

**LaSalle Environmental Audit
Response to Request for Additional Information**

Index #: 002 **RAI #:** MA-02 **Category:** Meteorology, Air Quality, & Noise

Statement of Question:

The Environmental Report (ER) identifies that LSCS is subject to the emission standards for hazardous air pollutants for reciprocating internal combustion engines, 40 CFR Part 63, Subpart ZZZZ.

- a. Clarify if the gasoline dispensing facility and fuel storage tank are subject to National Emission Standards for Hazardous Air Pollutants: Gasoline Dispensing Facilities (40 CFR Part 63, Subpart CCCCCC);
- b. Provide annual hazardous air pollutants (HAP) emissions from LSCS emission sources for the most recent 5 years for which data is available.

Response:

40 CFR Part 63 Subpart CCCCCC, National Emission Standards for Hazardous Air Pollutants from Source Category: Gasoline Dispensing Facilities, applies to the LSCS gasoline dispensing facility. In 2014, LSCS dispensed approximately 1,580 gallons of gasoline per month.

40 CFR 63.11116 establishes the regulatory requirements for gasoline dispensing facilities with a throughput of less than 10,000 gallons of per month. LSCS is in compliance with the applicable requirements.

As the ER Section 3.3 states, the total annual quantity of hazardous air pollutants from LSCS sources is well below the hazardous air pollutant significance level of 10 tons per year. Hence, hazardous air pollutants are not reported. Table 1 contains the calculated hazardous air pollutant emissions for large engines at LSCS for 2009 through 2014. Table 2 contains the calculated hazardous air pollutant emissions for small engines at LSCS for 2009 through 2014.

List of Attachments:

None.

Table 1
Hazardous Air Pollutant Emissions for Large Engines (600 HP or greater)*

Year	Fuel Use (gal, #2 Diesel)	MMBTU	HAP	Emission Factor	Units	Emission	Units
2009	32703	0.139486	Benzene	7.76E-04	Pounds/MMBTU	1.77E-03	Tons/Year
	32703	0.139486	Toluene	2.81E-04	Pounds/MMBTU	6.41E-04	Tons/Year
	32703	0.139486	Formaldehyde	7.89E-05	Pounds/MMBTU	1.80E-04	Tons/Year
	32703	0.139486	Acetaldehyde	2.52E-05	Pounds/MMBTU	5.75E-05	Tons/Year
	32703	0.139486	Acrolein	7.88E-06	Pounds/MMBTU	1.80E-05	Tons/Year
	32703	0.139486	Xylenes	1.93E-04	Pounds/MMBTU	4.40E-04	Tons/Year
	32703	0.139486	Naphthalene	1.30E-04	Pounds/MMBTU	2.97E-04	Tons/Year
				2009 TOTAL HAP EMISSIONS		3.40E-03	Tons/Year
2010	30802	0.139001	Benzene	7.76E-04	Pounds/MMBTU	1.66E-03	Tons/Year
	30802	0.139001	Toluene	2.81E-04	Pounds/MMBTU	6.02E-04	Tons/Year
	30802	0.139001	Formaldehyde	7.89E-05	Pounds/MMBTU	1.69E-04	Tons/Year
	30802	0.139001	Acetaldehyde	2.52E-05	Pounds/MMBTU	5.39E-05	Tons/Year
	30802	0.139001	Acrolein	7.88E-06	Pounds/MMBTU	1.69E-05	Tons/Year
	30802	0.139001	Xylenes	1.93E-04	Pounds/MMBTU	4.13E-04	Tons/Year
	30802	0.139001	Naphthalene	1.30E-04	Pounds/MMBTU	2.78E-04	Tons/Year
				2010 TOTAL HAP EMISSIONS		3.19E-03	

Table 1 (continued)
Hazardous Air Pollutant Emissions for Large Engines (600 HP or greater)

Year	Fuel Use (gal, #2 Diesel)	MMBTU	HAP	Emission Factor	Units	Emission	Units
2011	30408	0.129628	Benzene	7.76E-04	Pounds/MMBTU	1.53E-03	Tons/Year
	30408	0.129628	Toluene	2.81E-04	Pounds/MMBTU	5.54E-04	Tons/Year
	30408	0.129628	Formaldehyde	7.89E-05	Pounds/MMBTU	1.56E-04	Tons/Year
	30408	0.129628	Acetaldehyde	2.52E-05	Pounds/MMBTU	4.97E-05	Tons/Year
	30408	0.129628	Acrolein	7.88E-06	Pounds/MMBTU	1.55E-05	Tons/Year
	30408	0.129628	Xylenes	1.93E-04	Pounds/MMBTU	3.80E-04	Tons/Year
	30408	0.129628	Naphthalene	1.30E-04	Pounds/MMBTU	2.56E-04	Tons/Year
				2011 TOTAL HAP EMISSIONS		2.94E-03	Tons/Year
2012	37684	0.138391	Benzene	7.76E-04	Pounds/MMBTU	2.02E-03	Tons/Year
	37684	0.138391	Toluene	2.81E-04	Pounds/MMBTU	7.33E-04	Tons/Year
	37684	0.138391	Formaldehyde	7.89E-05	Pounds/MMBTU	2.06E-04	Tons/Year
	37684	0.138391	Acetaldehyde	2.52E-05	Pounds/MMBTU	6.57E-05	Tons/Year
	37684	0.138391	Acrolein	7.88E-06	Pounds/MMBTU	2.05E-05	Tons/Year
	37684	0.138391	Xylenes	1.93E-04	Pounds/MMBTU	5.03E-04	Tons/Year
	37684	0.138391	Naphthalene	1.30E-04	Pounds/MMBTU	3.39E-04	Tons/Year
				2012 TOTAL HAP EMISSIONS		3.89E-03	Tons/Year

