pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

SOUTHCENTRAL REGIONAL OFFICE
CLEAN WATER PROGRAM

NPDES PERMIT FACT SHEET ADDENDUM

Application Type	**Renewal**	Application No.	**PA0037141**
Facility Type	**Industrial**	APS ID	**329677**
Major / Minor	**Minor**	Authorization ID	**834171**

Applicant and Facility Information

Applicant Name	**PA Fish & Boat Commission**	Facility Name	**Huntsdale Fish Hatchery**
Applicant Address	1735 Shiloh Road	Facility Address	195 Lebo Road
	State College, PA 16801-8495		Carlisle, PA 17015-9362
Applicant Contact	Mindy Mcclenahan	Facility Contact	James Wetherill
Applicant Phone	(814) 353-2229	Facility Phone	(717) 486-3419
Client ID	135455	Site ID	251142
SIC Code	0921	Municipality	Penn Township
SIC Description	Agriculture - Fish Hatcheries And Preserves	County	Cumberland
Date Published in PA Bulletin	August 9, 2014	EPA Waived?	Yes
Comment Period End Date	September 9, 2014	If No, Reason	
Purpose of Application	Application for a renewal of an NPDES permit for discharge of treated Industrial Waste.		

Internal Review and Recommendations

The Pennsylvania Fish & Boat Commission (PFBC) has applied to the Pennsylvania Department of Environmental Protection (DEP) for reissuance of its National Pollutant Discharge Elimination System (NPDES) permit. The permit currently authorizes a discharge of treated industrial wastewater generated from Huntsdale State Fish hatchery (Huntsdale) located in Penn Township, Cumberland County. The permit was drafted on July 29, 2014 and a public notice of the draft permit was published in the *Pennsylvania Bulletin* on August 9, 2014 for public comments for 30 days. A number of comments were received from Mr. Brian Niewinski of PFBC during the public comment period. DEP has determined to prepare a revised draft permit in response to the comments.

Comments from PFBC

Comment #1 – For both Outfalls 001 and 002, PFBC requests net limits for NH3-N and Total Phosphorus as there are for CBOD, TSS, Nitrate-Nitrite, Total Nitrogen, and TKN.

Response – DEP's current NPDES PAG-11 General Permit for Discharges from Aquatic Animal Production Facilities requires net limits for BOD5, TSS, and Total Nitrogen, but not for NH3-N and Total Phosphorus. As recommended by DEP's Standard Operating Procedure (SOP No. BPNPSM-PMT-032), DEP generally uses this PAG-11 general permit requirement as guidance to develop the individual permit requirement. Accordingly, it is not recommended to assign NH3-N and Total Phosphorus net effluent limits in the Huntsdale's NPDES permit. Since Total Nitrogen is a sum of Nitrate-Nitrite and TKN, net limits apply to Nitrate-Nitrite and TKN.

Comment #2 – 2/month is the existing minimum measurement frequency for NH3-N and Total Phosphorus. PFBC recommends the proposed sampling frequency be changed back from 1/week to 2/month for NH3-N and Total Phosphorus for both Outfalls 001 and 002 based upon monitoring data and sampling frequencies required in other similar PFBC hatcheries' permits.

Response – Considering there is no history of noncompliance with existing NH3-N and Total Phosphorous effluent limits over the past three years according to DMR data, it is recommended that the proposed sampling frequency be reduced from 1/week to 2/month. This semi-monthly monitoring requirement will still generate sufficient data for the future Chesapeake Bay TMDL evaluation.

Approve	Return	Deny	Signatures	Date
			Jinsu Kim / Environmental Engineering Specialist	November 20, 2014
			Jay E. Patel, P.E. / Environmental Engineer Manager	

Internal Review and Recommendations

Comment #3 – For the part of the hatchery associated with Outfall 002 (i.e., Series C hatchery raceways and earthen ponds), PFBC requests to have the flexibility to be able to use it year round with the same discharge limits.

