PADEP and the USACOE.

An important error in the docket also raises questions of the accuracy of other information provided by the applicant. The docket lists Hay Creek as a warm water fishery (WWF) when in fact the listed reach is a cold water migratory fishery (CWF, MF).

Public Interest

Under DRBC's *Flood Plain Regulations*, a transmission line should be permitted in the floodway only by special permit under these standards:

1. The importance of a facility to the community.
2. The availability of alternative locations not subject to flooding for the proposed use.
3. The compatibility of the proposed use with existing development and development anticipated in the foreseeable future.
4. The relationship of the proposed use to any applicable comprehensive plan or flood plain management program for the area.
5. The safety of access to the property in times of flood for ordinary and emergency vehicles.
6. The expected heights, velocity, duration, rate of rise and sediment transport of the flood water expected at the site.
7. The degree to which the proposed activity would alter natural water flow or water temperature.
8. The degree to which archaeological or historic sites and structures, endangered or rare species or animal or plants, high quality wildlife habitats, scarce vegetation types, and other irreplaceable land types would be degraded or destroyed.
9. The degree to which the natural, scenic and aesthetic values at the proposed activity site could be retained.

The applicant has not shown that this transmission line has a clear balance in favor of the public interest. The proposed transmission line is contraindicated by these standards, particularly regarding the availability of alternative locations not subject to flooding, floodplain management, access during times of flooding, and impact to natural, scenic, and aesthetic values. Therefore, DRN recommends disapproving this docket based on the proposed location of monopoles in the floodway.

RAWA Service Area

Under the proposed docket, BP will consume up to 2.72 MGD of surface water to be provided by the RAWA through an interconnection with BMA, "Water will be supplied through a 2-mile, 16-inch interconnection with the RAWA water distribution system." However, Birdsboro is not within RAWA's current service area.

RAWA's Docket No. D-2000-059 CP-2, which was approved on May 11, 2011,⁹ states that expansion beyond a clearly defined service area, that does not those include Birdsboro, would be subject to DRBC review and approval in accordance with Section 3.8 of the Compact. In December 2011, just a few months after approval of its 2011 docket, and without DRBC review and approval, RAWA installed "33,900 of water transmission main [sic] to extend Reading Area Water Authority's service into Robeson Township, Berks County."¹⁰ This line was described as "a 16-inch water main, with a capacity of 2.5 million gallons a day."¹¹

RAWA installed this water line without any application to the DRBC to modify the service area in its docket. DRBC proposes to approve this interconnection via this docket, but will not acknowledge or incorporate that interconnection into RAWA's Docket No. D-2000-059 CP-2 until the next renewal of or modification. By approving this interconnection now, DRBC is approving an expansion after the fact. RAWA should face scrutiny for this move to expand its service area without going through the proper process; it should not be rewarded for this action. DRN recommends reopening RAWA's docket at this time to ensure interested members of the public are fully apprised of the expansion and have the opportunity to submit informed comment. The public did not have the opportunity to participate in the decisionmaking process regarding the docket in a timely manner because RAWA skirted the regulations. It is only right that the public be given that opportunity in a separate public review of the RAWA docket.

This draft docket includes only approximately 2.5 miles of 16-inch diameter pipe water lines along Route 724 through Robeson Township to Birdsboro. However, this short interconnection would not have been possible if RAWA had not installed the nearly 6.5 miles of water lines in 2011. In addition, DRN notes that the water line upgrades in support of this project, as indicated on mapping provided to DRBC (Leisenring, T. communication to Kovach, D., Damiani, B. and Palumbo, D., 16 September 2016), includes an upgraded River Road pumping station, approximately 0.5 miles of proposed 16-inch diameter pipe water lines between the River Road pumping station and Penn Street, Reading, and 1.2 miles of proposed 16-inch diameter pipe water lines in Reading near Kenhorst Borough. This docket indicates interconnection waterline construction will be undertaken in Kenhorst Borough, but the docket doesn't include this section of pipeline as part of this docket. DRN recommends DRBC revise the docket to include the complete water line and appurtenances to be constructed by RAWA to serve the power plant. DRBC should include in the draft docket the 6.5 miles of water line installed in 2011 that were not previously include in RAWA's docket.

Water Supply

Conserving and protecting the water resources of the Delaware River Basin is central to the mission of the DRBC. However, in this docket, the DRBC fails to be the leader the basin needs to protect, enhance, and develop the water resources of the basin for present and future generations.

DRN notes that the Schuylkill River watershed and the middle Schuylkill region in particular have experienced growth and continues to see increasing water demand, particularly with respect to thermoelectric generation. In its 2010 report, *Schuylkill River Hydrology and Consumptive Use Report*, the Philadelphia Water Department (PWD) noted that Pennsylvania "defines watersheds with a consumptive use above 50% of the 7Q10 as having stressed water resources." PWD goes on to note that:

⁹ Delaware River Basin Commission. (2012). DOCKET NO. D-2012-023-1.

