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ENGINEERING EVALUATION/ FACT SHEET

BACKGROUND INFORMATION

Application No.:	R13-3304A
Plant ID No.:	103-00115
Applicant:	Icon Midstream Pipeline, LLC (Icon)
Facility Name:	North Liquids Management Facility
Location:	Reader, Wetzel County
NAICS Code:	211112
Application Type:	Modification
Received Date:	August 1, 2016
Engineer Assigned:	Roy F. Kees, P.E.
Fee Amount:	$3,500.00
Date Received:	August 3, 2016
Complete Date:	August 29, 2016
Due Date:	November 29, 2016
Applicant Ad Date:	August 17, 2016
Newspaper:	*Wetzel Chronicle*
UTM's:	Easting: 525.893 km Northing: 4,379.162 km Zone: 17
Latitude/Longitude:	39.561750/ -80.698578
Description:	Replacement of one compressor engine with a larger unit, increase in condensate capacity by adding two tanks, increase truck loading and remove one line heater.

DESCRIPTION OF PROCESS

The following process description was taken from Registration Application R13-3304A:

Icon Midstream operates its North Liquids Management Facility in Wetzel County (See Site Location Map) under Permit R13-3304. The Station receives and manages natural gas and produced fluids (primarily raw condensate) from area production well pads owned and operated by others. At the station inlet, gas and produced fluids pass through a slug catcher where liquids will be separated from the gas. The gas is dehydrated and injected into a pipeline for transportation to a processing facility owned and operated by others. A portion of the gas is used as fuel for Icon's equipment.

During the dehydration process, two gas streams are generated, the still vent vapors and the gases from the flash tank. As depicted in the Process Flow Diagram, the still vent vapors are routed to an enclosed combustor where they are destroyed at 98% + destruction efficiency. Again, as depicted in the Process Flow Diagram, the gases generated in the dehy flash tank are of sufficient quality that it is utilized for fuel for the dehydration unit reboiler with excess blended with the general facility fuel gas.

Liquids exiting the Slug Catcher enter a heated separator. In the heated separator, the liquids are first separated into Condensate and Produced Water (Brine). As the pressure is reduced, lighter components of the condensate is flashed off. The resulting stabilized condensate is routed to a series of five 210 BBL aboveground storage tanks prior to transportation (via truck) to a processing facility owned and operated by others. The separated water is routed to a single 210 BBL aboveground storage tank prior to off-site transportation by others for re-use or disposal. The flash gas coming off of the heated separator is routed to a flash gas compressor and passed through an air cooler. A fraction of the flash gas condenses during the pressurization and cooling process. This liquid (Natural Gas Liquids or NGL) is then be accumulated in a pressure vessel (approximately 120 psia) and transported via a pressurized tanker truck to a fractionation facility owned by others for further processing.

Vapors emitted by the stabilized condensate storage tanks are captured by a hard piping system that routes the vapors to a Vapor Recovery Unit (VRU). This unit compresses the vapors and injects them into the sales line. Any liquids condensing during this pressurization and cooling process are separated from the gas stream and routed to the NGL tank.

Any vapors not handled by the VRU or Flash Gas compressor are controlled by enclosed combustors if/when one or both of the VRU or Flash Gas compressor are down for maintenance or other mechanical reasons. Vapors associated with produced water and condensate truck loading will also be routed to the enclosed combustor. As NGL truck loading is completed via vapor balance between the pressurized storage vessels and the pressurized tanker truck, there are only emissions associated with the connection/disconnection of the transfer lines.

In this Modification, Icon wishes to:

- Modify its permit to reflect the recent installation of a slightly larger Flash Gas compressor driver engine than what is in the permit
- Increase the condensate storage capacity by installation of two additional 210 BBL tanks and concurrently raising the annual condensate throughput to 30,000 BBL/year from the currently permitted 25,000 BBL/year. With the additional two tanks, throughput will drop from the current 210,000 gallons per year per tank to 180,000 gallons per year per tank.
- Increase condensate truck loading to 30,000 BBL/year
- Removed the currently permitted 0.25 MMBTU/Hr line heater as it was determined that this device is not needed to operate the facility in an efficient manner.