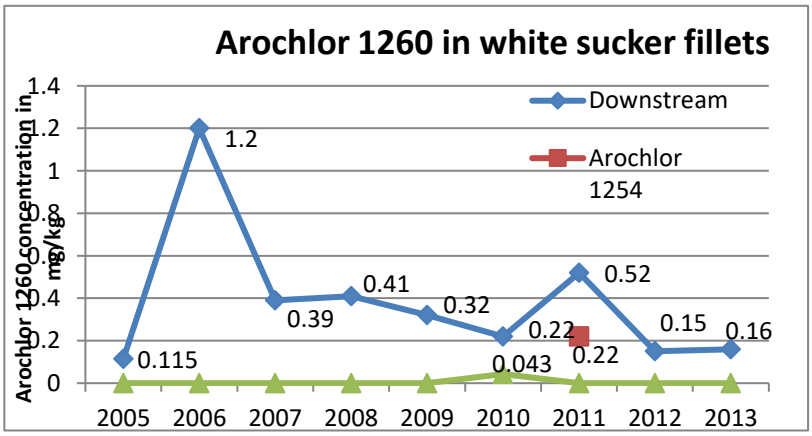
Response – The application indicates the discharge occurs 183 days/yr during April through September. Based on phone conversations with Mr. Niewinski and Mr. James Wetherill (i.e., Huntsdale facility manager) dated November 10, 2014 and November 13, 2014, PFBC may require a longer period for coolwater/warmwater fish production and the discharge flow would likely be up to 500 GPM in the event that PFBC uses this part of the hatchery year-round. The proposed effluent limits for Outfall 002 were established based on the maximum daily flow of 0.720 MGD (i.e., 500 GPM); assuming coolwater/warmwater fish production occurs in all Series C raceways (20 units). These effluent limits were properly developed to ensure that all existing uses are maintained and protected during dry periods of the year. Because DEP generally sets effluent limits for dry periods to be more stringent, the proposed effluent limits will still be protective of water quality during wet periods of the year. Accordingly, it is recommended that the draft permit be revised to remove seasonal effluent limits for Outfall 002. If there will be an incremental flow from the permitted discharge rate (i.e., 0.72 MGD) or a change in production that alters wastewater characteristics from those originally permitted, PFBC must submit an NPDES permit amendment application with an anti-degradation study since additional pollutant loadings to a High-Quality surface water can be expected from these scenarios.

Comment #4 – PFBC recommends the proposed average monthly NH3-N limit for Outfall 002 be changed from 0.6 mg/L to 1.4 mg/L to be consistent with Outfall 001. PFBC mentioned that all other PFBC hatcheries that are similar to Huntsdale have average monthly NH3-N limits of at least 1.0 mg/L.

Response – The proposed average monthly NH3-N limit of 0.6 mg/L is an existing water quality-based effluent limit (WQBEL) that was previously recommended by DEP's water quality model, WQM 7.0. Although the model recommended a less stringent WQBEL for NH3-N during this permit renewal review process (i.e., 0.9 mg/L) and less stringent limits (i.e., 1.4 mg/L) are recommended for Outfall 001, relaxation of effluent limitations is still prohibited in accordance with 40 CFR § 122.44(l)(1) unless the facility is subject to exceptions listed in 40 CFR § 122.44(l)(2)(i). Further, for point source discharges to High-Quality surface waters of the Commonwealth, all permit requirements must be established to ensure that the existing water quality of the receiving stream will be maintained and protected per 25 Pa. Code §93.4a(c). Accordingly, the proposed NH3-N limit of 0.6 mg/L is still recommended.

Comment #5 – PFBC believes that no monitoring of white suckers for PCBs is necessary in Yellow Breeches Creek based upon monitoring data showing the levels of PCBs have been decreased over time and are below the statewide one meal per week consumption advisory level.

Response – According to the PFBC's 2010 report[1], Arochlor 1260, one of PCB compounds, was detected in all downstream samples from 2005 through 2008 and was non-detected in upstream samples. This report addressed that "white suckers in Yellow Breeches Creek continue to show accumulated PCB Arochlor 1260 in their tissue...In 2010, the hatchery effluent channel will be relocated, eliminating a potential source of PCB contaminated sediment which may reduce a PCB source and also reduce future PCB accumulation in white sucker tissue". Presumably, this was one of factors that result in decreased monitoring frequency from annual to every other year. The 2014 sampling report[2] prepared by PFBC contains the following figure:



[1] Benthic Macroinvertebrate Biomonitoirng and White Sucker tissue PCB Analysis for Yellow Breeches Creek in the Vicinity of the Huntsdale State Fish Hatchery; March 2005 through October 2009, PFBC – Mark Hartle; 04/27/2010.
[2] Results of 2013 white sucker tissue sampling; Huntsdale State Fish Hatchery NPDES Permit PA0037141; Mark Hartle; 02/28/2014

Internal Review and Recommendations

As mentioned by PFBC, the levels of PCBs in fish tissues are generally declining in Yellow Breeches Creek; yet, it is still detected in fish tissues. DEP has determined that the repeated detection of Arochlor 1260 is still of concern and should not be neglected. Fish tissue collection will therefore be continued for this permit renewal.

Comment #6 – According to Part C.VII.D.1. of the draft permit, the use of Diquat Dibromide and Epsom Salts is prohibited. PFBC requests to allow using Diquat Dibromide at Huntsdale based on the fact that PFBC currently holds an INAD through the FDA for the use of Diquat Dibromide as a therapeutic drug to treat fish.