¹⁰ 41 Pa.B. 6386. Retrieved from <http://www.pabulletin.com/secure/data/vol41/41-49/2054d.html>

¹¹ Spatz, D. (15 July 2015). Reading, Birdsboro authorities ink water deal for power plant. Reading Eagle. Retrieved from <http://www.readingeagle.com/news/article/reading-birdsboro-authorities-ink-water-deal-for-power-plant#sthash.5je5QHQv.dpuf>

The Schuylkill River is approaching water stress conditions. Combined upstream consumptive use and downstream consumptive use total 42% of the 1 in 25 year annual average baseflow, which implies the Schuylkill River is approaching a water stress situation. The upstream consumptive use is 22% and the downstream consumptive use is 20% of the predevelopment 1 in 25 year annual average baseflow.¹²

As DRBC prepares to take public comment on dry conditions that currently persist throughout the basin, there is a clear need for DRBC to proactively consider alternatives to consumptive use of drinking water supplies for thermal electric generation to be better positioned to respond to dry conditions in the future. On November 3, 2016, Pennsylvania Department of Environmental Protection (PADEP) declared a drought warning for Carbon, Lehigh, Monroe, and Northampton Counties.¹³ Berks County, with rainfall at just 82% of normal, is one of 30 counties under drought watch.¹⁴ In October, Berks received just 27 percent of its normal rainfall for the month.¹⁵

Current flow levels in the Schuylkill River underscore the need to consider alternatives to drinking water for consumptive uses. The instantaneous measure of discharge, as measured at 17:00 EST, was 417 cubic feet per second (see image below). This figure is below the 25th percentile for November 7th, based on statistics for 39 years of record, and less than half the median.¹⁶

¹² Philadelphia Water Department. (2010). *Schuylkill River Hydrology and Consumptive Use Report*. Retrieved from http://phillywatersheds.org/doc/Sourcewater/PWD_Water_Budget_Report.pdf

¹³ Yoder, M. (3 November 2016). Pennsylvania extends drought warning and watches. *Reading Eagle*. Retrieved from <http://www.readingeagle.com/news/article/pennsylvania-extends-drought-warning-and-watches>

¹⁴ Pennsylvania Department of Environmental Protection (7 November 2016). *Drought Information: Current Drought Information Status*. Retrieved from <http://www.dep.pa.gov/Business/Water/PlanningConservation/Drought/Pages/default.aspx>; Yoder, M. (3 November 2016). Pennsylvania extends drought warning and watches. *Reading Eagle*. Retrieved from <http://www.readingeagle.com/news/article/pennsylvania-extends-drought-warning-and-watches>

¹⁵ Yoder, M. (3 November 2016). Pennsylvania extends drought warning and watches. *Reading Eagle*. Retrieved from <http://www.readingeagle.com/news/article/pennsylvania-extends-drought-warning-and-watches>

¹⁶ US. Geological Survey. (7 November 2016). USGS 01471510 Schuylkill River at Reading, PA. Retrieved from http://waterdata.usgs.gov/pa/nwis/uv?cb_00045=on&cb_00060=on&cb_00065=on&format=gif_stats&site_no=01471510&period=&begin_date=2016-10-31&end_date=2016-11-07

