Notice of Construction (NOC) Worksheet

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Applicant: ICON Materials	**NOC Number**: 11328
Project Location: 1115 S 96th St, Seattle, WA 98108	**Registration Number**: 21300
Applicant Name and Phone: Tim Shearer, 206) 575-3200	**NAICS: 324121**
Engineer: Brian Renninger	**Inspector**: Melissa McAfee

A. DESCRIPTION

For the Order of Approval:

Add and replace equipment at an existing Asphalt Plant. Addition of three 200 ton asphaltic concrete silos and one 500 barrel mineral silo. Replacement of the drum dryer at an existing continuous/batch Asphalt Plant consisting of: one new 300XL Gencor Rotary UltraDrum (375 TPH, Gencor Equinox -100, 100 MMBtu/hr gas-fired burner) equipped with a Recycle Asphalt Package (up to 50% RAP) and Ultrafoam GX2 warm mix package venting to an existing cyclone and existing Gencor CFS-151 (74,000 cfm baghouse) rated at 70,000 cfm @ 160F; two existing vertical 25,000-gallon (11'x35') Gencor Hot Asphalt Oil Tanks (300F), one existing 150-ton and one existing 120-ton Gencor Asphalt Storage Silos vented to the Rotary Drum; and an existing horizontal MC-250 Tank.

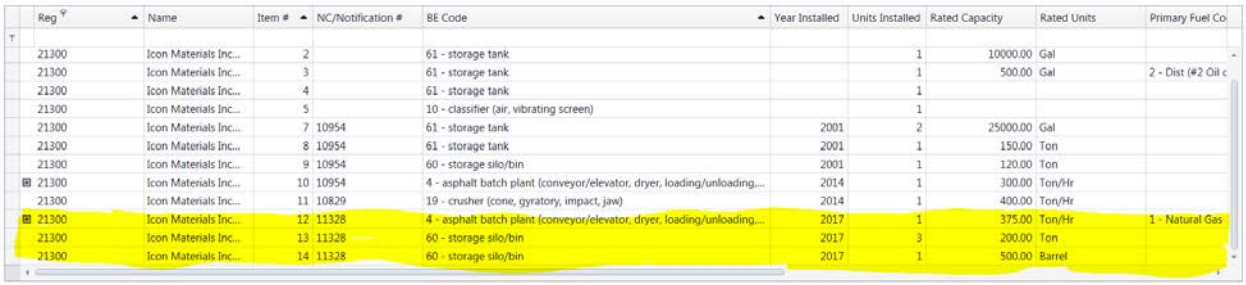
Additional Information (if needed):

Facility: Facility is replacing the drum dryer and burner plus adding three storage silos for asphaltic concrete. Additionally, there is a 500 barrel mineral silo being added. The burner is rated at 100 MMBtu/hr but, is expected to operate at 80 MMBtu/hr when the plant is at capacity.

Proposed Equipment/Activities: New drum dryer/mixer will be equipped with warm mix equipment.

B. DATABASE INFORMATION

The new equipment has been added to the Agency database. After inspection the removed equipment will be marked as removed in the Agency database.



Reg	Name	Item #	NC/Notification #	BE Code	Year Installed	Units Installed	Rated Capacity	Rated Units	Primary Fuel Co
21300	Icon Materials Inc...	2		61 - storage tank		1	10000.00	Gal	
21300	Icon Materials Inc...	3		61 - storage tank		1	500.00	Gal	2 - Dist (#2 Oil c
21300	Icon Materials Inc...	4		61 - storage tank		1			
21300	Icon Materials Inc...	5		10 - classifier (air, vibrating screen)		1			
21300	Icon Materials Inc...	7	10954	61 - storage tank	2001	2	25000.00	Gal	
21300	Icon Materials Inc...	8	10954	61 - storage tank	2001	1	150.00	Ton	
21300	Icon Materials Inc...	9	10954	60 - storage silo/bin	2001	1	120.00	Ton	
21300	Icon Materials Inc...	10	10954	4 - asphalt batch plant (conveyor/elevator, dryer, loading/unloading,...	2014	1	300.00	Ton/Hr	
21300	Icon Materials Inc...	11	10829	19 - crusher (cone, gyratory, impact, jaw)	2014	1	400.00	Ton/Hr	
21300	Icon Materials Inc...	12	11328	4 - asphalt batch plant (conveyor/elevator, dryer, loading/unloading,...	2017	1	375.00	Ton/Hr	1 - Natural Gas
21300	Icon Materials Inc...	13	11328	60 - storage silo/bin	2017	3	200.00	Ton	
21300	Icon Materials Inc...	14	11328	60 - storage silo/bin	2017	1	500.00	Barrel	

NSPS	**Yes**	**Applicable NSPS: Subpart I**	**Delegated? Y**
NESHAP	**No**	**Applicable NESHAP: NA**	**Delegated? NA**
Synthetic Minor	**Yes**		

C. NOC FEES AND ANNUAL REGISTRATION FEES

NOC Fees:

Fee Description	Cost	Amount Received (Date)
Filing Fee	$ 1,150	
Equipment (hot mix plant)	$8,000	
Applicable NSPS	$1,000	
Public Notice	$700 (+publication costs to be invoiced separately)	
Establishing Voluntary Limits	$2,000	
SEPA (DNS)	$800	
Filing received		$ 1,150 (2/21/17)
Additional fee received		$12,500 (7/11/17)
Total Remaining	**Publishing Costs**	

Invoiced 6/9/2017

Registration Fees:

Applicability		
Regulation I	Description	Note
Reg I, 5.03(a)(1)	Facilities subject to federal emission standards (Title 40 CFR)	
Reg I, 5.03(a)(6)	Facilities with particulate control equipment (>= 2,000 cfm)	
Reg I, 5.03(a)(8)(A)	Facilities with asphalt batch operations	
Reg I, 5.03(a)(8)(K)	Facilities with rock crushers	
Annual Registration Fee		

