pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

North East Regional Office
CLEAN WATER PROGRAM

Application Type	**New**	Application No.	**PA0275883**
Facility Type	**Industrial**	APS ID	**914907**
Major / Minor	**Minor**	Authorization ID	**1136932**

NPDES PERMIT FACT SHEET
INDIVIDUAL INDUSTRIAL WASTE (IW) AND IW STORMWATER

Applicant and Facility Information

Applicant Name	**Fluid Recovery Services, LLC**	Facility Name	**FRS - Kingsley Facility**
Applicant Address	P.O. Box 232, 5035 Route 110	Facility Address	5124 State Route 92
	Creekside, PA 15732		Kingsley, PA 18826
Applicant Contact	Jonathan Antonich	Facility Contact	James Donovan
Applicant Phone	(724) 746-5300 ext 424	Facility Phone	(724) 746-5300 ext 227
Client ID	300424	Site ID	812112
SIC Code	1389	Municipality	Lenox Township
SIC Description	Mining - Oil And Gas Field Services, NEC	County	Susquehanna
Date Application Received	May 10, 2016	EPA Waived?	Yes
Date Application Accepted	September 23, 2016	If No, Reason	-

Purpose of Application: New NPDES permit for discharge of treated industrial wastewater.

Summary of Review

The applicant is requesting a new NPDES permit to discharge 0.252 MGD of industrial wastewater to Tunkhannock Creek, a cold water fishes and migratory fishes (CWF/MF) designated receiving stream in state water plan basin 4-F (Tunkhannock Creek). As per the Department's current existing use list, the receiving stream does not have an existing use classification that is more protective than its designated use. There are no TMDLs on Tunkhannock Creek.

The proposed facility is for treatment of fluids generated during the drilling, fracturing, and production of conventional and unconventional natural gas and oil wells. Conventional extraction methods utilize the natural underground pressures and pressures associated with pumping to lift the product to the surface. When production decreases, an artificial lift or water/gas injection may sometimes be used to increase production. The unconventional extraction methods include horizontal drilling and hydraulic fracturing to release gas/oil from tight rock and sand formations and requires large amounts of chemically treated water.

The discharge will consist of distillate from an evaporative system. Wastewater will be unloaded and sent to an equalization tank followed by chemical pretreatment. Treated wastewater will then flow to a clarifier, followed by the evaporator, MBBR, DAF units, and crystallizer. Concentrate is stored on site and hauled away for disposal. Solids generated are dewatered and sent to an approved disposal facility. Sewage generated from the facility is discharged to an on-site septic system.

Currently, the facility receives and treats wastewater from gas/oil production operations. After treatment, the wastewater is returned to the customer for reuse. None of the wastewater is discharged to the environment.

The following treatment chemicals will be used at the facility: Sodium Sulfate for metals precipitation (~1125 gpd), Aluminum Sulfate for metals precipitation (~600 gpd), Caustic for neutralization (~2625 gpd), and Hydrochloric Acid for pH adjustment (~21 gpd). The following chemical additives (or approved equivalents) will be used as needed: NS 5 as a defoamer, FO-321 as a high temperature defoamer, BL-1354 as a high temperature antiscalant, and NS-6150 as a polymer.

Approve	Deny	Signatures	Date
X		/s/ Brian Burden, E.I.T. / Environmental Engineer	July 6, 2017
X		/s/ Amy M. Bellanca, P.E. / Environmental Engineer Manager	July 6, 2017

Summary of Review

Pollutant Groups 1, 2, 3, 4, 5, and 7 were analyzed for both the influent from a potential customer (1 sample) and the effluent of a bench scale evaporation unit (3 samples). The 3 samples were prepared from conventional and Marcellus (unconventional) wastewaters in the following ratios: (1.) 25% conventional, 75% Marcellus, (2.) 50% conventional, 50% Marcellus, (3.) 75% conventional, 25% Marcellus.

40 CFR 122.2 defines a new source as any building, structure, facility, or installation from which there is or may be a "discharge of pollutants", the construction of which commenced: (a) after promulgation of standards of performance under Section 306 of the Clean Water Act (CWA) which are applicable to such source, or (b) after proposal of standards of performance in accordance with Section 306 of the CWA which are applicable to such source, but only if the standards are promulgated in accordance with Section 306. Although the facility already has been treating wastewater at the site, the request to discharge to waters of the Commonwealth under the NPDES permitting program requires the facility to achieve NSPS for the applicable federal effluent limitation guidelines (ELGs).