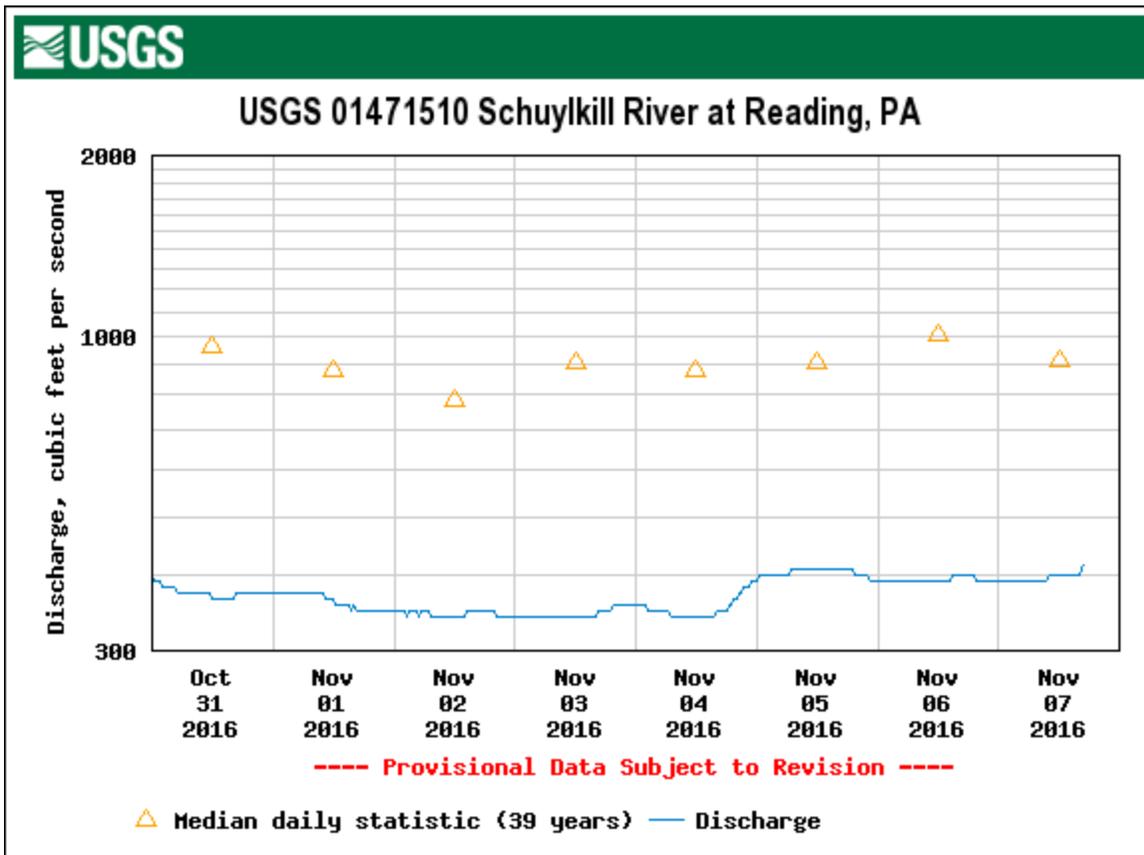


Figure 1: Instantaneous Measure of Discharge: Schuylkill River at Reading

Current drought conditions may abate, but they should serve as reminder of the need to conserve and protect the water resources of the Delaware River Basin. A water stressed Schuylkill River watershed demands the exploration of alternatives to consumptive use of drinking water supplies. Reclaimed wastewater has successfully been used to replace potable water in energy applications.¹⁷ The City of Reading’s Fritz Island wastewater treatment plant is just seven miles upstream from Birdsboro. Fritz Island, which is designed to treat 28 MGD, has sufficient volume of reclaimed water for the proposed power plant’s cooling needs. DRBC should only approve this docket after BP has fully explored alternatives to diversions from RAWA, or other drinking water sources, and demonstrated that it *cannot* utilize reclaimed water.

The need for this alternatives investigation is also raised by the fact that BP was unable to secure backup water supply for release during severe drought. During development of this docket, DRBC staff requested that BP identify a water supply that could provide for the power plant’s total consumptive use during drought conditions (Kovach, D. communication to Leisenring, T. 6 September 2016). However, DRBC appears to have retreated from this position when BP was unable to secure a backup water supply for release during severe drought (Leisenring, T. communication to Kovach, D. and Damiani, B., 13 September 2016).

¹⁷ Engstrom, G. (n.d.). *Use of Reclaimed Wastewater in District Cooling and Power Generation*. U.S. Water. Retrieved from <http://www.districtenergy.org/assets/pdfs/2015-Annual-Boston/Proceedings/Tuesday/4B.1Engstrom.pdf>; Coniglio, R. (n.d.). *Reclaimed Waste Water for Power Plant Cooling Tower Water & Boiler Feed Make-up*. Retrieved from http://www.mcilvaineconomy.com/Universal_Power/Subscriber/PowerDescriptionLinks/Richard%20Coniglio%20-%20vivo%20-%202011-1-12.pdf

This docket would allow BP to rely on an interconnection with BMA for water supply in an emergency. The docket includes this provision, despite the acknowledgement that BMA does not have adequate capacity to supply the power plant's peak or even average water demand. Compounding the matter, the DRBC seems to be including this provision to check the box for preparedness for emergency conditions, because it asserts that this emergency supply will never be necessary.

DRBC staff concurs with the conclusions of the report, that the Lake Ontelaunee Reservoir can sustainably supply RAWA's existing and projected water demand and the water use of the proposed Birdsboro Power facility ...¹⁸

In essence, there is no backup water supply for the proposed power plant in case of emergency. By not requiring BP to secure a backup supply, DRBC is planning for failure. The retreat by DRBC from its requirements for water security through emergency preparedness measures is unsupported by the documentation provided in the record and unacceptable in light of the importance of securing backup water supply in a water-stressed watershed. It is also inconsistent with the requirements imposed on other power plants in the Delaware River Watershed, creating a lack of equal regulatory oversight.

DRN notes that the BMA interconnection water supply, to be used in an emergency, is not currently approved by DRBC via a docket. BMA submitted an application for DRBC approval of its water withdrawals on June 8, 2012 (D-2012-020 CP-1).¹⁹ That application remains under review. DRBC should not approve BP's draft docket until after BMA's docket for the emergency water supply has been approved.

Water Availability Study

DRN also questions the reliability of the Water Availability Study, provided by the applicant, upon which DRBC bases this determination. Absent flow data for the Ontelaunee Creek, this study utilized a surrogate watershed to model flow. Use of a surrogate watershed for modeling flow may be appropriate when the surrogate is located in close proximity to an ungauged watershed, and has similar land use and soils characteristics. It is assumed that the similar characteristics would produce similar flow per unit area.

For this study, the surrogate watershed selected was the Fishing Creek watershed in Columbia County. To produce reliable results, the Maiden Creek/Ontelaunee watershed and Fishing Creek watershed must be in close proximity and have similar characteristics. The distance between the two gauging stations used for modeling is approximately 65 miles.²⁰ The table below provides a comparison of the two watersheds.

¹⁸ Delaware River Basin Commission. (3 November 2016). Draft DOCKET NO. D-2016-004-1.

¹⁹ Delaware River Basin Commission. (2015). D-1974-126 CP-3.