There are no changes requested for produced water or NGL related equipment or throughput volumes.

In summary, emission sources at this facility will include the following:

- One Flash Gas Compressor Engine – Arrow VR 330 68 Hp **(NEW)**
- One VRU Gas Compressor Engine – Cummins G8.3 118 Hp **(EXISTING)**
- One 1.0 MMBTU/Hr Separator Heater **(EXISTING)**
- One 130 MMSCFD Dehydration Unit **(EXISTING)**
- Seven 210 BBL Stabilized Condensate Tanks **(TWO NEW)**
- One 210 BBL Produced Water Tank **(EXISTING)**
- Stabilized Condensate/Produced water truck loading **(MODIFIED THROUGHPUT)**
- NGL truck loading **EXISTING**
- Fugitive Emissions – Facility Roadways **EXISTING**
- Fugitive Emissions – Component Leaks **EXISTING**

SITE INSPECTION

A site inspection was conducted on April 6, 2016 by James Robertson of the Compliance and Enforcement Section. "The proposed facility location is off State Route 20, near Galmish, WV, behind the Galmish Loading Facility (propane loading). The site location is on top of a small hill, overlooking SR20 and Piney Fork Road, with the closest dwelling being approximately 500' away. There are two houses located at the proposed location, but they appear to be abandoned and unoccupied. Presumably Icon has purchased these dwellings, but this should be confirmed prior to issuing the permit.

If it is verified that the two dwellings located at the proposed location have been purchased by Icon, it is my opinion that this site is suitable for a NSR Permit."

ESTIMATE OF EMISSIONS BY REVIEWING ENGINEER

Emissions associated with this modification application consist of the emissions from two (2) natural gas fired engines, two (2) heaters, seven (7) condensate storage tanks, one (1) produced water storage tank, condensate truck loading, produced water truck loading, two (2) enclosed combustors, one (1) dehy and reboiler and fugitive emissions. Each piece of equipment onsite are fitted with components such as flanges, valves, connectors, and seals to ensure a safe and efficient production process. These components are designed to have a small amount of gas vent to the atmosphere. The component counts were estimated using similar facilities. Emission factors from 40CFR98, Table W-1A and API were used.

The following table indicates which methodology was used in the emissions determination:

Emission Point ID#	Process Equipment	Calculation Methodology
CE-3	68 hp Arrow VR 330 Flash Gas Compressor	Manufacturer's Data, EPA AP-42 Emission Factors
CE-2	118 hp Cummins G8.3 VRU Compressor Engine	Manufacturer's Data, EPA AP-42 Emission Factors
HTR-2	1.0 MMBTU/hr Separator Heater	EPA AP-42 Emission Factors
RBV-1	2.0 MMBTU/hr Reboiler	EPA AP-42 Emission Factors
RSV-1	130 MMSCFD	GlyCalc 4.0
T01 – T05, T07-T08	Seven (7) 210 bbl Condensate Storage Tanks	Gas-Oil Ratio (Flashing) EPA Tanks 4.0.9d (Working and Breathing)
T06	210 bbl Produced Water Storage Tanks	Gas-Oil Ratio (Flashing) EPA Tanks 4.0.9d (Working and Breathing)
TL-1	1,260,000 gal/yr Condensate Truck Loading	EPA AP-42 Emission Factors
TL-2	58,800 gal/yr Produced Water Truck Loading	EPA AP-42 Emission Factors
EC-1	Two (2) 10.0 MMBTU/hr Enclosed Combustors	EPA AP-42 Emission Factors

The following table indicates the control device efficiencies that are required for this facility:

Emission Unit	Pollutant	Control Device	Control Efficiency
CE-3 Compressor Engine	Nitrogen Oxides	Non Selective Catalytic Reduction (NSCR)	80 %
	Carbon Monoxide		80 %
CE-2 Compressor Engine	Nitrogen Oxides	Non Selective Catalytic Reduction (NSCR)	92 %
	Carbon Monoxide		77 %
T01 – T08 Condensate and Produced Water Tanks	Volatile Organic Compounds	Vapor Recovery Unit/ Enclosed Combustor	95 %
	Total HAPs		95 %
TL-1 Condensate Truck Loading	Volatile Organic Compounds	Vapor Return/ Combustion	93.7 % (98.7 % NSPS capture, 95% control)
RSV-1 Dehy Still Vent	Volatile Organic Compounds	Enclosed Combustor	99 %
	Total HAPs		99 %

Icon Midstream Pipeline, LLC – North Liquids Management Facility (R13-3304A)

Emission Point ID#	Source	NO_x		CO		VOC		PM		SO_2		Formaldehyde		Total HAPs		CO2e
		lb/hr	ton/year	lb/hr	ton/year	lb/hr	ton/year	lb/hr	ton/year	lb/hr	ton/year	lb/hr	ton/year	lb/hr	ton/year	ton/year
1E-A	Arrow VR 330 Compressor Engine	0.43	1.89	0.49	2.14	0.02	0.08	0.01	0.05	0.00	0.000	0.01	0.05	0.02	0.08	312
2E	Cummins G8.3 Compressor Engine	0.26	1.14	0.52	2.28	0.03	0.13	0.05	0.22	0.00	0.00	0.02	0.09	0.11	0.49	542
4E	Separator Heater	0.08	0.35	0.07	0.30	0.00	0.02	0.01	0.03	0.00	0.00	0.00	0.00	0.00	0.00	418
5E	Condensate & PW Tanks T01-T08	0.00	0.00	0.00	0.00	6.68	29.26	0.00	0.00	0.00	0.00	0.00	0.00	0.22	0.96	0
6E	Combustors (Tanks, Loading, Still Vent)	0.68	1.51	3.69	8.24	6.31	11.53	0.00	0.39	0.00	0.00	0.00	0.00	1.41	5.65	2620
7E	Produced Water Truck Loading	0.00	0.00	0.00	0.00	0.13	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
8E	Reboiler	0.20	0.88	0.17	0.74	0.01	0.05	0.02	0.07	0.00	0.00	0.00	0.00	0.00	0.00	1058
PIG	Pigging	0.00	0.00	0.00	0.00	NA	7.85	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	651
BD	Blowdowns	0.00	0.00	0.00	0.00	NA	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
TL2	Uncaptured Cond Truck Loading	0.00	0.00	0.00	0.00	0.76	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.01	0
Total Icon Point Source		**1.86**	**5.77**	**5.34**	**13.68**	**14.86**	**49.12**	**0.10**	**0.76**	**0.00**	**0.01**	**0.04**	**0.15**	**1.76**	**7.02**	**5610**
Fugitive	Venting	0.00	0.00	0.00	0.00	0.56	2.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13
Fugitive	Dust	0.00	0.00	0.00	0.00	0.00	0.00	10.60	0.46	0.00	0.00	0.00	0.00	0.00	0.00	0
Fugitive	NGL Loading (PV Disconnect)	0.00	0.00	0.00	0.00	0.90	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8
Total Icon Fugitive		**0.00**	**0.00**	**0.00**	**0.00**	**1.46**	**2.51**	**10.60**	**0.46**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**21.00**
Total Icon Site Wide		**1.86**	**5.77**	**5.34**	**13.68**	**15.42**	**51.59**	**10.70**	**1.22**	**0.00**	**0.01**	**0.04**	**0.15**	**1.83**	**7.22**	**5623**

REGULATORY APPLICABILITY

The following rules apply to the facility:

45CSR2 (Particulate Air Pollution from Combustion of Fuel in Indirect Heat Exchangers)

The purpose of 45CSR2 (Particulate Air Pollution from Combustion of Fuel in Indirect Heat Exchangers) is to establish emission limitations for smoke and particulate matter which are discharged from fuel burning units.