The facility will be considered a centralized waste treatment (CWT) facility and falls under 40 CFR 437 technology-based effluent limit requirements. A CWT facility is defined by 40 CFR 437.2 as "any facility that treats (for disposal, recycling or recovery of material) any hazardous or non-hazardous industrial wastes, hazardous or non-hazardous industrial wastewater, and/or used material received from off-site." This includes facilities that treat waste exclusively from off-site and facilities that treat waste generated on-site as well as waste received from off-site.

CWT facilities are classified in four subcategories under 40 CFR 437: Subpart A – Metals Treatment and Recovery, Subpart B – Oils Treatment and Recovery, Subpart C – Organics Treatment and Recovery, and Subpart D – Multiple Wastestreams, a combination of two or more of the other subparts' wastewaters. Wastewater that will be treated at the facility exhibit the characteristics of Subparts A, B, and C. NSPS from Subparts A, B, and C will be imposed with the most stringent values selected where the limits overlap. See Tables 1-3 below for the 40 CFR 437 technology-based limitations.

Subpart D requires certification of equivalent treatment to ensure that each of the combined wastewaters are treated and not diluted. DEP anticipates variation in the quality of wastewaters accepted by CWT facilities due to the various types of wastewaters/fluids recovered from oil and gas extraction wells such as drill pit water (groundwater and formation fluid inflow to the well bore), fracturing fluids (sand, water, and chemicals), and produced water (formation fluids/brine from the shale formation). However, co-dilution of those wastewaters (which individually may exhibit the characteristics of more than one of the CWT ELG's metals/oils/organics classifications) is likely to have already occurred at well sites and not for the purposes of treatment to comply with effluent limitations, but for the generation of a reusable source of water. Mixing of SGE wastewaters is also incidental to the drilling process as observed when fracturing fluids and formation fluids combine in the well and return to the surface as flowback. Although SGE wastewaters will differ from one well site to another, DEP does not anticipate that co-dilution of dissimilar wastes will drive compliance with the combined 40 CFR 437 effluent limitations. DEP may revisit its implementation methodology for 40 CFR 437 if analytical data such as Form 26R reports or other information suggests that co-dilution of dissimilar SGE wastewaters is the primary cause for compliance with the combined effluent limitations.

The facility is also subject to 25 PA Code Chapter 95.10. Chapter 95.10 was promulgated on August 21, 2010 and describes treatment requirements for new and expanding mass loadings of Total Dissolved Solids (TDS). It includes the 40 CFR 437.45(b) Subpart D Multiple Wastestreams NSPS being applied as effluent standards. Effluent limits under this regulation are summarized in Table 4 below. Monitoring and reporting requirements for Sulfate and Bromide (other components of TDS) are also added to the permit to monitor those pollutants of concern.

The facility is also subject to the guidance document for oil and gas well permitting entitled *Oil and Gas Wastewater Permitting Manual* ("O&G Permitting Manual") dated October 30, 2001. The O&G Permitting Manual states that surface water discharges are allowed from oil and gas well operations if the wastewaters are removed to an off-site treatment facility (i.e., a CWT facility) such as the Kingsley facility. This allowance mirrors 25 Pa. Code § 95.10(b)(3)(i) and addresses the 40 CFR 435 Subpart C – Onshore Subcategory BPT requirement that prohibits the discharge of wastewater pollutants into navigable waters from any source associated with production, field exploration, drilling, well completion, or well treatment.

The O&G Permitting Manual recommends technology-based effluent limitations for TSS, Oil and Grease, Total Iron, Acidity, and pH shown in Table 5, below. The manual also requires that wastewater treatment facilities accepting oil and gas extraction-related wastewaters include the following components in the treatment system design:

a. Flow equalization to ensure optimum treatment efficiency of the facilities and minimization of water quality impacts.

Summary of Review

b. Gravity separation and surface skimming, or equivalent technology, for oil and grease removal.
c. Chemical addition for pH control and metals removal, if necessary.
d. Aeration, or equivalent technology, for reducing volatile petroleum hydrocarbons and oxidation for metals removal.
e. Settling (retention) or filtration for removal of solids, including oxidized metals.