²⁰ Google Maps. (7 November 2016). Retrieved from <https://www.google.com/maps/dir/40.525278,+75.875278/41.0780556,-76.4313889/@40.8013257,-76.4252483,10z/data=!3m1!4b1!4m7!4m6!1m3!2m2!1d-75.875278!2d40.525278!1m0!3e2>

Characteristics	Maiden Creek/Ontelaunee²¹	Fishing Creek²²
Area	216 square miles	360 square miles
Physiographic Provinces	<ul style="list-style-type: none"> Appalachian Mountain Section of the Ridge and Valley Province Reading Prong Section of the New England Province Great Valley Section of the Ridge and Valley Province 	<ul style="list-style-type: none"> Deep Valley Section of the Appalachian Plateau Susquehanna Lowland Section of the Ridge and Valley Province
Range of Elevation	<ul style="list-style-type: none"> 1,675 above sea level to 260 feet 	<ul style="list-style-type: none"> 2,400 feet above sea level to 600 feet in the Appalachian Plateau 1,700 feet above sea level to 300 feet in Ridge and Valley Section
Geology	Transitions from sandstone and shale areas, to quartzite and gneiss, to limestone and dolomite	Consists of sandstone, siltstone, shale, and conglomerate
Soils	Marked by varied soils formed over sandstone and sandstone/shale or quartzite; shaly limestone from colluvium of limestone, shale, and sandstone; and derived from limestone bedrock	Marked by acidic soils due to the absence of limestone
Land Use	58% Agricultural use (both crops and pastures) 39% Forested 2% Developed	62% Forested 37% Agricultural use (both crops and pasture) 1% Developed

Table 1: Surrogate Watershed Comparison

Rather than demonstrating similarities between the two watersheds, the comparison reveals significant differences that undermine the selection of Fishing Creek as a surrogate watershed. Land use reveals stark contrasts between the watersheds. The disparity in forested land alone would account for significant differences in flow due to the influence of forest vegetation on infiltration, base flow, and rate and volume of stormwater runoff. Forested buffers allow for groundwater to be replenished and aquifers to be recharged, keys to the long-term sustainability of groundwater supplies and stream flow.²³

The submitted Water Availability Study references a detailed surrogate analysis performed for a prior water availability study (2000), but this analysis was not available for review. DRN cannot draw any conclusions about a study that was not available for review. However, we are concerned that the current and prior water availability studies begin from a flawed assumption that the Fishing Creek watershed can serve as a surrogate for the Maiden Creek/Ontelaunee.

²¹ Berks County Conservancy. (2004). *Maiden Creek Conservation Plan*. Retrieved from http://www.dcnr.state.pa.us/cs/groups/public/documents/document/D_001529.pdf

²² Opdyke, M.R. (2011). *Fishing Creek Watershed Coldwater Conservation Plan*. Retrieved from <http://www.coldwaterheritage.org/docs/2010-grantees/fishing-creek.pdf?sfvrsn=2>; Pennsylvania Department of Environmental Protection (2003). *Source Water Assessment Public Summary: United Water Pennsylvania-Bloomsburg Operation PWSID 4190008, Fishing Creek, 001*. Retrieved from <http://www.elibrary.dep.state.pa.us/dsweb/Get/Document-59551/Bloomsburg%20RS4190008001.pdf>

²³ Patten, D. T. (1998). Riparian ecosystems of semi-arid North America: Diversity and human impacts. *Wetlands*, 18(4), 498-512.; Palone, R. S., and Todd, A. H., Eds. (1998). *Chesapeake Bay riparian handbook: a guide for establishing and maintaining riparian forest buffers*. U.S. Department of Agriculture, Forest Service, Northeastern Area State and Private Forestry.

Despite significant watershed differences, data from the USGS gauge 01539000 Fishing Creek gauge have repeatedly been used to fill gaps in time from June 4, 1938 to January 18, 1973, and again from October 1, 1995 to March 22, 2012. The use of these data undermine the conclusions that the Lake Ontelaunee Reservoir has sufficient capacity to support its existing and foreseeable water supply demand in addition to supplying water for this power plant. DRN recommends a new water availability study be prepared using a surrogate watershed that can truly stand for the Maiden Creek/Ontelaunee.

DRN also believes it is significant that RAWA made commitments to provide water to both BP, as well as the now terminated Berks Hollow power plant, without undertaking any water availability studies. The submitted Water Availability Study reports that the reservoir stage could drop below the critical lake stage of 282 feet for as much as 15 days over the simulated historical period of record, under the scenario of an average RAWA withdrawal 13.4 MGD combined with BP peak daily water use, Berks Hollow's peak daily water use of 8.8 MGD, and the required conservation release for the Maiden Creek/Ontelaunee. This suggests that closer scrutiny of RAWA's commitments is necessary to ensure that the authority does not continue to market its unused allocation in a manner that endangers current users or the river system.

In scenarios modeling the capacity of Lake Ontelaunee, the submitted Water Availability Study utilize the mean of RAWA's daily average withdrawals from 2002 through 2016 with a projected increase in average water demand of just 0.5%. The time frame was selected as most representative of current use as this is the period over which the Ontelaunee Energy Station has been in operation. DRN notes that this time frame benefits the applicant given that the mean for the full 39 years of record, without any projected increase in average water demand, would be 15.1 MGD.

DRN also questions the decision to use the mean to determine RAWA's daily average withdrawals from 2002 through 2016. Using the mean to determine RAWA's daily average would be more appropriate in a large dataset with no outliers. By contrast, for the period from 2002 to 2016 there are just 15 numbers which do appear to include outliers. In only three of 39 years of data were RAWA's daily average withdrawals under 10 MGD, but two of those years are included in the 2002 to 2016 dataset. DRN notes that for the period 2002 through 2016, the mean with the two outlier years removed, and with a projected increase in average water demand of 0.5%, would be approximately 13.9 MGD.