45CSR2 states that any fuel burning unit that has a heat input under ten (10) million B.T.U.'s per hour is exempt from sections 4 (weight emission standard), 5 (control of fugitive particulate matter), 6 (registration), 8 (testing, monitoring, recordkeeping, reporting) and 9 (startups, shutdowns, malfunctions). However, failure to attain acceptable air quality in parts of some urban areas may require the mandatory control of these sources at a later date.

The individual heat input of all of the proposed fuel burning units (separator heater (4E) and reboiler (8E)) are below 10 MMBTU/hr. Therefore, these units are exempt from the aforementioned sections of 45CSR2. However, Icon would be subject to the opacity requirements in 45CSR2, which is 10% opacity based on a six minute block average.

45CSR6 (To Prevent and Control Air Pollution from the Combustion of Refuse)

45CSR6 prohibits open burning, establishes emission limitations for particulate matter, and establishes opacity requirements. Sources subject to 45CSR6 include completion combustion devices, enclosed combustion devices, and flares.

The facility-wide requirements of the general permit include the open burning limitations §§45-6-3.1 and 3.2.

All completion combustion devices, enclosed combustion devices, and flares are subject to the particulate matter weight emission standard set forth in §45-6-4.1; the opacity requirements in §§45-6-4-3 and 4-4; the visible emission standard in §45-6-4.5; the odor standard in §45-6-4.6; and the testing standard in §§45-6-7.1 and 7.2. Sections 5.0, 6.0 and 14.0 of the G70-A general permit include requirements for 45CSR6.

Enclosed combustion control devices and flares that are used to comply with emission standards of NSPS, Subpart OOOO are subject to design, operational, performance, recordkeeping and reporting requirements of the NSPS regulation that meet or exceed the requirements of 45CSR6.

Icon has two (2) combustor at the North Facility. The combustor has minimal particulate matter emissions. Therefore, the facility's combustor should demonstrate compliance with this section. The facility will demonstrate compliance by maintaining records of the amount of natural gas consumed by the combustor and the hours of operation. The facility will also monitor the flame of the combustor and record any malfunctions that may cause no flame to be present during operation.

45CSR10 (To Prevent and Control Air Pollution from the Emissions of Sulfur Oxides)

45CSR10 states that any fuel burning unit that has a heat input under ten (10) million B.T.U.'s per hour is exempt from sections 3 (weight emission standard), 6 (registration), 7 (permits), and 8 (testing, monitoring, recordkeeping, reporting). However, failure to attain acceptable air quality in parts of some urban areas may require the mandatory control of these sources at a later date.

The individual heat input of all of the proposed fuel burning units (separator heater (4E) and reboiler (8E)) are below 10 MMBTU/hr. Therefore, these units are exempt from the aforementioned sections of 45CSR10.

45CSR13 (Permits for Construction, Modification, Relocation and Operation of Stationary Sources of Air Pollutants, Notification Requirements, Administrative Updates, Temporary Permits, General Permits, and Procedures for Evaluation)

45CSR13 applies to this source due to the fact that Icon is defined as a "stationary source" under 45CSR13 Section 2.24.b, which states that an owner or operator discharges or has the potential to discharge more than six (6) pounds per hour and ten (10) tons per year, or has the potential to discharge more than 144 pounds per calendar day of any regulated air pollutant. Icon's volatile organic compounds (VOC) emissions exceed 45CSR13 permit thresholds. Icon has published the required Class I legal advertisement notifying the public of their permit application, and paid the appropriate application fee (modification).

45CSR22 (Air Quality Management Fee Program)

This facility is a minor source and not subject to 45CSR30. Icon is required to keep their Certificate to Operate current.

40CFR60 Subpart JJJJ (Standards of Performance for Stationary Spark Ignition Internal Combustion Engines (SI ICE))

40CFR60 Subpart JJJJ establishes emission standards for applicable SI ICE.