Table 1 (continued)
Hazardous Air Pollutant Emissions for Large Engines (600 HP or greater)

Year	Fuel Use (gal, #2 Diesel)	MMBTU	HAP	Emission Factor	Units	Emission	Units
2013	29641	0.139034	Benzene	7.76E-04	Pounds/MMBTU	1.60E-03	Tons/Year
	29641	0.139034	Toluene	2.81E-04	Pounds/MMBTU	5.79E-04	Tons/Year
	29641	0.139034	Formaldehyde	7.89E-05	Pounds/MMBTU	1.63E-04	Tons/Year
	29641	0.139034	Acetaldehyde	2.52E-05	Pounds/MMBTU	5.19E-05	Tons/Year
	29641	0.139034	Acrolein	7.88E-06	Pounds/MMBTU	1.62E-05	Tons/Year
	29641	0.139034	Xylenes	1.93E-04	Pounds/MMBTU	3.98E-04	Tons/Year
	29641	0.139034	Naphthalene	1.30E-04	Pounds/MMBTU	2.68E-04	Tons/Year
				2013 TOTAL HAP EMISSIONS		3.07E-03	Tons/Year
2014	42076	0.138743	Benzene	7.76E-04	Pounds/MMBTU	2.27E-03	Tons/Year
	42076	0.138743	Toluene	2.81E-04	Pounds/MMBTU	8.20E-04	Tons/Year
	42076	0.138743	Formaldehyde	7.89E-05	Pounds/MMBTU	2.30E-04	Tons/Year
	42076	0.138743	Acetaldehyde	2.52E-05	Pounds/MMBTU	7.36E-05	Tons/Year
	42076	0.138743	Acrolein	7.88E-06	Pounds/MMBTU	2.30E-05	Tons/Year
	42076	0.138743	Xylenes	1.93E-04	Pounds/MMBTU	5.63E-04	Tons/Year
	42076	0.138743	Naphthalene	1.30E-04	Pounds/MMBTU	3.79E-04	Tons/Year
				2014 TOTAL HAP EMISSIONS		4.35E-03	Tons/Year

* HAP Emissions are calculated based on AP-42 Table 3.4-3 and 3.4-4 Emission Factors.

Table 2
Hazardous Air Pollutant Emissions for Small Engines (less than 600 HP)*

Year	Fuel Use (gal, #2 Diesel)	MMBTU	HAP	Emission Factor	Units	Emission	Units
2009	11673	0.139486	Benzene	9.33E-04	Pounds/MMBTU	7.60E-04	Tons/Year
	11673	0.139486	Toluene	4.09E-04	Pounds/MMBTU	3.33E-04	Tons/Year
	11673	0.139486	Formaldehyde	1.18E-03	Pounds/MMBTU	9.61E-04	Tons/Year
	11673	0.139486	Acetaldehyde	7.67E-04	Pounds/MMBTU	6.24E-04	Tons/Year
	11673	0.139486	Acrolein	9.25E-05	Pounds/MMBTU	7.53E-05	Tons/Year
	11673	0.139486	Xylenes	2.85E-04	Pounds/MMBTU	2.32E-04	Tons/Year
	11673	0.139486	Naphthalene	8.45E-05	Pounds/MMBTU	6.88E-05	Tons/Year
				2009 TOTAL HAP EMISSIONS		3.05E-03	Tons/Year
2010	10165	0.139001	Benzene	9.33E-04	Pounds/MMBTU	6.59E-04	Tons/Year
	10165	0.139001	Toluene	4.09E-04	Pounds/MMBTU	2.89E-04	Tons/Year
	10165	0.139001	Formaldehyde	1.18E-03	Pounds/MMBTU	8.34E-04	Tons/Year
	10165	0.139001	Acetaldehyde	7.67E-04	Pounds/MMBTU	5.42E-04	Tons/Year
	10165	0.139001	Acrolein	9.25E-05	Pounds/MMBTU	6.53E-05	Tons/Year
	10165	0.139001	Xylenes	2.85E-04	Pounds/MMBTU	2.01E-04	Tons/Year
	10165	0.139001	Naphthalene	8.45E-05	Pounds/MMBTU	5.97E-05	Tons/Year
				2010 TOTAL HAP EMISSIONS		2.65E-03	