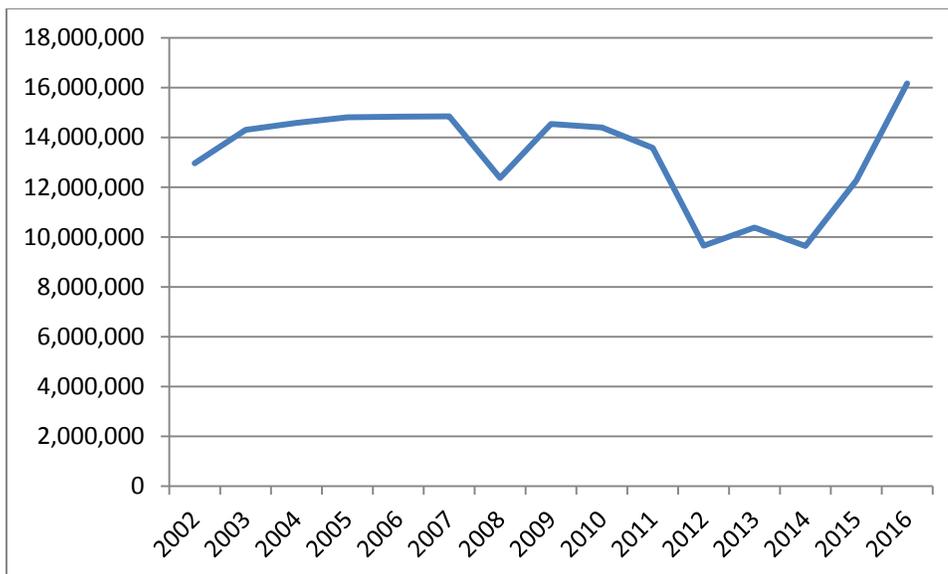


Table 2: RAWA's daily average withdrawals from 2002 through 2016

With RAWA's daily average withdrawals ranging from 9.6 MGD to 16.1 MGD in just 15 years of data the more appropriate measure of RAWA's daily average withdrawals would have been the median. For the period 2002 through 2016, the median, with a projected increase in average water demand of 0.5%, would be approximately 14.4 MGD. The median for the full 39 years of record, without any projected increase in average water demand, would be 14.8 MGD. DRN recommends that a new water availability study be undertaken using the median rather than the mean to determine a value for modeling RAWA's daily average withdrawals.

A new water availability study is needed explain the lower demand in 2012 and 2014 as well as the significant increase in demand in 2016. Understanding the decreases in demand 2012 and 2014 as well as the increase in demand in 2016 is essential to accurately determine projected water demand, which is put at just 0.5% in the submitted Water Availability Study. However, the growth in water demand from 2002 to 2016 is nearly 25%. Measured from 2012, the growth in water demand is nearly 68%. The variability in water demand shown here does not support pegging the growth in future demand at 0.5% without further investigation into water use in Berks County, likely growth in water demand across all sectors, and impacts of climate change on availability of water.

Some of the conclusions of that initial modeling suggest that the future climate of the northeastern U.S. through the end of this century could include (1) winter temperature increases by an average of 1.6-4.8°C; (2) summer temperature increases by an average of 2.4-4.8°C; (3) a projected winter precipitation increase by an average of 11-14%, with small decreases in summer precipitation; (4) greater extremes in storm and drought events, with more concentrated, higher precipitation events, but also longer dry periods; and (5) fewer snow cover days and a smaller snowpack, with more precipitation falling in the form of rain, resulting in potentially less recharge to groundwater.²⁴

Factoring climate change is essential especially in the permitting of a power plant projected to operate for 30 to 40 years. Climate change is already putting demand on water supplies in other parts of the watershed. Some wells in southern New Jersey have already been abandoned due to salt water intrusion caused by climate change.²⁵

Makeup Water

DRBC's decision to allow BP to avoid responsibility or making up consumptive use is inconsistent with prior DRBC dockets. DRBC's justification for not including a makeup water requirement relates to the source of RAWA's water:

Birdsboro Power is not required to make up consumptive use for this project because it obtains its water from storage available in the Lake Ontelaunee Reservoir and if there is a Commission declared drought, any inflow to the reservoir from the watershed upstream of

²⁴ Pennsylvania Department of Environmental Protection. (2008). *State Water Plan Principles*. Retrieved from <http://www.pawaterplan.dep.state.pa.us/docs/Publications/3010-BK-DEP4227.pdf>

²⁵ Bennett, J. (2009) Appendix K. Climate Change Impacts on Water Supply Wells in the Delaware River Estuary in *Climate Change and the Delaware Estuary: Three Case Studies in Vulnerability Assessment and Adaptation Planning*. Partnership for the Delaware Estuary, Report No. 10-01. Partnership for the Delaware Estuary. Retrieved from <https://s3.amazonaws.com/delawareestuary/pdf/Climate/CRE%20Appendix%20K%20-%20Climate%20Change%20Impacts%20on%20Water%20Supply%20Wells.pdf>

the Lake Ontelaunee Reservoir would be allowed to pass through the reservoir as part of the required conservation release.²⁶

For the now terminated Berks Hollow docket (DOCKET NO. D-2012-023-1), DRBC did require makeup water. The water supply for Berks Hollow also came from the Lake Ontelaunee Reservoir.