The 118 hp Cummins G8.3 VRU Compressor Engine (CE-2) is subject to the requirements for engines that were manufactured after January 1, 2011 and are greater than or equal to 100 and less than 500 hp.

The 118 hp Cummins G8.3 VRU Compressor Engine (CE-2) will be subject to the following emission limits: NOx – 1.0 g/hp-hr (0.26 lb/hr); CO – 2.0 g/hp-hr (0.42 lb/hr); and VOC – 0.7 g/hp-hr (0.18 lb/hr). Based on the manufacturer's specifications for this engine, the emission standards will be met.

The 68 hp Arrow VRG330 Flash Gas Compressor (CE-3) will not be subject to Subpart JJJJ. The engine was manufactured on May 7, 1982.

Engine CE-2 is not certified by the manufacturer to meet the emission standards listed in 40CFR60 Subpart JJJJ. Therefore, Icon will be required to conduct an initial performance test and conduct subsequent performance testing every 8,760 hours or three (3) years, whichever comes first, to demonstrate compliance.

40CFR60 Subpart OOOO (Standards of Performance for Crude Oil and Natural Gas Production, Transmission and Distribution)

EPA published in the Federal Register new source performance standards (NSPS) and air toxics rules for the oil and gas sector on August 16, 2012. 40CFR60 Subpart OOOO establishes emission standards and compliance schedules for the control of volatile organic compounds (VOC) and sulfur dioxide (SO_2) emissions from affected facilities that commence construction, modification or reconstruction after August 23, 2011. The following affected sources which commence construction, modification or reconstruction after August 23, 2011 are subject to the applicable provisions of this subpart:

a. Each gas well affected facility, which is a single natural gas well.

There are no gas wells at this facility. Therefore, all requirements regarding gas well affected facilities under 40 CFR 60 Subpart OOOO would not apply.

b. Each centrifugal compressor affected facility, which is a single centrifugal compressor using wet seals that is located between the wellhead and the point of custody transfer to the natural gas transmission and storage segment. For the purposes of this subpart, your centrifugal compressor is considered to have commenced construction on the date the compressor is installed (excluding relocation) at the facility. A centrifugal compressor located at a well site, or an adjacent well site and servicing more than one well site, is not an affected facility under this subpart.

There are no centrifugal compressors at the North Facility. Therefore, all requirements regarding centrifugal compressors under 40 CFR 60 Subpart OOOO would not apply.

c. Each reciprocating compressor affected facility, which is a single reciprocating compressor located between the wellhead and the point of custody transfer to the natural gas transmission and storage segment. For the purposes of this subpart, your reciprocating compressor is considered to have commenced construction on the date the compressor is installed (excluding relocation) at the facility. A reciprocating compressor located at a well site, or an adjacent well site and servicing more than one well site, is not an affected facility under this subpart.

There are reciprocating internal combustion engines located at the North Facility that were constructed after August 23, 2011. Therefore, the requirements regarding reciprocating compressors under 40 CFR 60 Subpart OOOO will apply. Icon will be required to perform the following:

- Replace the reciprocating compressor rod packing at least every 26,000 hours of operation or 36 months or installation of a rod packing emissions collection system.

- Demonstrate initial compliance by continuously monitoring the number of hours of operation or track the number of months since the last rod packing replacement.

- Submit the appropriate start up notifications.

- Submit the initial annual report for the reciprocating compressors.

- Maintain records of hours of operation since last rod packing replacement, records of the date and time of each rod packing replacement, and records of deviations in cases where the reciprocating compressor was not operated in compliance.

d. Pneumatic Controllers

- Each pneumatic controller affected facility, which is a single continuous bleed natural gas-driven pneumatic controller operating at a natural gas bleed rate greater than 6 scfh which commenced construction after August 23, 2011, and is located between the wellhead and the point of custody transfer to the natural gas transmission and storage segment and not located at a natural gas processing plant.

- Each pneumatic controller affected facility, which is a single continuous bleed natural gas-driven pneumatic controller which commenced construction after August 23, 2011, and is located at a natural gas processing plant.