When constructed, the treatment facility shall incorporate the above listed components.

Effluent standards from 25 PA Code Chapter 95.2.(1) for pH (used for all industrial dischargers), 25 PA Code Chapter 95.2.(2) for oil and grease (for industrial dischargers with oil-bearing wastewaters) and 25 PA Code Chapter 95.2.(4) for dissolved iron (for all industrial dischargers) will be applied. The limitations are summarized in Table 6 below.

BTEX pollutants (benzene, toluene, ethylbenzene and xylene) are parameters of concern at CWT facilities that treat oil and gas wastewaters. Standards from the Department's PAG-05 General Permit for Discharges from Petroleum Product Contaminated Groundwater Remediation Systems are applied to this permit as BPJ limitations and are found in Table 7 below.

The discharge was modeled utilizing data from a downstream stream gage (gage 01534000 – Tunkhannock Creek near Tunkhannock, PA). 25 years of recent data (1990 – 2015) resulted in a low flow yield of 0.05 cfs/mi^2 (Q_{7-10} = 19.4 cfs, D.A. = 383 mi^2). Watershed characteristics (e.g. stream density, basin slope, annual precipitation, drainage quality, impervious area, forested area) from both the discharge point and the stream gage location are similar (see Watershed Information attachment).

WQM 7.0 recommended effluent limitations for Ammonia-Nitrogen and a minimum for Dissolved Oxygen (see Table 8 below). Limitations for Acrylonitrile were recommended through PENTOX modeling (see Table 8). Since the target QL for Acrylonitrile is greater than the average monthly limitation, special condition III is added to Part C of the permit which states that sample results demonstrating that the pollutant is not present above the target quantitative level will be considered in compliance with the effluent limitation. The Part C.VI condition regarding Toxics Reduction Evaluations (TREs) is added to the permit and applies to toxic pollutants where limitations are to be established. The permittee will have the option to accept the implementation of the limitations or to perform site-specific studies to verify or refine the WQBELs.

As per the Department's Policy and Procedure for NPDES Permitting of Discharges of Total Dissolved Solids (doc. no. 385-2100-002), PENTOX was run to determine if WQBELs are needed for Osmotic Pressure. Since the highest reported value of Osmotic Pressure in the application is 1 mOsm/kg and the most stringent WQBEL is 615 mOsm/kg, there is no reasonable potential to establish limits for this parameter.

BPJ limitations for Gross Alpha, Total Beta, Total Radium 226/228 and Total Uranium are included in the permit (see Table 9). They have been identified as pollutants of concern for shale gas extraction wastewaters due to the presence of naturally occurring radioactive material in the geologic formations where drilling is taking place. The average monthly limitations are equal to the corresponding target QL values found in the NPDES Application for Individual Permit to Discharge Industrial Wastewater Instructions document (document no. 3800-PM-BCW0008a, revised 11/2016).

Effluent limitations for all continuous discharges other than POTWs must be expressed as both average monthly and maximum daily effluent limits in accordance with 40 CFR 122.45(d). As per chapter 2 of 362-0400-001, a 2x daily max multiplier is to be used for all technology based limits (unless indicated differently in ELGs or other regulation). A 2.5x IMAX multiplier is to be used. If the 2.5x multiplier calculates an IMAX limit that is below the daily maximum limitation, then the IMAX limitation will equal the daily maximum limitation. For WQBELs, guidance from chapter 3 of 362-0400-001 is implemented. Both the daily maximum and IMAX limitations utilize a 2x multiplier.

As per table 6-4 of 362-0400-001, the sample type for volatile pollutants is a 4-grab composite. Four grab samples should be collected during actual hours of discharge over a 24-hour period and need not be flow proportioned. Pollutants listed on the National Ambient Volatile Organic Compounds Database (Acetone, 2-Butanone, n-Decane, n-Octadecane, Phenol, Pyridine, BTEX) have the 4-grab composite sample type in the permit.