The project does not propose a new surface or groundwater withdrawal. Make-up water for the cooling tower will be provided by RAWA. RAWA owns an existing surface water intake on the Lake Ontelaunee Reservoir, from which it provides public water supply to residential, commercial, and industrial users.²⁷

Water Quality

This docket will permit BP to discharge its wastewater, including cooling tower blowdown, to BMA WWTP, substantially altering the quality of that discharge, and negatively affecting the Schuylkill River. DRN asserts that DRBC erred in fall 2015 when it approved the current BMA docket (DOCKET NO. D-1974-126 CP-3). BMA and developers of the proposed power plant were in discussions to send the cooling tower blowdown to the WWTP throughout 2015. However, DRBC approved the BMA docket without including additional parameters appropriate for a power plant wastewater discharge. DRN recommends DRBC reopen the BMA docket to address, at a minimum, temperature and Total Dissolved Solids (TDS) of the BMA effluent. Analysis should be done to identify other constituents that can potentially be in the power plant effluent to provide necessary information for the modification of the current BMA docket.

Recognizing that some power plants discharge wastewater to publicly owned treatment works (POTW), the U.S. Environmental Protection Agency (USEPA) conducted research on whether the pollutants in the discharge pass through a POTW or interfere with POTW operations or sludge disposal practices. The USEPA found that:

Secondary treatment technologies are generally understood to be ineffective at removing TDS and as such TDS removals at POTWs are likely to be close to zero.²⁸

Echoing the USEPA study, the applicant acknowledges that the BMA WWTP process will do nothing to reduce TDS in the cooling tower blowdown. However, the applicant asserts that the combined effluent will not exceed BMA's TDS effluent limit of 1,000 mg/l (Jenkins, D.A. communication to Leisenring, T., 13 September 2016). This will be achieved, not by treatment, but by dilution.

DRN asserts that the BMA WWTP permitted TDS level is too high, and is inconsistent with other DRBC dockets. In the docket, for the Limerick Generating Station (DOCKET NO. D-1969-210 CP-14), DRBC applied a more rigorous standard.

The Commission's basin-wide in-stream TDS criteria is: 1) the receiving stream's resultant TDS concentration be less than 133% of the background (WQR Section 3.10.3.B.1.b.), and 2) the receiving stream's resultant TDS concentration shall not exceed 500 mg/l (WQR Section 3.10.3.B.2.).

²⁶ Delaware River Basin Commission. (3 November 2016). Draft DOCKET NO. D-2016-004-1.

²⁷ Delaware River Basin Commission. (2012). DOCKET NO. D-2012-023-1.

²⁸ U.S. Environmental Protection Agency. (2015). *Technical Development Document for the Effluent Limitations Guidelines and Standards for the Steam Electric Power Generating Point Source Category*.

The 133% of the background TDS requirement is for the protection of aquatic life. The 500 mg/l TDS requirement is to protect the use of the receiving stream as a drinking water source. The EPA's Safe Drinking Water Act's secondary standard for TDS is 500 mg/l.

Accordingly, the docket holder shall continue to monitor for TDS at the location included in the O&M Plan which represents Outfall No. 001 as required in EFFLUENT TABLE A. The docket holder shall submit a report within 20 months from docket approval date which includes (at least) the 48 TDS samples as previously required in Docket No. D-1969-210 CP-13.

After the effluent TDS information is gathered, the docket holder is required to demonstrate that the discharge satisfies the Commission's TDS requirements (both end of pipe and in-stream). The demonstration shall be done at the Q7-10 design condition (consecutive 7-day flow with a 10-year recurrence interval). Section 3.10.5.D. of the Commission's *WQR* states that the Commission's numerical stream quality objectives are based on a minimum consecutive 7-day flow with a 10-year recurrence interval and Section 4.30.7.A.7.b. of the *WQR* requires that the stream flow to be used in the determination of the waste assimilative capacity of an unregulated stream be the consecutive 7-day flow with a 10-year recurrence interval.

If the docket holder's discharge cannot satisfy the Commission's TDS requirements, a TDS determination from the Commission will be required. If necessary, Commission staff will use these data to determine an appropriate monthly average and daily maximum TDS effluent limit for Outfall No. 001. If a monthly average and daily maximum TDS effluent limit for Outfall 001 is required, the docket will be modified upon docket renewal to include the appropriate TDS requirements (See DECISION Condition II.r.).²⁹

DRBC also required a much more stringent TDS monitoring program of Limerick Generating Station.

DRBC's in-stream TDS criteria requires that a receiving stream's resultant TDS concentration shall not exceed 500 mg/l to protect the stream as a drinking source. The EPA's Safe Drinking Water Act's secondary standard for TDS is also 500 mg/l. Secondary standards are enforceable and should be enforced by DRBC in the BMA WWTP docket. Moreover, Pennsylvania regulations include a standard for TDS: 500 mg/l as a monthly average value; maximum 750 mg/l.³⁰

With the Borough of Pottstown's drinking water intake just a short distance downstream from the BMA WWTP outfall, DRN strongly recommends that DRBC reopen DOCKET NO. D-1974-126 CP-3 to reduce the permitted TDS level for BMA's WWTP to 500 mg/l.