There are no continuous bleed gas-driven pneumatic controllers with bleed rates greater than 6 standard cubic feet per hour (scfh) at the North Facility. Therefore, there are no applicable requirements regarding pneumatic controllers under 40 CFR 60 Subpart OOOO that would apply.

e. Each storage vessel affected facility, which is a single storage vessel, located in the oil and natural gas production segment, natural gas processing segment or natural gas transmission and storage segment.

40CFR60 Subpart OOOO defines a storage vessel as a unit that is constructed primarily of nonearthen materials (such as wood, concrete, steel, fiberglass, or plastic) which provides structural support and is designed to contain an accumulation of liquids or other materials. The following are not considered storage vessels:

- Vessels that are skid-mounted or permanently attached to something that is mobile (such as trucks, railcars, barges or ships), and are intended to be

located at a site for less than 180 consecutive days. If the source does not keep or are not able to produce records, as required by §60.5420(c)(5)(iv), showing that the vessel has been located at a site for less than 180 consecutive days, the vessel described herein is considered to be a storage vessel since the original vessel was first located at the site.

- Process vessels such as surge control vessels, bottoms receivers or knockout vessels.

- Pressure vessels designed to operate in excess of 204.9 kilopascals and without emissions to the atmosphere.

This rule requires that the permittee determine the VOC emission rate for each storage vessel affected facility utilizing a generally accepted model or calculation methodology within 30 days of startup, and minimize emissions to the extent practicable during the 30 day period using good engineering practices. For each storage vessel affected facility that emits more than 6 tpy of VOC, the permittee must reduce VOC emissions by 95% or greater within 60 days of startup. The compliance date for applicable storage vessels is October 15, 2013.

The storage vessels located at the North Facility are controlled by a VRU/combustor and emit less than 6 tpy of VOC. Therefore, Icon is not required by this section to further reduce VOC emissions by 95%.

f. The group of all equipment, except compressors, within a process unit is an affected facility.

- Addition or replacement of equipment for the purpose of process improvement that is accomplished without a capital expenditure shall not by itself be considered a modification under this subpart.

- Equipment associated with a compressor station, dehydration unit, sweetening unit, underground storage vessel, field gas gathering system, or liquefied natural gas unit is covered by §§60.5400, 60.5401, 60.5402, 60.5421 and 60.5422 of this subpart if it is located at an onshore natural gas processing plant. Equipment not located at the onshore natural gas processing plant site is exempt from the provisions of §§60.5400, 60.5401, 60.5402, 60.5421 and 60.5422 of this subpart.

- The equipment within a process unit of an affected facility located at onshore natural gas processing plants and described in paragraph (f) of this section are exempt from this subpart if they are subject to and controlled according to subparts VVa, GGG or GGGa of this part.

The North Facility is not a natural gas processing plant. Therefore, Leak Detection and Repair (LDAR) requirements for onshore natural gas processing plants would not apply.

g. Sweetening units located at onshore natural gas processing plants that process natural gas produced from either onshore or offshore wells.

- Each sweetening unit that processes natural gas is an affected facility; and
- Each sweetening unit that processes natural gas followed by a sulfur recovery unit is an affected facility.
- Facilities that have a design capacity less than 2 long tons per day (LT/D) of hydrogen sulfide (H_2S) in the acid gas (expressed as sulfur) are required to comply with recordkeeping and reporting requirements specified in §60.5423(c) but are not required to comply with §§60.5405 through 60.5407 and paragraphs 60.5410(g) and 60.5415(g) of this subpart.
- Sweetening facilities producing acid gas that is completely reinjected into oil-or-gas-bearing geologic strata or that is otherwise not released to the atmosphere are not subject to §§60.5405 through 60.5407, 60.5410(g), 60.5415(g), and 60.5423 of this subpart.

There are no sweetening units at the North Facility. Therefore, all requirements regarding sweetening units under 40 CFR 60 Subpart OOOO would not apply.

