[redacted]

EtO Emissions by Sterilizer (tons/month)											Total EtO Emissions (tons)				
S-1	S-2	S-3	S-4	S-5	S-6	S-7	S-8	S-9	*Abnormal Emissions*		Current Month	Previous 11 Months	12-Month Rolling Total	Stack Emissions (tons/year)	Fugitive Emissions (tons/year)
0.00065	0.00026	0.00079	0.00000	0.00026	0.00042	0.00082	0.00581	0.00633			0.01535				
0.00063	0.00026	0.00065	0.00000	0.00016	0.00032	0.00063	0.00528	0.00515			0.01308				
0.00091	0.00023	0.00089	0.00000	0.00025	0.00000	0.00065	0.00541	0.00607			0.01442				
0.00054	0.00019	0.00077	0.00000	0.00016	0.00000	0.00054	0.00488	0.00462			0.01169				
0.00084	0.00021	0.00077	0.00000	0.00023	0.00000	0.00065	0.00488	0.00541			0.01300				
0.00079	0.00042	0.00084	0.00000	0.00022	0.00000	0.00082	0.00594	0.00594			0.01498			0.00848	0.00650
0.00089	0.00019	0.00084	0.00000	0.00022	0.00000	0.00065	0.00515	0.00515			0.01308			0.00737	0.00571
0.00044	0.00016	0.00047	0.00000	0.00013	0.00000	0.00044	0.00317	0.00303			0.01130			0.00443	0.00342
0.00033	0.00007	0.00035	0.00000	0.00013	0.00000	0.00030	0.00113	0.00113						0.00071	0.00273
0.00028	0.00009	0.00023	0.00000	0.00005	0.00000	0.00021	0.00079	0.00079			0.00245			0.00051	0.00195
0.00075	0.00023	0.00089	0.00000	0.00022	0.00000	0.00068	0.00261	0.00255			0.00792			0.00164	0.00628
0.00079	0.00026	0.00065	0.00000	0.00018	0.00000	0.00061	0.00221	0.00244			0.00714			0.00148	0.00566
0.00084	0.00026	0.00084	0.00000	0.00020	0.00000	0.00072	0.00215	0.00249			0.00752	0.12441	0.13193	0.00156	0.00595
0.00098	0.00028	0.00087	0.00000	0.00018	0.00000	0.00056	0.00249	0.00266			0.00803	0.11658	0.12462	0.00167	0.00637
0.00101	0.00019	0.00082	0.00000	0.00022	0.00000	0.00000	0.00238	0.00238			0.00699	0.11154	0.11853	0.00145	0.00554
0.00089	0.00021	0.00082	0.00000	0.00022	0.00000	0.00009	0.00249	0.00289			0.00762	0.10411	0.11173	0.00158	0.00605
0.00079	0.00016	0.00065	0.00000	0.00012	0.00000	0.00002	0.00198	0.00210			0.00584	0.10004	0.10588	0.00121	0.00463
0.00065	0.00035	0.00058	0.00000	0.00020	0.00000	0.00000	0.00198	0.00187			0.00574	0.09287	0.09861	0.00117	0.00448
0.00001	0.00001	0.00001	0.00000	0.00000	0.00000	0.00000	0.00001	0.00002						0.00005	0.00000
0.00001	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00001	0.00001						0.00004	0.00000
0.00004	0.00002	0.00003	0.00000	0.00001	0.00000	0.00000	0.00008	0.00008			0.00026	0.08363	0.08389	0.00026	0.00000
0.00001	0.00000	0.00001	0.00000	0.00000	0.00000	0.00000	0.00002	0.00002			0.00018	0.07081	0.07100	0.00005	0.00000
0.00001	0.00000	0.00001	0.00000	0.00000	0.00000	0.00000	0.00004	0.00005						0.00013	0.00000
0.00002	0.00001	0.00002	0.00000	0.00001	0.00000	0.00000	0.00006	0.00006			0.00018	0.05970	0.05988	0.00018	0.00000
0.00002	0.00000	0.00002	0.00000	0.00001	0.00000	0.00000	0.00005	0.00006			0.00017	0.05742	0.05759	0.00017	0.00000
0.00001	0.00000	0.00002	0.00000	0.00000	0.00000	0.00000	0.00005	0.00006			0.00015	0.04966	0.04981	0.00015	0.00000
0.00002	0.00001	0.00002	0.00000	0.00000	0.00000	0.00000	0.00005	0.00006			0.00016	0.04267	0.04284	0.00016	0.00000
0.00002	0.00001	0.00001	0.00000	0.00000	0.00000	0.00001	0.00006	0.00006			0.00017	0.03532	0.03549	0.00017	0.00000
0.00002	0.00001	0.00002	0.00001	0.00000	0.00000	0.00002	0.00006	0.00006			0.00018	0.02746	0.02764	0.00018	0.00000
0.00002	0.00001	0.00002	0.00001	0.00000	0.00000	0.00001	0.00005	0.00006	*0.00007*		0.00025	0.02065	0.02090	0.00025	0.00000
0.00001	0.00001	0.00002	0.00000	0.00000	0.00000	0.00002	0.00006	0.00006			0.00018	0.01328	0.01347	0.00018	0.00000
0.00001	0.00001	0.00001	0.00000	0.00001	0.00000	0.00001	0.00004	0.00005			0.00014	0.00763	0.00777	0.00014	0.00000
0.00002	0.00001	0.00001	0.00000	0.00000	0.00000	0.00001	0.00005	0.00005			0.00016	0.00203	0.00219	0.00016	0.00000
													Totals:	**0.00219**	**0.00000**