Regulation I	Description	Fee
Reg I, 5.07(c)	Base Fee	$1,150
Reg I, 5.07(c)(1)	40 CFR 60 Subpart I	$2,100
Reg I, 5.07(c)(2)	Federally Enforceable Emission Limitation	$2,300
	Total =	$5,550

D. STATE ENVIRONMENTAL POLICY ACT (SEPA) REVIEW

The original NOC for this plant was issued to Oldcastle NW Inc. on July 18, 2000. The facility name was later changed to Icon Materials but, the facility remains a subsidiary of Oldcastle Materials Inc. King County conducted the original SEPA review for the Oldcastle NW Inc. NOC 8159. There are no new environmental impacts as the result of this change. Therefore the original SEPA analysis by King County satisfies the requirement for review under SEPA for the new drum dryer. Lead Agency record attached. However installation of the new asphaltic concrete storage silos expands the scope of the activity. The applicant provided a SEPA environment checklist which the Agency shared with King County on March 21, 2017. Further inquiry with the county June 2, and July 7 produced no comments on the project from the county. I recommend we issue a Determination of Nonsignificance (DNS) for the project.

Lead Agency Record

SEPA Checklist

E. BACT REVIEW

The new drum dry/mixer and the new asphaltic concrete storage silos require BACT determinations. The reconfiguring of the loading and blue smoke capture systems on the existing asphaltic concrete storage silos requires a RACT determination.

Similar Permits:

NOC 11175, 10462, NOC 10815, 10852

Analysis:

Dryer/Mixer Particulate:

The Agency has not updated the total particulate BACT limit of 0.02 gr/dscf for asphalt plants since 1993. Other agencies permits reviewed in this analysis have been setting limits only for filterable particulate. Examples of a filterable limit would be Southwest Clean Air Agency's (SWCAA) 0.010 gr/dscf corrected to 15 percent oxygen and the Bay Area Air Quality Management District's (BAAQMD) 0.01 gr/dscf. The Agency's 0.02 gr/dscf limit has not included an oxygen correction, nor, apparently, has the BAAQMD limit included an oxygen correction. However, there is some concern that adding dilution air during an emission test could be used to demonstrate compliance with a limit; therefore the Agency is

setting future particulate limits using an oxygen correction factor. For consistency with Agency Regulation I, Section 9.09 the standard for correction chosen is seven percent oxygen.

Corrected to seven percent oxygen, the SWCAA 0.010 gr/dscf at 15 percent oxygen filterable limit is 0.024 gr/dscf. Reviewing asphalt plant burner manufacturer recommendations, it appears that ten to twelve percent oxygen is expected to be exiting the drum. Picking the middle of this range (eleven percent oxygen), the Agency's 0.02 gr/dscf limit is 0.028 gr/dscf corrected to seven percent oxygen.

The Agency reviewed thirty-two asphalt plant particulate test results to determine what current BACT for particulate should be. This data was available from the Agency, SWCAA and Northwest Clean Air Agency (NWCAA).

To determine a new demonstrated BACT limit for particulate the following tests were eliminated from the sample.

- Test results that were greater than 0.0240 gr/dscf filterable particulate corrected to seven percent oxygen.
- Test results that were greater than 0.028 gr/dscf total particulate corrected to seven percent oxygen.
- Test results greater than the AP-42 Chapter 11.1 emission factor of 0.025 lb/ton.
- Tests with missing data such that it wasn't possible to determine if the emissions met the other criteria.

The basis for choosing the first two criteria for elimination was to narrow the sample to those tests that would show compliance with the limits being set on facilities today (SWCAA 0.010 gr/dscf @15% O2, and PSCAA 0.020 gr/dscf). The AP-42 criterion was chosen because this is the maximum expected basis that a plant absent any other data could use to estimate emissions. It should be noted that every test that failed the filterable test also failed the total particulate test. The remaining tests were then averaged and the mean plus two standard deviations calculated to determine a value 95 percent of the plants could pass for filterable and total particulate.

After eliminating the tests that did not meet the criteria set, there was a sample of eighteen test results. As can be seen from Table 1 all the data sets included in the sample pass the mean plus two standard deviations for the filterable and total particulate. The calculated value for filterable particulate matches the maximum test result in the sample: 0.014 gr/dscf corrected to 7 percent oxygen. The calculated value for total particulate is roughly eight percent greater than the maximum test result in the sample: 0.027 gr/dscf corrected to 7 percent oxygen.

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Table 1 -- Particulate Test Result Data