40CFR63 Subpart ZZZZ (National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines)

Subpart ZZZZ establishes national emission limitations and operating limitations for HAPs emitted from stationary RICE located at major and area sources of HAP emissions. This subpart also establishes requirements to demonstrate initial and continuous compliance with the emission limitations and operating limitations. The engines at the North Facility are subject to the area source requirements for non-emergency spark ignition engines.

The applicability requirements for new stationary RICEs located at an area source of HAPs, is the requirement to meet the standards of 40CFR60 Subpart JJJJ. These requirements were outlined above for CE-2 and the proposed engine meets these standards.

Engine CE-3 is considered to be an existing engine under Subpart ZZZZ, and must comply with the applicable requirements.

40CFR63 Subpart HH (National Emission Standards for Hazardous Air Pollutants for Oil and Natural Gas Production Facilities)

Subpart HH establishes national emission limitations and operating limitations for HAPs emitted from oil and natural gas production facilities located at major and area sources of HAP emissions. The glycol dehydration unit at the North Facility is subject to the area source requirements for glycol dehydration units. However, because the facility is an area source of HAP emissions and the actual average benzene emissions from the glycol dehydration unit is below 0.90 megagram per year (1.0 tons/year) it is exempt from all requirements of Subpart HH except to maintain records of actual average flowrate of natural gas to demonstrate a continuous exemption status.

The following rules do not apply to the facility:

40CFR60 Subpart Kb (Standards of Performance for VOC Liquid Storage Vessels)

40CFR60 Subpart Kb does not apply to storage vessels with a capacity less than 75 cubic meters. The tanks that Icon has proposed to install are 33.39 cubic meters each. Therefore, Icon would not be subject to this rule.

40CFR60 Subpart KKK (Standards of Performance for Equipment Leaks of VOC from Onshore Natural Gas Processing Plants)

40CFR60 Subpart KKK applies to onshore natural gas processing plants that commenced construction after January 20, 1984, and on or Before August 23, 2011. The North Facility was constructed after August 23, 2011 and is not a natural gas processing plant, therefore, Icon would not be subject to this rule.

45CSR14 (Permits for Construction and Major Modification of Major Stationary Sources of Air Pollutants)

45CSR19 (Permits for Construction and Major Modification of Major Stationary Sources of Air Pollution which Cause or Contribute to Nonattainment)

The North Facility is located in Wetzel County which is an unclassified county for all criteria pollutants, therefore the North Facility is not applicable to 45CSR19.

As shown in the following table, Icon is not a major source subject to 45CSR14 or 45CSR19 review. According to 45CSR14 Section 2.43.e, fugitive emissions are not included in the major source determination because it is not listed as one of the source categories in Table 1. Therefore, the fugitive emissions are not included in the PTE on the following page.

Pollutant	PSD (45CSR14) Threshold (tpy)	NANSR (45CSR19) Threshold (tpy)	North Facility PTE (tpy)	45CSR14 or 45CSR19 Review Required?
Carbon Monoxide	250	NA	13.68	No
Nitrogen Oxides	250	NA	5.77	No
Sulfur Dioxide	250	NA	0.01	No
Particulate Matter 2.5	250	NA	1.22	No
Ozone (VOC)	250	NA	51.59	No

TOXICITY OF NON-CRITERIA REGULATED POLLUTANTS

The majority of non-criteria regulated pollutants fall under the definition of HAPs which, with some revision since, were 188 compounds identified under Section 112(b) of the Clean Air Act (CAA) as pollutants or groups of pollutants that EPA knows or suspects may cause cancer or other serious human health effects. The following table lists common HAP's emitted from these types of facilities and each HAP's carcinogenic risk (as based on analysis provided in the Integrated Risk Information System (IRIS)):

HAPs	Type	Known/Suspected Carcinogen	Classification
Formaldehyde	VOC	Yes	Category B1 - Probable Human Carcinogen
Benzene	VOC	Yes	Category A - Known Human Carcinogen
Ethylbenzene	VOC	No	Inadequate Data
Toluene	VOC	No	Inadequate Data
Xylenes	VOC	No	Inadequate Data