FRS will not be assigned cap loads for Total Nitrogen and Total Phosphorus and will be required to purchase nutrient credits to meet Chesapeake Bay requirements. After nutrient credit purchases, the net annual mass loadings for Total Nitrogen and Total Phosphorus shall be 0 lbs/year. Weekly monitoring and reporting requirements are added to the permit for Total Nitrogen and Total Phosphorus. Weekly monitoring and reporting requirements for TKN and NO_2+NO_3-N are added to the

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permit to calculate Total Nitrogen. Currently, the site has one stormwater outfall near the northeastern corner of the property. Contaminated stormwater is defined by 40 CFR 437 as, "storm water which comes in direct contact with CWT wastes, the waste handling and treatment areas, or other centralized waste treatment wastewater." Any stormwater that will come into direct contact with CWT wastes and/or CWT handling areas and is, therefore, a categorical waste under the ELG and must be conveyed to the wastewater treatment system. All stormwater BMPs are included in Part C.V.C. of the permit. A condition requiring all contaminated stormwater (as defined by 40 CFR 437) to be treated at the facility is included in Part C.V.E.. As per document 385-2100-002, WET testing for CWTs or other IWs that discharge treated natural gas wastewater, where the full volume of natural gas wastewater in effluent has been treated to the pollutant concentrations contained in 95.10(b)(3)(iii), generally is not recommended. Therefore, no Whole Effluent Toxicity conditions are contained in the permit. The Environmental Quality Board has directed DEP to collect additional data related to Sulfate, Chloride, and 1,4-Dioxane via Triennial Review 13. Limits for Chlorides and monitoring requirements for Sulfate have been established (see reasoning above). Sampling results submitted with the application indicate that 1,4-Dioxane is not a pollutant of concern, therefore a 1/quarter (as opposed to 1/week) monitoring requirement is added to the permit for 1,4-Dioxane. There are two open violations for Fluid Recovery Services in the Northwestern Region for "CSL – Unauthorized, unpermitted discharge of polluting substances to waters of the Commonwealth resulting in pollution" and "CSL – Failure to comply with terms and conditions of a WQM permit." The violations will need to be resolved before a final permit is issued.
PENTOX Modeling.pdf WQM Modeling.pdf Watershed Information.pdf Osmotic Pressure.pdf

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	0.252
Latitude	41º 41' 59"	Longitude	-75º 40' 29.75"
Quad Name	Lenoxville	Quad Code	0540
Wastewater Description:	IW Process Effluent with ELG		

Receiving Waters	Tunkhannock Creek	Stream Code	28784
NHD Com ID	66397957	RMI	25.3
Drainage Area	88.2 mi^2	Yield (cfs/mi^2)	0.05 cfs/mi^2
Q_{7-10} Flow (cfs)	4.41	Q_{7-10} Basis	Gage 01534000
Elevation (ft)	843	Slope (ft/ft)	0.0038
Watershed No.	4-F	Chapter 93 Class.	CWF, MF
Existing Use	-	Existing Use Qualifier	-
Exceptions to Use	-	Exceptions to Criteria	-
Assessment Status	Attaining Use(s)		
Cause(s) of Impairment	-		
Source(s) of Impairment	-		
TMDL Status	-	Name	-

Background/Ambient Data		Data Source
pH (SU)	-	-
Temperature (°F)	-	-
Hardness (mg/L)	-	-
Other:	-	-

Nearest Downstream Public Water Supply Intake	Danville Municipal Water Authority		
PWS Waters	Susquehanna River	Flow at Intake (cfs)	1123
PWS RMI	122.5	Distance from Outfall (mi)	> 105

Development of Effluent Limitations

Outfall No. 002 **Design Flow (MGD)** 1.0
Latitude 41º 41' 59" **Longitude** -75º 40' 29.75"
Wastewater Description: IW Process Effluent with ELG

Limitations included in the permit are in **bold**.

Technology-Based Limitations

Parameter	Average Monthly	Daily Maximum
O&G (mg/L)	50.2	205
pH (S.U.)	**Within the range of 6 to 9.**	
TSS (mg/L)	**11.3**	**29.6**
Antimony (mg/L)	**0.0312**	**0.111**
Arsenic (mg/L)	**0.0199**	**0.0993**
Cadmium (mg/L)	0.163	0.782
Chromium (mg/L)	**0.0522**	**0.167**
Cobalt (mg/L)	**0.0703**	**0.182**
Copper (mg/L)	**0.216**	0.659
Lead (mg/L)	0.283	1.32
Mercury (mg/L)	**0.000246**	**0.000641**
Nickel (mg/L)	**0.309**	**0.794**
Selenium (mg/L)	**0.0698**	**0.176**
Silver (mg/L)	**0.0122**	**0.0318**
Tin (mg/L)	**0.0367**	**0.0955**
Titanium (mg/L)	**0.00612**	**0.0159**
Vanadium (mg/L)	**0.0518**	**0.0628**
Zinc (mg/L)	**0.252**	0.657

