



February 2, 2016

Mr. Ronald A. Schwartz
Assistant Regional Director
PA Department of Environmental Protection
Southwest Regional Office
400 Waterfront Drive
Pittsburgh, PA 15222-4745

Shell Chemical Appalachia LLC

Shell Oil Company
One Shell Plaza
910 Louisiana St.
Houston, TX 77002
United States of America

Subject: Amendment Application – Corrected Version
NPDES Permit Number PA0002208
Shell Chemical Appalachia LLC, Beaver County, PA

Internet: www.shell.us

Dear Mr. Schwartz:

Enclosed are revised forms and updated table to amend the subject application submitted on November 9, 2015.

Based on our internal review we need to revise the proposed effluent estimates for the following four parameters as follows:

Parameter	Daily Max (mg/l)	
	Original	Proposed
3,4-Benzofluoranthene	0.05	<0.0025
Benzo(a)anthracene	0.05	<0.0025
Benzo(a)pyrene	0.05	<0.0025
Hardness (as CaCO ₃)	1.3	702.9

Included in this submittal are:

- Revised PADEP Form, "Analysis Results Table Pollutant Group 1" for outfalls 101 and 001 that provide new Hardness values
- Revised PADEP Form, "Analysis Results Table Pollutant Group 5" for outfalls 101 and 001 that provides new Benzo compound values.
- Updated Table of estimated effluent parameters from Section 6 of the application.

Shell Chemical Appalachia LLC is a trading
style used
by a network of companies
of the Shell Group

Please let me know if you need any additional information or can answer any questions about this request.

Sincerely,

A handwritten signature in black ink, appearing to read 'H. James Sewell', written in a cursive style.

H. James Sewell
Environmental Manager
Shell Chemical Appalachia LLC
300 Frankfort Rd., Shell Trailer
Monaca, PA 15061

Enclosures: Revised Forms and Table

ATTACHMENT 1

- Group 1 Table
- Group 5 Table

ANALYSIS RESULTS TABLE

POLLUTANT GROUP 1 – Rev 1 (January 2016)

Please read instructions carefully before completing this form.

APPLICANT NAME	Shell Chemical Appalachia LLC										
	<input checked="" type="checkbox"/> Outfall / IMP Number 101 (Show location of sampling point on Line Drawing) <input type="checkbox"/> Treatment Facility Influent Sampling Results (Show location of sampling point on Line Drawing) <input type="checkbox"/> Intake Sampling Results (Specify Source: _____) <input checked="" type="checkbox"/> New Discharge (Basis for Information: <u>Engineering Estimate</u>)										
	CONCENTRATION / MASS PRESENT										
POLLUTANT GROUP 1 PARAMETERS	Min/Max Daily Value		Max Avg Monthly Value		Long-Term Avg Value		No. Analyses	No. "Non-Detect" Results	QL Used	Method Used	
	Conc	Mass (lbs/day)	Conc	Mass (lbs/day)	Conc	Mass (lbs/day)					
BOD ₅ (mg/L)											
COD (mg/L)											
TOC (mg/L)											
TSS (mg/L)											
Ammonia-Nitrogen (mg/L)											
Temperature (Winter) (°F)											
Temperature (Summer) (°F)											
pH – Minimum (S.U.)											
pH – Maximum (S.U.)											
Fecal Coliform (No./100 mL)											
Oil and Grease (mg/L)											
TRC (mg/L)											
Total Phosphorus (mg/L)											
TKN (mg/L)											
Nitrite + Nitrate-Nitrogen (mg/L)											
Total Dissolved Solids (mg/L)											
Color (Pt-Co Units)											
Bromide (mg/L)											
Chloride (mg/L)											
Sulfate (mg/L)											
Sulfide (mg/L)											
Surfactants (mg/L)											
Fluoride (mg/L)											
Total Hardness (mg/L)	232	1,659	116	829							

ANALYSIS RESULTS TABLE

POLLUTANT GROUP 1 – Rev 1 (January 2016)

Please read instructions carefully before completing this form.