Facility	Test Date	O2	CO2	Filterable PM	Filterable PM Corrected to 7 percent Oxygen	Condensable PM	Condensable PM Corrected to 7 percent Oxygen	Total PM	Total PM Corrected to 7 Percent Oxygen	Flow	Production	PM
		%	%	gr/dscf	gr/dscf	gr/dscf	gr/dscf	gr/dscf	gr/dscf	dcfm	TPH	lb/ton
Associated Asphalt, Ferndale	3/24/2009	17.45	2.03	0.0029	0.012	0.0014	0.006	0.0042	0.017	19,006	125	0.0055
Cemex, Woodinville	10/1/2014	12.1	5	0.003	0.005	0.012	0.019	0.016	0.025	21,500	383	0.0077
Granite, Everett	8/30/2016	13.3	4.3	0.001	0.002	0.004	0.007	0.0055	0.010	27,990	300	0.0044
Granite, Everett	8/2/2005	11.7	5.1	0.0039	0.006	0.0087	0.013	0.0126	0.019	25,280	313	0.0087
Granite, Everett	6/10/2003	9.5	6.3	0.002	0.002	0.002	0.002	0.004	0.005	18,255	300	0.0021
Granite, Vancouver	10/13/2011	13.64	4.118	0.004	0.008	0.008	0.015	0.011	0.021	27,017	275	0.0093
Granite, Vancouver	8/1/2006	16.441	2.43	0.0043	0.013	0.0020	0.006	0.0063	0.020	36,383	275	0.0071
Icon, Seattle	5/22/2014	13.7	4.3	0.001	0.002	0.007	0.014	0.008	0.015	35,700	298	0.0082
Lakeside, Burlington	8/16/2011	9.3	7.9	0.0016	0.002	0.0016	0.002	0.0031	0.004	13,758	283	0.0013
Lakeside, Centralia	9/9/2014	12.3	4.7	0.0032	0.005	0.0041	0.007	0.0073	0.012	23,600	464	0.0032
Lakeside, Longview	5/15/1997	13.8	3.7	0.003	0.006	0.002	0.004	0.005	0.010	43,469	320	0.0058
Lakeside, Maple Valley	8/4/2004	17	2.3	0.003	0.011	0.001	0.004	0.004	0.014	37,207	165	0.0077
Lakeside, Maple Valley	4/8/1996	14.0	3.5	0.0015	0.003	0.0051	0.010	0.0066	0.013	26,861	180	0.0084
Lakeside, Monroe	7/30/2014	12.5	4.6	0.002	0.003	0.000	0.000	0.002	0.003	20,700	290	0.0012
Lakeside, Monroe	5/13/2009	12.4	4.9	0.0021	0.003	0.012	0.020	0.0141	0.023	32,721	325	0.0122
Lakeside, Vancouver	7/16/2015	13.4	4.1	0.0016	0.003	0.0017	0.003	0.0033	0.006	22,200	250	0.0025
Lakeside, Vancouver	7/14/2010	12.6	4.7	0.00018	0.0003	0.0022	0.004	0.0024	0.004	27,500	267	0.0021
Miles Resources, Sumner	6/10/2003	13.2	4.3	0.008	0.014	0.002	0.004	0.009	0.016	25,041	300	0.0064
Average:		13.2	4.3	0.003	0.006	0.004	0.008	0.007	0.013	26,899	284	0.006
Standard Deviation:		2.2	1.4	0.002	0.004	0.004	0.006	0.004	0.007	7,670	76	0.003
Average plus two Standard Deviations:		17.6	7.1	0.006	0.014	0.012	0.020	0.015	0.027	42,239	437	0.012

As on operational practice the Agency has also routinely set limits on the use of recycled asphalt pavement (RAP) and the use of recycled asphalt shingles (RAS) to the percentage of recycled material used for passing tests of particulate matter and visible emissions. The reason for this is that use of recycled materials has contributed to increased visible emissions and elevated particulate matter emissions when the recycled materials have impinged upon the burner flame. The design of the proposed plant is intended to keep materials separate from the burner flame so this effect is expected to be minimized. In this case, the applicant has requested that the condition address only RAP and that RAS will not be used. Due to this statement, the proposed conditions only address RAP and prohibit the use of RAS. By prohibiting the use of RAS, the monitoring and recordkeeping needed for using recycled materials is also simplified.

Dryer/Mixer Opacity:

Every new dryer reviewed by the Agency since 2008 has had a 5 percent opacity limit. Applicant has proposed a 5 percent BACT limit for opacity. This proposed value is consistent with BACT for visible emissions from the dryer/mixer baghouse is emissions no greater than 5% opacity for three minutes in an hour per a Washington Department of Ecology Method 9A visual emissions test.

Dryer/Mixer CO:

The applicant has proposed a CO BACT limit of 400 ppm corrected to 3 percent oxygen. The CO limit in NOC 9751 400 ppm corrected to 3 percent oxygen. This value is also relatively consistent with the CO limit for asphalt plant aggregate dryers in SJVAPCD rule 4309. SJVAPCD rule 4309 sets CO limits of 42 ppmv corrected to 19 percent oxygen; the equivalent to 396 ppmv corrected to 3 percent oxygen. The Bay Area Air Quality Management District lists BACT as 133 ppm CO corrected to 15 percent oxygen which equates to 404 ppm at 3 percent oxygen. All the Agency asphalt plant permits issued since 2008 have set a CO limit of 400 ppm corrected to 3 percent oxygen. Recommend a BACT limit is 400 ppm corrected to 3 percent oxygen. To standardize to the particulate correction of 7 percent oxygen the limit will be set to the equivalent of 311 ppm corrected to 7 percent oxygen.

Dryer/Mixer NOX:

The NOX limit for asphalt plant aggregate dryers in SJVAPCD rule 4309 sets NOX limits of 4.3 ppmv corrected to 19 percent oxygen; the equivalent to 40.5 ppmv corrected to 3 percent oxygen. The Bay Area Air Quality Management District lists BACT as 12 ppm NOX corrected to 15 percent oxygen (36.4 ppm at 3 percent oxygen). The most recent agency Orders of Approval have set BACT at 41 ppm corrected to 3 percent oxygen. Recommend a BACT limit equivalent to that set in NOC 10579. NOX BACT limit is 41 ppm corrected to 3 percent oxygen. To standardize to the particulate correction of 7 percent oxygen the limit will be set to the equivalent of 32 ppm corrected to 7 percent oxygen.

Dryer/Mixer VOC:

The agency has historically not set limits on emissions of volatile organic compounds (VOC) from asphalt plant dryers. However, determining BACT is a requirement so a limit is being determined as part of this review. In practice review of emission source test data and other agency limits is complicated by the fact

that there does not appear to be a consistent defined unit for VOC emissions both in the limits set and in the source tests performed. Because of this, the Agency has relied on the emission factors in the AP-42 document (table 11.1-8) which gives a factor of 0.032 lb/ton VOC emission rate with VOC defined as "…equal to the TOC factors minus the sum of the methane emission factors and the emission factors for compounds with negligible photochemical reactivity…" The Agency is setting the 0.032 lb/ton emission factor as the BACT emission rate for two reasons: 1) the value was used in the emission inventory to estimate emissions and is thus representative of good operating practices; and 2) the emission factor was developed using emission data from both natural gas-fired and oil-fired plants which, based on engineering principals, should result in a conservatively high factor for a natural gas-fired plant.