All HAPs have other non-carcinogenic chronic and acute effects. These adverse health effects may be associated with a wide range of ambient concentrations and exposure times and are influenced by source-specific characteristics such as emission rates and local meteorological conditions. Health impacts are also dependent on multiple factors that affect variability in humans such as genetics, age, health status (e.g., the presence of pre-existing disease) and lifestyle. As stated previously, *there are no federal or state ambient air quality standards for these specific chemicals*. For a complete discussion of the known health effects of each compound refer to the IRIS database located at *www.epa.gov/iris*.

AIR QUALITY IMPACT ANALYSIS

Modeling was not required of this source due to the fact that the facility is not subject to 45CSR14 (Permits for Construction and Major Modification of Major Stationary Sources of Air Pollutants) as seen in the table listed in the Regulatory Discussion Section.

SOURCE AGGREGATION

"Building, structure, facility, or installation" is defined as all the pollutant emitting activities which belong to the same industrial grouping, are located on one or more contiguous and adjacent properties, and are under the control of the same person.

The Icon Midstream facility will receive produced liquids and natural gas from area well pads via pipeline. After separation of liquids from the gas, a small fraction of the gas is taken for powering facility equipment with the vast majority being metered and injected into a pipeline for transportation to a gas processing facility owned and operated by others. The received liquids are separated into produced water, condensate and NGL prior to off-site shipment via truck transportation.

There are no liquids or gas routed to or received from any other Icon Midstream facility. Hence, no other Icon Midstream facilities in the area should be aggregated with this new facility. Additionally, gas and liquids generated by the well pads this facility will serve can be routed to other locations, such as is currently the situation. Hence, there is no interdependency between the well pads this Icon Midstream facility will serve and the Icon Midstream facility. Thus, the planned Icon Midstream facility should not be aggregated with the well pads it will serve. Additionally, this Icon Midstream facility is more than five (5) miles from the nearest well pad it serves.

The proposed facility is in close proximity (est. 200 yards) from portions of Dominion Transmission's Galmish Loading Terminal. This facility is under the same SIC Code as Icon Midstream, but under separate ownership. In addition, there will be no sharing of personnel. Gas and liquids being generated by this new Icon facility will be routed via pipeline to the Blue Racer facility in Natrium, WV, several miles away. As such, there is no interdependency between Dominion and Icon.. Thus, the two facilities should not be aggregated.

MONITORING OF OPERATIONS

Icon will be required to perform the following monitoring and recordkeeping associated with this permit application:

- Monitor and record quantity of natural gas consumed for all combustion sources
- Monitor the amount of natural gas processed through the dehydration unit.
- Monitor the presence of the combustor pilot flame with a thermocouple or equivalent
- Monitor opacity from all fuel burning units
- Monitor the storage tanks to ensure that all vapors are sent to the combustor
- Monitor and record the throughput for the loadouts
- Monitor all applicable requirements of 40CFR60 Subparts JJJJ and OOOO.
- Monitor all applicable requirements of 40CFR63 Subparts ZZZZ.
- Monitor and record the operating hours of the combustor
- Maintain records of testing conducted in accordance with the permit
- Maintain a record of all potential to emit (PTE) HAP calculations for the entire facility. These records shall include the natural gas compressor engines and ancillary equipment.
- Monitor the condensate and produced water truck loading
- The records shall be maintained on site or in a readily available off-site location maintained by Icon for a period of five (5) years.

RECOMMENDATION TO DIRECTOR

The information provided in the permit application indicates Icon's North Liquids Management Facility meets all the requirements of applicable regulations. Therefore, impact on the surrounding area should be minimized and it is recommended that the Wetzel County location should be granted a modification permit under 45CSR13.

Roy F. Kees, P.E.
Engineer – NSR Permitting

11/14/16
Date