APPLICANT NAME		Shell Chemical Appalachia LLC															
<input checked="" type="checkbox"/> Outfall / IMP Number 001 (Show location of sampling point on Line Drawing) <input type="checkbox"/> Treatment Facility Influent Sampling Results (Show location of sampling point on Line Drawing) <input type="checkbox"/> Intake Sampling Results (Specify Source: _____) <input checked="" type="checkbox"/> New Discharge (Basis for Information: <u>Engineering Estimate</u>)																	
POLLUTANT GROUP 1 PARAMETERS	CONCENTRATION / MASS PRESENT										No. "Non-Detect" Results	No. Analyses	QL Used	Method Used			
	Min/Max Daily Value		Max Avg Monthly Value		Long-Term Avg Value												
	Conc	Mass (lbs/day)	Conc	Mass (lbs/day)	Conc	Mass (lbs/day)											
BOD ₅ (mg/L)																	
COD (mg/L)																	
TOC (mg/L)																	
TSS (mg/L)																	
Ammonia-Nitrogen (mg/L)																	
Temperature (Winter) (°F)																	
Temperature (Summer) (°F)																	
pH – Minimum (S.U.)																	
pH – Maximum (S.U.)																	
Fecal Coliform (No./100 mL)																	
Oil and Grease (mg/L)																	
TRC (mg/L)																	
Total Phosphorus (mg/L)																	
TKN (mg/L)																	
Nitrite + Nitrate-Nitrogen (mg/L)																	
Total Dissolved Solids (mg/L)																	
Color (Pt-Co Units)																	
Bromide (mg/L)																	
Chloride (mg/L)																	
Sulfate (mg/L)																	
Sulfide (mg/L)																	
Surfactants (mg/L)																	
Fluoride (mg/L)																	
Total Hardness (mg/L)	702.9		19,355		351.4		9,677										

No Change

ANALYSIS RESULTS TABLE
POLLUTANT GROUP 5 Rev 1 (January 2016)
Please read instructions carefully before completing this form.

APPLICANT NAME	Shell Chemical Appalachia LLC										
	<input checked="" type="checkbox"/> Outfall / IMP Number 101 (Show location of sampling point on Line Drawing) <input type="checkbox"/> Treatment Facility Influent Sampling Results (Show location of sampling point on Line Drawing) <input type="checkbox"/> Intake Sampling Results (Specify Source: _____) <input type="checkbox"/> Background (Upstream) Sampling Results (Specify Location: _____) <input checked="" type="checkbox"/> New Discharge (Basis for Information: <u>Engineering Estimate</u>)										
	CONCENTRATION / MASS PRESENT										
POLLUTANT GROUP 5 PARAMETERS	Mini/Max Daily Value		Max Avg Monthly Value		Long-Term Avg Value		No. Analyses	No. "Non-Detect" Results	QL Used	Method Used	
	Conc	Mass (lbs/day)	Conc	Mass (lbs/day)	Conc	Mass (lbs/day)					
Acenaphthene (µg/L)	No Change										
Acenaphthylene (µg/L)	No Change										
Anthracene (µg/L)	No Change										
Benzo(a)Anthracene (µg/L)	10	0.07	5	0.04							
Benzo(a)Pyrene (µg/L)	10	0.07	5	0.04							
3,4-Benzo-fluoranthene (µg/L)	10	0.07	5	0.04							
Fluorene (µg/L)	No Change										

1. Group 5 pollutants not listed above are not expected to be in wastewater based on process engineering and similar reference plants.
2. Table only shows changes from Original submittal

ANALYSIS RESULTS TABLE
POLLUTANT GROUP 5 Rev 1 (January 2016)
Please read instructions carefully before completing this form.

APPLICANT NAME		Shell Chemical Appalachia LLC									
<input checked="" type="checkbox"/> Outfall / IMP Number 001 (Show location of sampling point on Line Drawing) <input type="checkbox"/> Treatment Facility Influent Sampling Results (Show location of sampling point on Line Drawing) <input type="checkbox"/> Intake Sampling Results (Specify Source: _____) <input type="checkbox"/> Background (Upstream) Sampling Results (Specify Location: _____) <input checked="" type="checkbox"/> New Discharge (Basis for Information: Engineering Estimate)		CONCENTRATION / MASS PRESENT									
POLLUTANT GROUP 5 PARAMETERS	Min/Max Daily Value		Max Avg Monthly Value		Long-Term Avg Value		No. Analyses	No. "Non-Detect" Results	QL Used	Method Used	
	Conc	Mass (lbs/day)	Conc	Mass (lbs/day)	Conc	Mass (lbs/day)					
Acenaphthene (µg/L)	No Change										
Acenaphthylene (µg/L)	No Change										
Anthracene (µg/L)	No Change										
Benzo(a)Anthracene (µg/L)	2.45	0.07	1.2	0.04							
Benzo(a)Pyrene (µg/L)	2.45	0.07	1.2	0.04							
3,4-Benzo-fluoranthene (µg/L)	2.45	0.07	1.2	0.04							
Fluorene (µg/L)	No Change										