The VOC limit will be presented in terms of Total Hydrocarbon Emissions expressed as propane as measured by method 25A with the option to subtract methane and other compounds with negligible photochemical activity.

One approach to limit VOCs from asphalt mixing as a practice indicative of good operation is to limit the temperature of the mix produced to a temperature of 315F. This approach is was used by Southwest Clean Air Agency to address a number of issues specific to a particular plant and location, but review of the temperature limit approach identifies a number of issues for use of 315 F. The first issue is that a hard maximum temperature limit restricts the type of products able to be produced by the plant which limits the market the plant could serve. Not only does a temperature limit reduce the number of products available it also limits the area able to be served by the plant due to cooling of the asphaltic concrete while transporting it to the site of application. Nonetheless, mix temperature has been tied to both VOC emissions and visible emissions of condensable particulate. Reviewing other Agency's permits shows a number of different approaches to attempt to address this issue: setting a maximum temperature limit (ie as SWCAA did); setting a maximum temperature based on the temperature of a passing emission test; setting a maximum temperature equal to the flash (smoke) point of the oil being used (and keeping manufacturer records of each flash point); carrying out multiple tests at a variety of mix temperatures and loads. A further complication is that product specifications that require high mix temperatures effectively limit the maximum capacity of the plant. To achieve higher temperatures requires longer processing times and thus lower production rates. This complicates emission testing which is normally required to take place near maximum capacity which may not be near maximum temperature. Because of these concerns maximum mix temperature will be limited to the maximum recommended temperature for the mix as set by the manufacturer of the asphaltic cement used in the mix specification produced. Mix temperature will be required to be monitored hourly in a manner similar to that specified in the *State of Washington Department of Ecology General Order for Portable and Stationary Hot Mix Asphalt Plants No. 10AQ-GO-01*. Emission testing will be decoupled from mix temperature and retain the requirement to test near maximum production capacity.

Dryer/Mixer SOX:

BACT for natural gas-fired plants has been to use pipeline quality natural gas. This determination is consistent with every gas-fired plant reviewed since 2008 and equivalent to that of other natural gas-fired sources such as boilers.

Asphaltic Storage BACT/RACT

In this case BACT for the new asphaltic concrete storage silos and RACT for the existing asphaltic storage silos are equivalent. For every asphaltic concrete storage silo reviewed by the Agency since 2008 the BACT control technology has been enclosure of the slat conveyors and ducting of displaced air and blue smoke back to the drum dryer. The emission limit set in each case has been no visible emissions. For the existing silos subject to RACT (due to the controls for the devices being either replaced or substantially altered) the Agency is imposing the equivalent no visible emissions limit.

Mineral Silo BACT

For the new mineral silo the same emission limit is being set as every storage silo for since at least 2008 which is a no visible emission limit set as BACT.

F. EMISSION ESTIMATES

The applicant presented an emission inventory based on the existing facility production limit of 1,020,184 tons per year. This production limit was originally imposed as part of Order of Approval 8159 as a means to avoid the requirement to go through a public comment period. However, because in this case a public comment period is required by WAC 173-460-080(3) the historical production limit in no longer necessary as a means to avoid public comment. However, the Agency is retaining the limit as means to avoid emission increases from asphalt storage tanks and material handling and truck traffic which would require more detailed ambient analysis as discussed further in Section H. As such, the potential emissions presented below were calculated based on the modeled historical production limit. Implementing the production limit results in emissions of carbon monoxide to less than the 100 tons-per-year (TPY) major source threshold. However, per EPA guidance, production limits should not be used to limit facility emissions to less than the major source thresholds, but annual emission limits should be used. So, in this case, an annual TPY limit will be imposed to keep facility emissions to less than the 100 TPY threshold.

The estimates of actual emissions are based on the two year average production of 166,400 tons per year as specified by WAC 173-400-030(1).


Actual Emissions


Potential.xlsx

Proposed Project Emissions

Actual Emissions

Pollutant	Dryer to be Replaced (TPY)	Silos & Loadout (TPY)	Total (TPY)
PM	1.6	0.04	1.6
PM-10	1.6	0.04	1.6
PM-2.5	1.6	0.04	1.6
CO	8.2	0.11	8.3
NOx	1.4	0	1.4
SO_2	0.3	0.00	0.3
VOC	2.7	0.33	3.0
CO2	2,746	0	2,746
Total HAP	0.45	0.01	0.46
Total TAP	10.22	0.12	10.34

Potential Emissions

Pollutant	New Dryer (TPY)	Silos & Loadout (TPY)	Total (TPY)
PM	8.9	0.27	9.2
PM-10	8.9	0.27	9.2
PM-2.5	8.9	0.27	9.2
CO	40.3	0.69	41.0
NOx	6.8	0	6.8
SO_2	1.7	0.00	1.7
VOC	16.3	1.99	18.3
CO2	16,833	0	16,833
Total HAP	2.7	0.06	2.8
Total TAP	62.8	0.74	63.5

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Facility-wide Emissions

Reporting Source? Based on estimates of facility-wide actual emissions, the facility is likely to most often emit less than the reporting thresholds. However, should the annual production approach the annual production limit, it is possible for the facility to exceed the reporting thresholds. As such the facility is expected to track its emissions and report as needed per Regulation I, Section 5.05(b).