In past comments to DRBC, DRN recommended the installation of a real-time monitor for conductivity at the USGS Pottstown (01472000) gaging station. We do so again here, and recommend that the burden of this cost be borne by DRBC docketed discharges including BMA.

²⁹ Delaware River Basin Commission. (2012) DOCKET NO. D-1969-210 CP-14.

³⁰ 25 Pa. Code § 93.7. Specific water quality criteria.

DRN also recommends that DRBC reopen DOCKET NO. D-1974-126 CP-3 to address temperature concerns.

In nontidal waters other than described in 4.30.6.A, the discharge of waste effluents shall not increase the ambient temperature of the receiving waters by more than 5°F (2.8°C), nor shall such discharge result in stream temperature exceeding 87°F (30.6°C), which temperatures shall be measured in the stream outside of heat dissipation areas as described in 4.30.6.F.

No communication in preparation of the docket has addressed the impact of the likely increased temperatures of the BMA WWTP discharge that includes the cooling tower blowdown. With some tower cooling ranges listed at 160°F to 90°F and 140°F to 90°F,³¹ the likelihood for BMA's WWTP effluent to exceed DRBC's water quality standards seems likely. DRN recommends that DRBC require a review of the potential thermal discharge from BP to determine for compliance with USEPA's recommended thermal effluent limitations for steam electric power generating point sources. BP's proposal to discharge its effluent to BMA's WWTP appears to be an effort to avoid the USEPA's technology based effluent limitations guidelines and new source performance standards for discharges from categories of point sources that occur directly into waters of the U.S. BP's effort to avoid the necessary and protective hurdles provided by environmental regulations has been on display through all phases of permitting.

Treating the flow through a small scale treatment plan is an option however the cost to build the treatment system, maintain and operate it is a major concern. Additionally, the ability to obtain an NPDES discharge permit and keep the project on schedule was an additional hurdle.³²

Alternatively, BMA must assess likely influent and effluent temperatures, evaluate the impact of higher temperatures on effluent treatment, its impact on compliance with NPDES permit parameters, and report on how it will ensure that its discharge will not violate DRBC's water quality standards.

Air Impacts

DRN notes that, on EJSCREEN, the USEPA Environmental Justice Screening and Mapping Tool,³³ Birdsboro ranks in the 78th percentile in Pennsylvania for traffic proximity and volume (70th in the EPA Region Percentile and 59th in the U.S. Percentile). The USEPA's EJ Index for traffic is derived by combining the following factors for populations residing a given census block: the traffic indicator, the low-income population, and the minority population.³⁴

The EJ Index is higher in block groups with large numbers of mainly low-income and/or minority residents with a higher environmental indicator value.³⁵

³¹ Hensley, J.C., ed. (2009). *Cooling Tower Fundamentals*. SPX Cooling Technologies, Inc. Retrieved from spxcooling.com/pdf/Cooling-Tower-Fundamentals.pdf.

³² Birdsboro Municipal Authority. (2016). *Proposed Official Plan Revision to the Borough of Birdsboro's Act 537 Plan, Section H - Alternatives Facilities Analysis*.

³³ U.S. Environmental Protection Agency. (2016) *EJSCREEN*. Retrieved from <https://ejscreen.epa.gov/mapper/>

³⁴ U.S. Environmental Protection Agency. (2016) *Environmental Justice Indexes in EJSCREEN*. Retrieved from <https://www.epa.gov/ejscreen/environmental-justice-indexes-ejscreen>

³⁵ U.S. Environmental Protection Agency. (2016) *Environmental Justice Indexes in EJSCREEN*. Retrieved from <https://www.epa.gov/ejscreen/environmental-justice-indexes-ejscreen>

This data suggests that Birdsboro residents are currently at risk for adverse health outcomes associated with exposure to traffic-related air pollution. Traffic exposure is associated with asthma in children and decreased lung function in adults with asthma,³⁶ and even elevated risk for rheumatoid arthritis.³⁷ Other near roadway health risks include: cardiovascular disease, pre-term and low-birthweight infants, childhood leukemia, and premature death.³⁸

These existing health risks will be compounded by negative air quality impacts from the proposed power plant, and the impacts will be borne by local residents and local environment. The proposed power plant will emit 56.7 ton per year of fine particulate matter (PM_{2.5}), extremely small particles 2.5 microns or less in width. Despite their small size, PM_{2.5} can have serious health effects:

Particles in the PM_{2.5} size range are able to travel deeply into the respiratory tract, reaching the lungs. Exposure to fine particles can cause short-term health effects such as eye, nose, throat and lung irritation, coughing, sneezing, runny nose and shortness of breath. Exposure to fine particles can also affect lung function and worsen medical conditions such as asthma and heart disease. Scientific studies have linked increases in daily PM_{2.5} exposure with increased respiratory and cardiovascular hospital admissions, emergency department visits and deaths. Studies also suggest that long term exposure to fine particulate matter may be associated with increased rates of chronic bronchitis, reduced lung function and increased mortality from lung cancer and heart disease. People with breathing and heart problems, children and the elderly may be particularly sensitive to PM_{2.5}.³⁹

Environmental impacts that can be expected to result from the increased emissions of PM_{2.5} include acid deposition, impaired visibility, and ozone.⁴⁰

Approval of this docket will worsen air quality issues for residents of Birdsboro, and harm the local environment. Articulated in Article I Section 27 of the Pennsylvania Constitution, the Environmental Rights Amendment, the people of Pennsylvania have a right to clean air, pure water, and to the preservation of the natural, scenic, historic and esthetic values of the environment. Approval of this docket infringes on those rights. Pennsylvania's public natural resources are the common property of all the people, including generations yet to come. Pennsylvania's constitution applies to all government officials, including those who serve on interstate compact commissions. As such, DRBC has trustee obligations under Article I Section 27, now and for generations to come. These obligations demand that DRBC disapprove of this docket.