- Group 5 pollutants not listed above are not expected to be in wastewater based on process engineering and similar reference plants.
- Table only shows changes from Original submittal

ATTACHMENT 2

- Effluent Table From Section 6 of Application

Stream Conditions	Treated Effluent from WWTP (IMP 101)						Treated Effluent + CWT Blowdown to Outfall 001					
	Daily Maximum			Monthly Maximum			Daily Maximum			Monthly Maximum		
	WET Weather Conc. (mg/L)	DRY Weather Conc. (mg/L)	Mass Loading (lb/day)	WET Weather Conc. (mg/L)	DRY Weather Conc. (mg/L)	Mass Loading (lb/day)	WET Weather Conc. (mg/L)	DRY Weather Conc. (mg/L)	Mass Loading (lb/day)	WET Weather Conc. (mg/L)	DRY Weather Conc. (mg/L)	Mass Loading (lb/day)
Flow (m3/hr)	202	127	-	202	127	-	593	518	-	593	518	-
Flow (gpm)	887	557	-	887	557	-	2,607	2,277	-	2,607	2,277	-
pH (std unit)	6.5 - 8	6.5 - 8	-	6.5 - 8	6.5 - 8	-	6.5 - 8	6.5 - 8	-	6.5 - 8	6.5 - 8	-
Temp (°C)	21 - 32	24 - 33	-	21 - 32	24 - 33	-	35 - 39	38 - 40	-	35 - 39	38 - 40	-
BOD	47	45	501	23	23	250	36	34	1,121	18	17	561
COD	141	136	1,502	105	102	1,126	87	79	2,743	66	59	2,057
TSS	71	69	761	36	35	380	57	55	1,795	29	27	898
TDS	4,690	7,375	50,078	4,690	7,375	50,078	2,916	3,317	91,442	2,916	3,317	91,442
TOC	31	31	331	15	16	165	20	18	620	10	9	310
Oil and grease	19	18	200	9	9	100	10	8	304	5	4	152
Methanol	0.1	0.1	1.0	0.04	0.1	0.5	0.03	0.03	1.0	0.02	0.02	0.5
Benzene	0.3	0.5	3.6	0.2	0.3	1.8	0.1	0.1	3.6	0.1	0.1	1.8
Phenols	0.1	0.1	0.7	0.03	0.1	0.4	0.02	0.02	0.7	0.01	0.01	0.4
3,4-Benzofluoranthene	0.007	0.010	0.07	0.003	0.005	0.04	0.0023	0.00245	0.07	0.0011	0.0012	0.04
Acenaphthene	0.1	0.2	1.4	0.1	0.1	0.7	0.05	0.05	1.4	0.02	0.02	0.7
Acenaphthylene	0.1	0.2	1.4	0.1	0.1	0.7	0.05	0.05	1.4	0.02	0.02	0.7
Acetaldehyde	0.3	0.5	3.6	0.2	0.3	1.8	0.1	0.1	3.6	0.1	0.1	1.8
Acetic Acid	0.3	0.5	3.6	0.2	0.3	1.8	0.1	0.1	3.6	0.1	0.1	1.8
Anthracene	0.1	0.2	1.4	0.1	0.1	0.7	0.05	0.05	1.4	0.02	0.02	0.7
Benzo(a)anthracene	0.007	0.010	0.07	0.003	0.005	0.04	0.0023	0.00245	0.07	0.0011	0.0012	0.04
Benzo(a)pyrene	0.007	0.010	0.07	0.003	0.005	0.04	0.0023	0.00245	0.07	0.0011	0.0012	0.04
Ethylbenzene	0.1	0.2	1.4	0.1	0.1	0.7	0.05	0.05	1.4	0.02	0.02	0.7
Fluorene	0.1	0.2	1.4	0.1	0.1	0.7	0.05	0.05	1.4	0.02	0.02	0.7