Actual Emissions

Pollutant	Dryer to be Replaced (TPY)	AC Heater (TPY)	Asphalt Tanks (TPY)	Silos & Loadout (TPY)	Piles (TPY)	Roads (TPY)	Total (TPY)
PM	1.6	0.032	0.05	0.04	0.2	2.1	4.1
PM-10	1.6	0.032	0.05	0.04	0.1	0.4	2.3
PM-2.5	1.6	0.032	0.05	0.04	0.0	0.1	1.9
CO	8.2	0.038	0.10	0.11	0	0	8.4
NOx	1.4	0.4	0	0	0	0	1.8
SO_2	0.3	0.0026	0.00	0.00	0	0	0.3
VOC	2.7	0.023	0.95	0.33	0	0	4.0
CO2	2745.6	512.6	0	0	0	0	3,258

Total HAP	0.5
Total TAP	10.9

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Potential Emissions

Pollutant	New Dryer (TPY)	AC Heater (TPY)	Asphalt Tanks (TPY)	Silos & Loadout (TPY)	Piles (TPY)	Roads (TPY)	Total (TPY)
PM	8.9	0.032	0.30	0.27	1.4	6.8	17.7
PM-10	8.9	0.032	0.30	0.27	0.7	1.4	11.5
PM-2.5	8.9	0.032	0.30	0.27	0.1	0.3	9.9
CO	40.3	0.038	0.60	0.69	0	0	41.6
NOx	6.8	0.4	0	0	0	0	7.2
SO2	1.7	0.0026	0.00	0.00	0	0	1.7
VOC	16.3	0.023	5.84	1.99	0	0	24.2
CO2	16,833	512.6	0	0	0	0	17,346

Total HAP	2.73
Total TAP	51.02

G. OPERATING PERMIT or PSD

The facility emissions are both less than the 100 tons-per-year threshold to be an Air Operating Permit facility and less than the 250 tons-per-year threshold to be a Prevention of Significant Deterioration (PSD) facility. For carbon monoxide there will be established a 99 tons per year emission limit to avoid major source status.

H. AMBIENT TOXICS IMPACT ANALYSIS

WAC 173-460-080 requires that an acceptable source impact level (ASIL) analysis be carried out for each toxic air pollutant (TAP) emitted by the new or modified emission units. In this case, the new units include the new dryer/mixer, the three new silos, and the mineral silo. The existing facility has a production limit of 1,020,184 tons. Originally, this limit was imposed to avoid a public comment period. However, for the purpose of this review the limit serves the purpose of limiting emissions to less than the significance thresholds in WAC 173-400-030(28) which is use by the Agency as a rule of thumb estimate for requiring analysis of the National Ambient Air Quality Standards. By retaining the limit, the impact analysis is being conducted only for purposes of the required ASIL analysis. Though, the production limit also effectively reduces the units to be reviewed to the new dryer and the new silos. The new mineral silo is not included in this review as primarily handles particulate matter and any present TAPs should be minimal in comparison to the dryer/mixer and silo emissions.

WAC 173-460-080(3) allows that TAPs emitted from new sources may be offset by taking reductions in "actual emissions" from existing sources. WAC 173-400-030(1) defines "actual emissions" as the average emissions during the two year preceding period. In this case, the offsetting emissions come from the asphalt dryer being removed as part of this project. The two year average emissions were calculated based on the two year average production of 166,400 tons-per-year. The difference between the potential emissions for the new sources (dryer/mixer and new silo loading) and the two year average emissions were compared to the Small Quantity Emission Rates (SQERs) to determine TAPs for which dispersion modeling to estimate ambient concentrations would be required. The table below show these calculated values for the compounds whose increases exceeded the SQERS: naphthalene, benzene, ethylbenzene, formaldehyde, arsenic, cadmium, hexavalent chromium, and manganese. The full table is shown in the attached spreadsheet in Section F.

Table 2 -- Increases that Exceed the SQER

Toxic Air Pollutants	Potential Emissions (lb/hr)	Potential Emissions (lb/yr)	Potential Emissions (lb/day)	Actual Emissions (lb/hr)	Actual Emissions (lb/yr)	Actual Emissions (lb/day)	SQER (lb/avg period)	Avg Period	Increase (lb/avg period)	Model (Y/N)
Naphthalene	3.53E-02	9.62E+01	6.79E-01	2.70E-02	1.50E+01	6.48E-01	5.64	year	81.19	Y
Benzene	1.47E-01	4.00E+02	2.82E+00	1.17E-01	6.49E+01	2.81E+00	6.62	year	335.18	Y
Ethylbenzene	9.44E-02	2.57E+02	1.81E+00	7.20E-02	3.99E+01	1.73E+00	76.8	year	216.79	Y
Formaldehyde	1.16E+00	3.17E+03	2.23E+01	9.30E-01	5.16E+02	2.23E+01	32	year	2650.46	Y
Arsenic	210E-04	5.71E-01	4.03E-03	1.68E-04	9.32E-02	4.03E-03	0.0581	year	0.48	Y
Cadmium	1.54E-04	4.18E-01	2.95E-03	1.23E-04	6.82E-02	2.95E-03	0.0457	year	0.35	Y
Hexavalent Chromium	8.61E-05	2.34E-01	1.65E-03	6.89E-05	3.82E-02	1.65E-03	0.00128	year	0.20	Y
Manganese	2.89E-03	7.86E+00	6.93E-02	2.31E-03	1.28E+00	5.54E-02	0.00526	24-hr	6.93E-02	Y

Notes:

Potential includes new dryer emissions and silo loadout emissions as all production potentially could pass through the new silos.

Actual includes the two year average actual emissions from the dryer that is being removed.

Dispersion modeling was conducted to estimate increases in ambient concentrations of the target compounds presented for the ASILs. Modeling was conducted using a unit emission rate of 1 gram per second. The estimated concentration at the unit emission rate was then scaled for each averaging period (annual or 24-hr) with the emission rate for each specific compound. The table below shows that as limited the dispersion modeling demonstrated that the emission increases will not exceed the respective ASILs for each compound.