Table 2 (continued)
Hazardous Air Pollutant Emissions for Small Engines (less than 600 HP)*

Year	Fuel Use (gal, #2 Diesel)	MMBTU	HAP	Emission Factor	Units	Emission	Units
2011	10035	0.129628	Benzene	9.33E-04	Pounds/MMBTU	6.07E-04	Tons/Year
	10035	0.129628	Toluene	4.09E-04	Pounds/MMBTU	2.66E-04	Tons/Year
	10035	0.129628	Formaldehyde	1.18E-03	Pounds/MMBTU	7.67E-04	Tons/Year
	10035	0.129628	Acetaldehyde	7.67E-04	Pounds/MMBTU	4.99E-04	Tons/Year
	10035	0.129628	Acrolein	9.25E-05	Pounds/MMBTU	6.02E-05	Tons/Year
	10035	0.129628	Xylenes	2.85E-04	Pounds/MMBTU	1.85E-04	Tons/Year
	10035	0.129628	Naphthalene	8.45E-05	Pounds/MMBTU	5.50E-05	Tons/Year
				2011 TOTAL HAP EMISSIONS		2.44E-03	Tons/Year
2012	8043	0.138391	Benzene	9.33E-04	Pounds/MMBTU	5.19E-04	Tons/Year
	8043	0.138391	Toluene	4.09E-04	Pounds/MMBTU	2.28E-04	Tons/Year
	8043	0.138391	Formaldehyde	1.18E-03	Pounds/MMBTU	6.57E-04	Tons/Year
	8043	0.138391	Acetaldehyde	7.67E-04	Pounds/MMBTU	4.27E-04	Tons/Year
	8043	0.138391	Acrolein	9.25E-05	Pounds/MMBTU	5.15E-05	Tons/Year
	8043	0.138391	Xylenes	2.85E-04	Pounds/MMBTU	1.59E-04	Tons/Year
	8043	0.138391	Naphthalene	8.45E-05	Pounds/MMBTU	4.70E-05	Tons/Year
				2012 TOTAL HAP EMISSIONS		2.09E-03	Tons/Year

Table 2 (continued)
Hazardous Air Pollutant Emissions for Small Engines (less than 600 HP)*

Year	Fuel Use (gal, #2 Diesel)	MMBTU	HAP	Emission Factor	Units	Emission	Units
2013	10957	0.139034	Benzene	9.33E-04	Pounds/MMBTU	7.11E-04	Tons/Year
	10957	0.139034	Toluene	4.09E-04	Pounds/MMBTU	3.12E-04	Tons/Year
	10957	0.139034	Formaldehyde	1.18E-03	Pounds/MMBTU	8.99E-04	Tons/Year
	10957	0.139034	Acetaldehyde	7.67E-04	Pounds/MMBTU	5.84E-04	Tons/Year
	10957	0.139034	Acrolein	9.25E-05	Pounds/MMBTU	7.05E-05	Tons/Year
	10957	0.139034	Xylenes	2.85E-04	Pounds/MMBTU	2.17E-04	Tons/Year
	10957	0.139034	Naphthalene	8.45E-05	Pounds/MMBTU	6.44E-05	Tons/Year
				2013 TOTAL HAP EMISSIONS		2.86E-03	Tons/Year
2014	17138	0.138743	Benzene	9.33E-04	Pounds/MMBTU	1.11E-03	Tons/Year
	17138	0.138743	Toluene	4.09E-04	Pounds/MMBTU	4.86E-04	Tons/Year
	17138	0.138743	Formaldehyde	1.18E-03	Pounds/MMBTU	1.40E-03	Tons/Year
	17138	0.138743	Acetaldehyde	7.67E-04	Pounds/MMBTU	9.12E-04	Tons/Year
	17138	0.138743	Acrolein	9.25E-05	Pounds/MMBTU	1.10E-04	Tons/Year
	17138	0.138743	Xylenes	2.85E-04	Pounds/MMBTU	3.39E-04	Tons/Year
	17138	0.138743	Naphthalene	8.45E-05	Pounds/MMBTU	1.00E-04	Tons/Year
				2014 TOTAL HAP EMISSIONS		4.46E-03	Tons/Year

* HAP Emissions are calculated based on Emission Factors given in AP-42 Table 3.3-2. Exelon Nuclear began gathering fuel use data for small engines in 2012. Small Engine fuel consumption for 2012 through 2014 is approximately 30% of the Large Engine fuel consumption. On this basis the Small Engine fuel consumption is calculated as 33% of the Large Engine fuel consumption for 2009, 2010 and 2011.