Formaldehyde	1.0	1.5	10.7	0.5	0.8	5.4	0.3	0.4	10.7	0.2	0.2	5.4
Formic Acid	0.3	0.5	3.6	0.2	0.3	1.8	0.1	0.1	3.6	0.1	0.1	1.8
Propionic Acid	0.3	0.5	3.6	0.2	0.3	1.8	0.1	0.1	3.6	0.1	0.1	1.8
Styrene	0.0	0.1	0.4	0.02	0.03	0.2	0.0	0.0	0.4	0.01	0.01	0.2
Toluene	0.2	0.3	1.8	0.1	0.1	0.9	0.1	0.1	1.8	0.03	0.03	0.9
Xylene	0.5	0.8	5.7	0.3	0.4	2.9	0.2	0.2	5.7	0.1	0.1	2.9
Xylenol	0.5	0.8	5.7	0.3	0.4	2.9	0.2	0.2	5.7	0.1	0.1	2.9
Nitrate as N	0.5	0.8	5.4	0.3	0.4	2.7	4.1	4.7	129.5	2.1	2.4	64.8
Nitrite as N	0.02	0.03	0.2	0.01	0.01	0.1	0.14	0.16	4.3	0.07	0.08	2.2
Ammonia as N	3.6	5.4	38.6	1.8	2.7	19.3	1.6	1.8	51.0	0.8	0.9	25.5
Total Nitrogen	0.1	0.2	1.4	0.1	0.1	0.7	0.05	0.05	1.4	0.02	0.02	0.7
Total Phosphorous	0.04	0.1	0.4	0.02	0.03	0.2	3.24	3.7	101.6	1.62	1.85	50.8
Sulfide	0.2	0.3	2.4	0.1	0.2	1.2	0.1	0.1	2.4	0.0	0.0	1.2
Sulfite	0.2	0.3	2.4	0.1	0.2	1.2	0.1	0.1	2.4	0.0	0.0	1.2
Sulfate	526	786	5,619	263.1	393.0	2,809	720	812	22,578	360.0	405.8	11,289
Na2S (as Na2S)	0.1	0.1	0.7	0.03	0.05	0.3	0.02	0.02	0.7	0.01	0.01	0.3
Na2CO3	596	891	6,366	298	445	3,183	203	218	6,366	102	109	3,183
Na2SO4	1,452	2,169	15,507	726	1,085	7,753	494	531	15,507	247	266	7,753
Thiosulfates	27	41	293	14	21	147	9	10	293	5	5	147
Hardness (as CaCO3)	155	232	1,659	77.7	116.0	829	617.2	702.9	19,355	308.6	351.4	9,677
Alkalinity (as CaCO3)	31	47	336	15.7	23.5	168	110	125	3,438	54.8	62.4	1,719
Aluminum	0.9	1.4	10	0.5	0.7	5	4.3	4.9	134	2.1	2.4	67
Calcium	40	59	423	19.8	29.6	212	168	191	5,263	83.9	95.6	2,632
Chloride	72	107	764	35.8	53.5	382	275	313	8,624	137.5	156.6	4,312
Chromium, Total	0.4	0.6	4.1	0.2	0.3	2.0	0.1	0.1	4.1	0.06	0.07	2.0
Copper, Total	0.2	0.2	1.6	0.1	0.1	0.8	0.05	0.06	1.6	0.03	0.03	0.8
Cyanide, Total	0.2	0.2	1.6	0.1	0.1	0.8	0.05	0.06	1.6	0.03	0.03	0.8
Fluoride	0.6	0.9	6.4	0.3	0.4	3.2	1.0	1.1	31.2	0.5	0.6	15.6
Iron	3	5	36	1.7	2.5	18	7	8	210	3.3	3.8	105
Magnesium	11	17	122	5.7	8.5	61	47	54	1,487	23.7	27.0	744
Manganese, Total	0.4	0.6	4.1	0.2	0.3	2.0	0.1	0.1	4.1	0.1	0.1	2.0
Nickel, Total	0.04	0.06	0.4	0.02	0.03	0.2	0.01	0.01	0.4	0.01	0.01	0.2
Potassium	3	4	27	1.3	1.9	14	11	13	358	5.7	6.5	179
Silica (as SiO2)	5	7	53	2.5	3.7	26	20	23	632	10.1	11.5	316
Sodium	239	357	2,551	119	178	1,275	258	290	8,094	129	145	4,047