Table 3 – Modeled Annual Concentrations

Toxic or Hazardous Air Pollutants	Increase (lb/avg period)	Modeling Increase (g/s)	Modeled Annual Concentration ($\mu g/m^3$)	ASIL Concentration ($\mu g/m^3$)
Naphthalene	81.19	1.17E-03	2.03E-03	2.94E-02
Benzene	335.18	4.82E-03	8.39E-03	3.45E-02
Ethylbenzene	216.79	3.12E-03	5.43E-03	4.00E-01
Formaldehyde	2650.46	3.81E-02	6.63E-02	1.67E-01
Arsenic	0.48	6.88E-06	1.20E-05	3.03E-04
Cadmium	0.35	5.03E-06	8.76E-06	2.38E-04
Hexavalent Chromium	0.20	2.82E-06	4.90E-06	6.67E-06

Modeled Annual Unit Concentration: 1.74 ($\mu g/m^3$)

Table 4 – Modeled Daily Concentrations

Toxic or Hazardous Air Pollutants	Increase (lb/avg period)	Modeling Increase (g/s)	Modeled Annual Concentration ($\mu g/m^3$)	ASIL Concentration ($\mu g/m^3$)
Manganese	0.0693	0.0003638	0.0157	0.04

Modeled 24-hr Unit Concentration: 43.17 ($\mu g/m^3$)

Figures 1 through 4 show the distribution of impacts for the unit emission rate and the locations of the predicted high concentrations for 24 hour and annual averaging periods.