Table 1. Technology-based limits from 40 CFR Part 437.14 (NSPS for metals treatment and recovery)

Parameter	Average Monthly	Daily Maximum
O&G (mg/L)	38.0	127
pH (S.U.)	**Within the range 6 to 9.**	
TSS (mg/L)	30.6	74.1
Arsenic (mg/L)	1.33	2.95
Cadmium (mg/L)	**0.0102**	**0.0172**
Chromium (mg/L)	0.323	0.746
Cobalt (mg/L)	18.8	56.4
Copper (mg/L)	0.242	**0.500**
Lead (mg/L)	**0.160**	**0.350**

Mercury (mg/L)	0.00647	0.0172
Tin (mg/L)	0.165	0.335
Zinc (mg/L)	4.50	8.26
Bis(2-ethylhexyl) phthalate (mg/L)	**0.101**	**0.215**
Butylbenzyl phthalate (mg/L)	**0.0887**	**0.188**
Carbazole (mg/L)	**0.276**	**0.598**
n-Decane (mg/L)	**0.437**	**0.948**
Fluoranthene (mg/L)	**0.0268**	**0.0537**
n-Octadecane (mg/L)	**0.302**	**0.589**

Table 2. Technology-based limits from 40 CFR Part 437.24 (NSPS for oils treatment and recovery)

Parameter	Average Monthly	Daily Maximum
BOD_5 (mg/L)	**53.0**	**163**
pH (S.U.)	**Within the range of 6 to 9.**	
Total Suspended Solids (mg/L)	61.3	216
Copper(mg/L)	0.757	0.865
Zinc (mg/L)	0.420	**0.497**
Acetone (mg/L)	**7.97**	**30.2**
Acetophenone (mg/L)	**0.0562**	**0.114**
2-Butanone (mg/L)	**1.85**	**4.81**
o-Cresol (mg/L)	**0.561**	**1.92**
p-Cresol (mg/L)	**0.205**	**0.698**
Phenol (mg/L)	**1.08**	**3.65**
Pyridine (mg/L)	**0.182**	**0.370**
2,4,6-Trichlorophenol (mg/L)	**0.106**	**0.155**

Table 3. Technology-based limits from 40 CFR Part 437.34 (NSPS for organics treatment and recovery)

Parameter	Average Monthly	Daily Maximum
Total Dissolved Solids (mg/L)	**500**	**1,000**
Total Chlorides (mg/L)	**250**	**500**
Total Barium (mg/L)	**10**	**20**
Total Strontium (mg/L)	**10**	**20**
BOD_5 (mg/L)	**53.0**	**163**
O&G (mg/L)	38.0	127
pH (S.U.)	**Within the range of 6 to 9.**	
Total Suspended Solids (mg/L)	**11.3**	**29.6**
Antimony (mg/L)	**0.0312**	**0.111**
Arsenic (mg/L)	**0.0199**	**0.0993**
Cadmium (mg/L)	**0.0102**	**0.0172**
Chromium (mg/L)	**0.0522**	**0.167**
Cobalt (mg/L)	**0.0703**	**0.182**
Copper (mg/L)	**0.216**	0.659
Lead (mg/L)	**0.160**	**0.350**
Mercury (mg/L)	**0.000246**	**0.000641**
Nickel (mg/L)	**0.309**	**0.794**
Selenium (mg/L)	**0.0698**	**0.176**
Silver (mg/L)	**0.0122**	**0.0318**