Response – The original Fact Sheet dated July 2, 2014 indicated that Diquat Dibromide was not evaluated since Mr. Terry Overly of PFBC (i.e., former facility operator) reported it is not used at Huntsdale because of the over application or spill by B&W Growers impacting Letort Spring Run in the early 80's causing a fish and plant kill. Mr. Niewinski has informed, during the November 10, 2014 phone conversation, that it is unsure as to when PFBC will resume using this chemical product, but it is expected to be used at Huntsdale as PFBC has been using this chemical product at other PFBC fish hatcheries. A several chemicals including Diquat Dibromide that were presumably used at Huntsdale were "grandfathered" for anti-degradation requirements as these chemicals have been previously used prior to the HQ-CWF classification and were determined to be part of the baseline condition. A letter prepared by PFBC dated September 29, 1977 indicated that Diquat is proposed to be used at all state fish hatcheries at a maximum concentration of 16 ppm. The application reports an expected in-system concentration of 8.0 to 16 mg/L for this product which is within the INAD approval level (i.e., 2.0 to 28 mg/L). As shown below, the expected instream concentration does not exceed the instream target calculated by mass balancing the reported LC50s (for discharge & stream).

Est. Max. Effluent Conc. =	*(Maximum Usage Rate / 8.34) / Discharge (1) or (2)*	*Where,*
=	*0.043 or 0.035 mg/L*	*Stream LC50* = 1.11 mg/L*
Est. Instream Conc. =	*(Est. Max. Effluent Conc. x Discharge (1) or (2)) / Mix Flow (1) or (2)*	*Streamflow = 8.177 MGD*
=	***0.025 mg/L** or **0.022 mg/L** (assuming complete mix)*	*Discharge LC50* = 1.04 mg/L*
Mix LC50 =	*[Stream LC50 x Streamflow + Discharge LC50 x Discharge] / Mix Flow*	*Discharge (1) = 11.232 MGD*
=	*1.07 mg/L*	*Discharge(2) = 13.824 MGD*
Instream Target (LC1) =	*Mix LC50 x 0.3** = **0.321 mg/L***	*Mix Flow (1) = 19.409 MGD*
=	*Estimated Instream Concentration < Instream Target*	*Mix Flow (2) = 22.001 MGD*

**Directly taken from the 12/17/2003 acute bioassay results – LC50(48-hr) Ceriodaphnia dubia for Oswayo Creek*
***EPA Technical Support Document For Water Quality-based Toxics Control*

Based on the review, the use of Diquat Dibromide at the proposed usage rate is acceptable to DEP. Accordingly, Part C.VII.D.1 of the revised draft permit will contain the following permit language: <u>The use of Epson salts is prohibited.</u>

Comment #7 – PFBC requests to eliminate the condition identified in Part C.D.4 of the draft permit as PFBC believes that it is not appropriate to limit drug and chemical usage based on the number of raceways treated simultaneously because water volumes, water flows and fish densities can all vary by raceway.

Response – Occasionally, it may be necessary to treat raceways simultaneously with therapeutic chemicals to prevent adverse impact on production. This condition was partly based on comparing INAD or VMD approved dosage rates and the proposed maximum dosage rates. It may be reasonable to control the dosage rate by limiting a number of raceways that can be treated simultaneously; however, DEP has previously confirmed that PFBC will only apply therapeutic chemicals up to the INAD or VMD approved rates. DEP has also performed an evaluation and determined that these chemicals at its proposed dosage rates will not cause adverse water quality impacts on the receiving stream. Accordingly, it is recommended to remove this condition from the draft permit. See the attached MS Excel spreadsheet for the chemical analysis.

<u>Other Considerations</u>

An annual Total Suspended Solids mass effluent limit of 65,348 lbs/year is currently specified in both Part A.I.A.2 and Part C.VI.B of the draft permit. Based on the review, DEP has determined that it is not appropriate to impose this effluent limit in Part A since the Part C condition allows PFBC to exceed this effluent limit under the following circumstances: (1) If there is trout production in Series C raceways during April through September, the overtopping water is conveyed to Series A raceways and the annual mass loading limit is 65,920 pounds; (2) If there is a discharge from Outfall 002 during April through September (production other than trout) during the production year, the combined annual mass loading limit from Outfalls 001 and 002 is 69,194 pounds. Accordingly, the annual mass loading <u>monitoring</u> requirement is recommended in Part A.I.A.2 of the revised draft permit with addition of the following footnote: "See Part C.VI for annual loading effluent limitations. The permittee shall achieve annual Total Suspended Solids mass loading limits specified in Part C.VI.B of this permit."

Internal Review and Recommendations
It is noteworthy that annual Total Suspended Solids (TSS) mass loading limits specified in Part C. VI.B of the draft permit will remain unchanged in the revised draft permit although these limits were developed based on the discharge additionally occurs from Outfall 002 during April through September only. This is because (1) DEP currently does not have any detailed information with regard to specific discharge flows and a specific number of months that PFBC would like to operate for their production and (2) DEP may require an anti-degradation study since additional annual TSS loading can be expected from this proposed operation. The term "during April through September" specified in the Part C.VI.B condition will be removed from the permit. Based on the review, it is recommended that the draft permit be revised and re-published in the *Pennsylvania Bulletin* for public comments for 30 days.