Figure 1 -- Modeled Unit Emission Rate Annual Average Domain

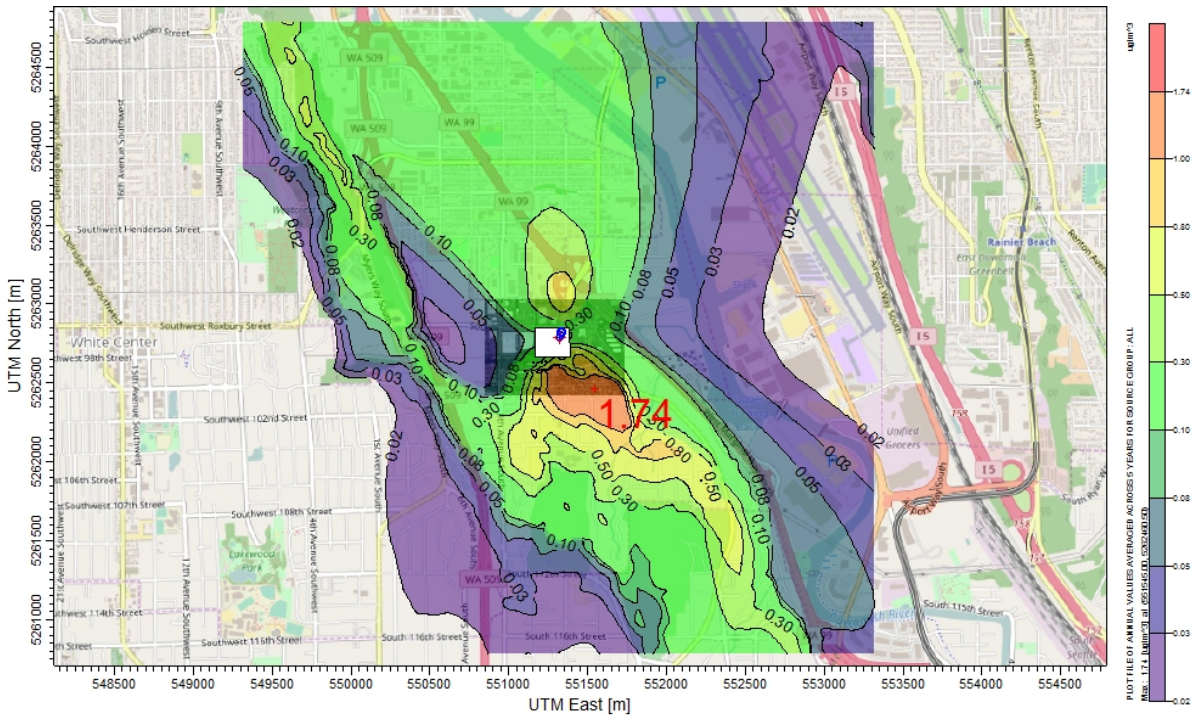


Figure 2 -- Modeled Unit Emission Rate Annual Average High Impact Location

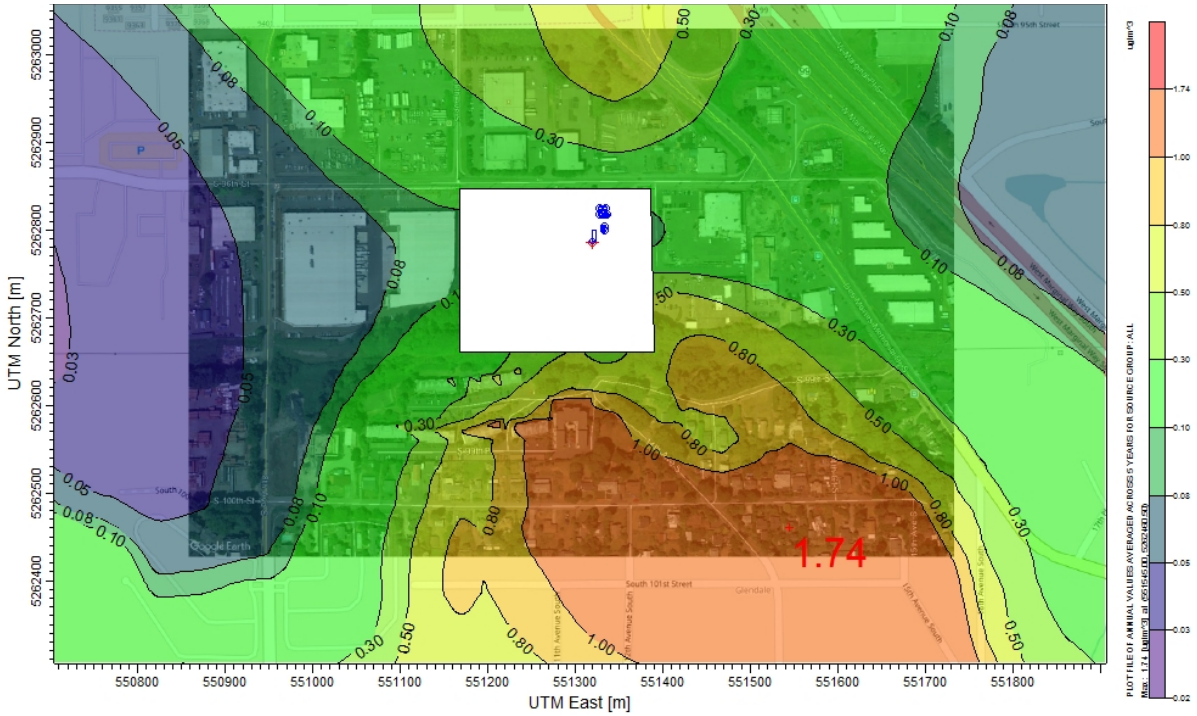


Figure 3 -- Modeled Unit Emission Rate 24-Hour Average Domain

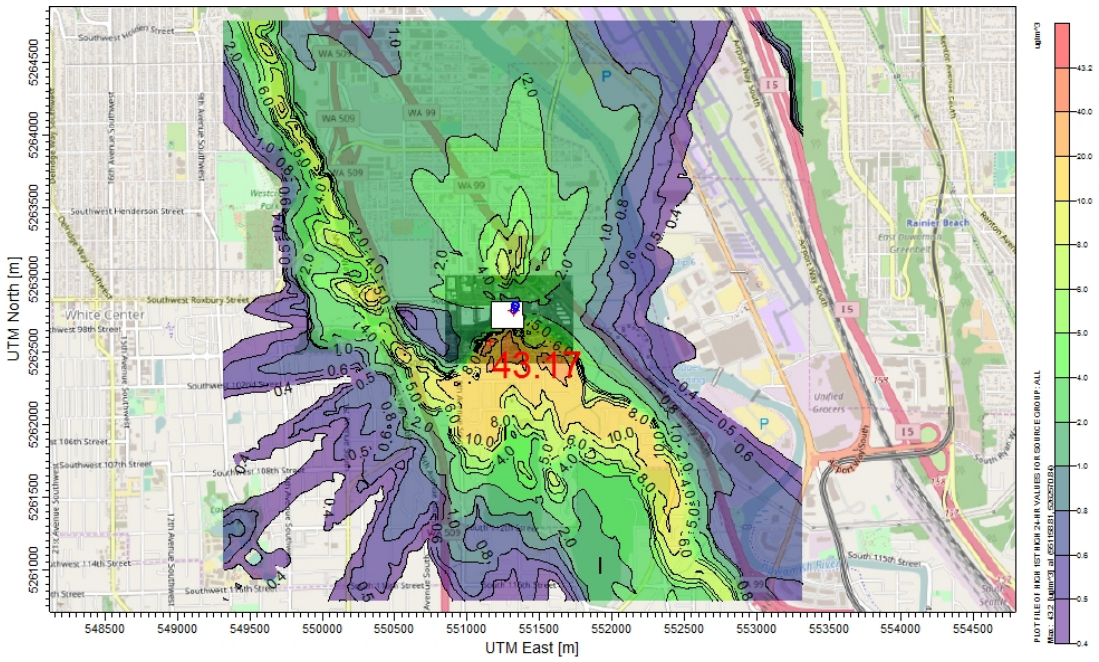
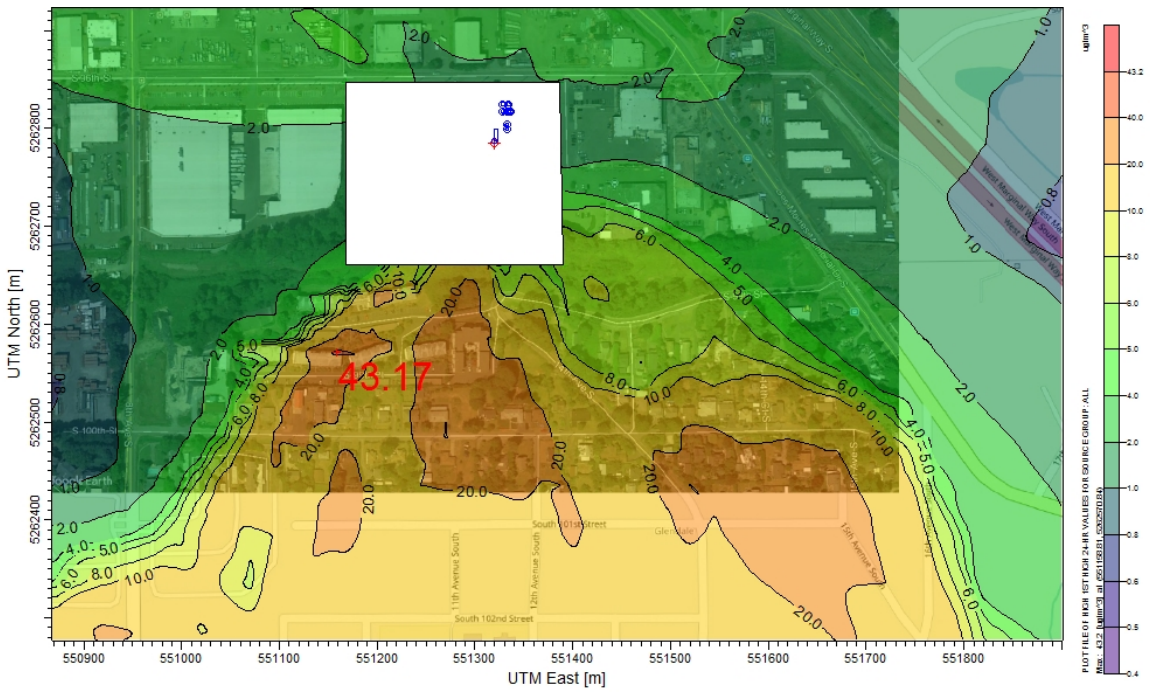