³⁶ Balmes, J.R., et al. (2009). Exposure to traffic: Lung function and health status in adults with asthma. *Journal of Allergy and Clinical Immunology*, 123(3), 626-631. Retrieved from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2785911/>

³⁷ De Roos, A.J., et al. (2015). *Proximity to traffic, ambient air pollution, and community noise in relation to incident rheumatoid arthritis* (Doctoral dissertation, University of British Columbia). Retrieved from <http://ehp.niehs.nih.gov/1307413/>

³⁸ U.S. Environmental Protection Agency. (2016). *How Mobile Source Pollution Affects Your Health*. <https://www.epa.gov/mobile-source-pollution/how-mobile-source-pollution-affects-your-health>

³⁹ New York State Department of Health. (2011). Fine Particles (PM 2.5) *Questions and Answers*. Retrieved from http://www.health.ny.gov/environmental/indoors/air/pm2_5_a.htm

⁴⁰ Illinois Partners for Clean Air. (2016). *Particulate Matter*. Retrieved from <http://www.cleantheair.org/air-quality-information/particulate-matter>

Public Comment

This proposed power plant has moved through the permitting process with little public notice and limited opportunities for public comment. This draft docket represents one of the first opportunities for the public to learn the full extent of the impacts that will result from the proposed power plant and to be heard by decision makers.

The first public notice of the availability of the docket, “DRBC News Release for Wednesday, October 26, 2016 & Notice of Public Hearing on Nov. 9 Available,” was emailed by DRBC at 3:37 pm on October 26, 2016. This is the notice that communicate the draft docket would be considered at the November 9th hearing. Given that this notice was also sent essentially at the end of the day, the public did not have until October 27th to begin the process of securing and reviewing documents, and then crafting and submitting comments. From October 27th to November 9th, not including the date of the hearing is just 13 days total, even less, a mere eight days, if weekends and Election Day are not counted.

With just six days remaining before the hearing (just three days if weekends and Election Day are not counted), DRBC made substantive revisions to the draft docket. DRBC extended the period to submit comment until 5:00 pm on November 18th, but the draft docket remained on the hearing scheduled for November 9th. Anyone wishing to testify on this docket record during the Public Hearing had extremely limited time—more appropriately measured in hours than days—to secure documents relevant to the substantive changes, review those documents, and then prepare a statement for the Public Hearing.

Moreover, DRN received communication on October 25, 2016 indicating that DRN staff had been added to the interested parties list for the Birdsboro Power, LLC project, to assure us that we would receive, directly, future notices involving this project when they are issued. However, we received no notice of the significant docket revisions made on November 3rd. DRN learned of the significant docket revisions by visiting the DRBC’s “Upcoming Commission Meeting” webpage on November 4th.

An already truncated comment process was further complicated by DRBC’s substantive last minute revisions. DRBC’s comment process is depriving the community of the time needed to effectively engage and comment on this draft docket. As it appears that DRBC has not changed plans to take action on the draft docket at the December 14th business meeting, DRBC is not allowing its staff adequate time to undertake thoughtful review of any and all public comment received and modify the docket as necessary before that business meeting, further disenfranchising the community’s ability to weigh in on this development.

DRBC should extend the comment period for at least 30 days after the dates of the November 9, 2016 public hearing to ensure the public has ample time to review and comment on the proposed power plant and supporting infrastructure which have substantial effect on the water resources of the Delaware River Basin. DRBC should remove draft docket from consideration at DRBC’s Business Meeting on December 14, 2016. Consideration of this draft docket should be postponed until, at a minimum, the subsequent DRBC hearing and business meeting or until a time when all the issues raised in this comment are resolved, including, all related docket modifications, to ensure the public has ample time to review and comment.

DRN notes that dozens of people, including local residents that will be affected by this power plant and its appurtenant structures as well as users of the Schuylkill River, have employed DRN's online tools to communicate their concerns to the Commissioners. DRN asks that you view and recognize that of these comments was submitted by a person moved to take action out of concern for their homes, their community and the environment. That so many commenters used our online tool to do so is further indication that DRBC's current public comment process places barriers in the way of the people trying to be heard by decisionmakers.

Summary

DRN urges the DRBC to disapprove this docket because the project conflicts with the DRBC's Comprehensive Plan and this project will substantially impair the water resources of the Delaware River Basin. At a minimum, DRBC should delay taking action on this draft docket until the extensive list of concerns and questions raised by this application have been fully addressed.

Thank you for the opportunity to provide these comments.

Respectfully submitted,



Maya K. van Rossum
the Delaware Riverkeeper



Chari Towne
Schuylkill Watershed Specialist