Parameter	Average Monthly	Daily Maximum
Tin (mg/L)	**0.0367**	**0.0955**
Titanium (mg/L)	**0.00612**	**0.0159**
Vanadium (mg/L)	**0.0518**	**0.0628**
Zinc (mg/L)	**0.252**	0.657
Acetone (mg/L)	**7.97**	**30.2**
Acetophenone (mg/L)	**0.0562**	**0.114**
Bis(2-ethylhexyl) phthalate (mg/L)	**0.101**	**0.215**
2-Butanone (mg/L)	**1.85**	**4.81**
Butylbenzyl phthalate (mg/L)	**0.0887**	**0.188**
Carbazole (mg/L)	**0.276**	**0.598**
o-Cresol (mg/L)	**0.561**	**1.92**
p-Cresol (mg/L)	**0.205**	**0.698**
n-Decane (mg/L)	**0.437**	**0.948**
Fluoranthene (mg/L)	**0.0268**	**0.0537**
n-Octadecane (mg/L)	**0.302**	**0.589**
Phenol (mg/L)	**1.08**	**3.65**
Pyridine (mg/L)	**0.182**	**0.370**
2,4,6-Trichlorophenol (mg/L)	**0.106**	**0.155**

Table 4. Technology-based limits from PA Code § 95.10 and 40 CFR Part 437.45(b) (NSPS for multiple wastestreams)

Parameter	Average Monthly	Daily Maximum
Total Suspended Solids (mg/L)	30	60
Oils and Grease (mg/L)	**15**	**30**
Total Iron (mg/L)	**3.5**	**7.0**
Acidity	**Less than Alkalinity**	
pH (S.U.)	**Within the range of 6 to 9**	

Table 5. Technology-based limits from DEP's Oil and Gas Wastewater Permitting Manual (doc. no. 550-2100-002)

Parameter	Average Monthly	Daily Maximum
Oils and Grease (mg/L)	**15**	**30**
Dissolved Iron (mg/L)	**-**	**7.0**
pH (S.U.)	**Within the range of 6 to 9**	

Table 6. Technology-based limits from PA Code 95.2

Parameter	Average Monthly	IMAX
Benzene (mg/L)	**0.001**	**0.0025**
Toluene (mg/L)	**Monitor/Report**	**Monitor/Report**
Ethylbenzene (mg/L)	**Monitor/Report**	**Monitor/Report**
Xylenes (mg/L)	**Monitor/Report**	**Monitor/Report**
Total BTEX (mg/L)	**0.1**	**0.25**

Table 7. BPJ limits and monitoring requirements adapted from DEP's PAG-05 General Permit

A "Reasonable Potential Analysis" (see 2017 PENTOX Attachment) determined the following parameters were candidates for limitations: Fluoride, Total Cadmium, Total Lead, Total Mercury, Total Phenols, Acrylonitrile, Benzene, Carbon Tetrachloride, Chlorodibromomethane, Dichlorobromomethane, 1,2-Dichloroethane, 1,3-Dichloropropylene, 1,1,2,2-Tetrachloroethane, Tetrachloroethylene, 1,1,2-Trichloroethane, Hexachlorobutadiene).

The following limitations were determined through water quality modeling (2017 PENTOX & 2017 WQM Attachments):

Parameter	Limit (mg/l)	SBC	Model/Basis
Acrylonitrile (µg/L)	**3.6**	Average Monthly	2017 PENTOX
	7.2	Daily Maximum	
	7.2	IMAX	
Ammonia-Nitrogen	**16.2**	Average Monthly	2017 WQM 7.0
	32.4	Daily Maximum	
	32.4	IMAX	
Dissolved Oxygen	**6.0**	Minimum	2017 WQM 7.0

Table 8. WQBELs

The following pollutants require monitoring as per water quality modeling (see 2017 PENTOX Attachment): **Bromide**, Total Cadmium[1], Total Lead[1], Benzene[1].

[1] Technology-based effluent limitations apply to these pollutants.

Parameter	Limit (µg/l)	SBC	Basis
Gross Alpha (pCi/L)	**3.0**	Average Monthly	Pollutant of concern
	6.0	Daily Maximum	
	7.5	IMAX	
Total Beta (pCi/L)	**4.0**	Average Monthly	Pollutant of concern
	8.0	Daily Maximum	
	10.0	IMAX	
Total Radium 226/228 (pCi/L)	**1.0**	Average Monthly	Pollutant of concern
	2.0	Daily Maximum	
	2.5	IMAX	
Total Uranium	**2.0**	Average Monthly	Pollutant of concern
	4.0	Daily Maximum	
	5.0	IMAX	

Table 9. BPJ limitations for additional pollutants of concern