Total EtO Used in 2020 = **60,255** *(>10,000 lb, REPORTABLE)*

Quantity Treated Onsite (lb/year)	Stack Releases (lb/year)	Fugitive Releases (lb/year)
60,250	**4**	**0**

Methodology

Monthly load logs for each sterilizer (S1-S9) are provided by Cook and entered into the green cells above.
The following EtO allocations and control efficiencies are used to calculate EtO emissions in the blue cells.

	S-1	S-2	S-3	S-4	S-5	S-6	S-7	S-8	S-9	Note
EtO Charge Per Cycle (lbs)	17.5	17.5	17.5	17.5	6	12	17.5	43	43	(1)
Chamber Vent % EtO Usage	95%	95%	95%	95%	95%	95%	95%	95%	95%	(2)
Chamber Vent Scrubber Removal %	99.95%	99.95%	99.95%	99.95%	99.95%	99.95%	99.95%	99.95%	99.95%	(3)
	99.99%	99.99%	99.99%	99.99%	99.99%	99.99%	99.99%	99.99%	99.99%	
Chamber Vent Secondary Reactor Removal %	99%	99%	99%	99%	99%	99%	99%	99%	99%	(5)
Back Vent % EtO Usage	0.35%	0.35%	0.35%	0.35%	0.35%	0.35%	0.35%	0.35%	0.35%	(2)
Back Vent Removal %	99%	99%	99%	99%	99%	99%	99%	99.9963%	99.9964%	(4)
	99.94%	99.94%	99.94%	99.94%	99.94%	99.94%	99.94%			
Product Transfer % EtO Usage	0.21%	0.21%	0.21%	0.21%	0.21%	0.21%	0.21%	0.21%	0.21%	(2)
Product Transfer Removal %	99%	99%	99%	99%	99%	99%	99%	99%	99%	(6)
Aeration Room % EtO Usage	4.44%	4.44%	4.44%	4.44%	4.44%	4.44%	4.44%	4.44%	4.44%	(2)
Aeration Room Removal %	99.86%	99.86%	99.86%	99.86%	99.86%	99.86%	99.86%	99.86%	99.86%	(3)
	99.90%	99.90%	99.90%	99.90%	99.90%	99.90%	99.90%	99.90%	99.90%	

Notes

(1) EtO Charge per Cycle based on capacity of sterilizer.

(2) From Technical Support Document for Permit 40744

(3) Stack test conducted on primary scrubber on July 27, 2018 results in 99.95% removal. Stack test conducted on primary scrubber on February 6-7, 2020 results in 99.99% removal. Stack test conducted on aeration room reactors on February 6-7, 2020 results in 99.90% removal.

(4) Prior to 2/7/20, back vent control efficiency is assumed to be 99% for S1-S7 (per 8-1-6 BACT requirement). After 2/7/20, back vent control efficiency is from stack test performed 2/6-2/7/20. Back vents for S8 and S9 are equipped with three (3) voluntary dry bed reactors (in parallel). Per meeting with Matt Stuckey and Jenny Acker (IDEM), Cook may take credit for the emission reductions from the voluntary control devices. The S8 and S9 back vents were hooked to the control devices after March 15, 2019 runs. Control efficiency established by voluntary stack test conducted on 5/20/19.

(5) On December 26, 2019, Cook routed the exhaust from the primary scrubber (controlling S-1 through S-9 Chamber vents) to dry bed reactors, adding an additional 99% (est.) reduction.

(6) Cook has routed all building exhaust to dry bed reactors, leading to a 99% (est.) reduction efficiency for fugitive emissions from product transfer. This project was completed on 12/23/19.