Figure 4 -- Modeled Unit Emission Rate 24-Hour Average High Impact Location



I. APPLICABLE RULES & REGULATIONS

1. PUGET SOUND CLEAN AIR AGENCY REGULATIONS

SECTION 5.05 (c): The owner or operator of a registered source shall develop and implement an operation and maintenance plan to ensure continuous compliance with Regulations I, II, and III. A copy of the plan shall be filed with the Control Officer upon request. The plan shall reflect good industrial practice and shall include, but not be limited to, the following:
(1) Periodic inspection of all equipment and control equipment;
(2) Monitoring and recording of equipment and control equipment performance;
(3) Prompt repair of any defective equipment or control equipment;
(4) Procedures for startup, shut down, and normal operation;
(5) The control measures to be employed to ensure compliance with Section 9.15 of this regulation; and
(6) A record of all actions required by the plan.
The plan shall be reviewed by the source owner or operator at least annually and updated to reflect any changes in good industrial practice.

SECTION 6.09: Within 30 days of completion of the installation or modification of a stationary source subject to the provisions of Article 6 of this regulation, the owner or operator or applicant shall file a Notice of Completion with the Agency. Each Notice of Completion shall be submitted on a form provided by the Agency, and shall specify the date upon which operation of the stationary source has commenced or will commence.

SECTION 9.03: (a) It shall be unlawful for any person to cause or allow the emission of any air contaminant for a period or periods aggregating more than 3 minutes in any 1 hour, which is:
(1) Darker in shade than that designated as No. 1 (20% density) on the Ringelmann Chart, as published by the United States Bureau of Mines; or
(2) Of such opacity as to obscure an observer's view to a degree equal to or greater than does smoke described in Section 9.03(a)(1).
(b) The density or opacity of an air contaminant shall be measured at the point of its emission, except when the point of emission cannot be readily observed, it may be measured at an observable point of the plume nearest the point of emission.
(c) This section shall not apply when the presence of uncombined water is the only reason for the failure of the emission to meet the requirements of this section.

SECTION 9.09: General Particulate Matter (PM) Standard. It shall be unlawful for any person to cause or allow the emission of particulate matter in excess of the following concentrations:
Equipment Used in a Manufacturing Process: 0.05 gr/dscf

SECTION 9.11: It shall be unlawful for any person to cause or allow the emission of any air contaminant in sufficient quantities and of such characteristics and duration as is, or is likely to be, injurious to human health, plant or animal life, or property, or which unreasonably interferes with enjoyment of life and property.

SECTION 9.13: It shall be unlawful for any person to cause or allow the installation or use of any device or use of any means designed to mask the emission of an air contaminant which causes detriment to health, safety or welfare of any person.

SECTION 9.15: It shall be unlawful for any person to cause or allow visible emissions of fugitive dust unless reasonable precautions are employed to minimize the emissions. Reasonable precautions include, but are not limited to, the following:
(1) The use of control equipment, enclosures, and wet (or chemical) suppression techniques, as practical, and curtailment during high winds;
(2) Surfacing roadways and parking areas with asphalt, concrete, or gravel;
(3) Treating temporary, low-traffic areas (e.g., construction sites) with water or chemical stabilizers, reducing vehicle speeds, constructing pavement or rip rap exit aprons, and cleaning vehicle undercarriages before they exit to prevent the track-out of mud or dirt onto paved public roadways; or
(4) Covering or wetting truck loads or allowing adequate freeboard to prevent the escape of dust-bearing materials.

REGULATION I, SECTION 9.20(a): It shall be unlawful for any person to cause or allow the operation of any features, machines or devices constituting parts of or called for by plans, specifications, or other information submitted pursuant to Article 6 of Regulation I unless such features, machines or devices are maintained in good working order.

2. WASHINGTON STATE ADMINISTRATIVE CODE

WAC 173-400-040(3): Fallout. No person shall cause or allow the emission of particulate matter from any source to be deposited beyond the property under direct control of the owner or operator of the source in sufficient quantity to interfere unreasonably with the use and enjoyment of the property upon which the material is deposited.

WAC173-400-111(7): Construction limitations.
(a) Approval to construct or modify a stationary source becomes invalid if construction is not commenced within eighteen months after receipt of the approval, if construction is discontinued for a period of eighteen months or more, or if construction is not completed within a reasonable time. The permitting authority may extend the eighteen-month period upon a satisfactory showing by the permittee that an extension is justified.

3. FEDERAL

40 CFR 60 Subpart A and Subpart I apply to this facility.

Subpart A:

60.4(b) Delegation of authority to PSCAA to enforce NSPS.

60.7(a)(1, 3, 4) Notification & Record keeping.

60.7(b) Maintain records including malfunctions.

60.8 Requirements for source testing.

60.11(a, b, c, e) Compliance requirements for PM10 & opacity. Note: requires that Method 9 tests include three one-hour observations conducted concurrently with the Method 5 test runs.

60.11(d) Operate inconsistent with good engineering control practices.

Subpart I:

60.90 Applicable sources.
60.91 Definitions.
60.92 PM10 standards.
60.93 Source test procedures.

Subpart I:

60.90 Defines the applicable sources

60.91 Contains definitions

60.92 Has the PM emissions standard of 0.04 gr/dscf measured by EPA method 5 which is only the "Front-Half". 20 percent opacity limit.

60.93 Test methods include collecting a min of 31.8 dscf of sample for PM, and EPA Method 9 for opacity.

J. PUBLIC NOTICE

A notice of application was posted on the Agency's website for 15 days. No requests or responses were received.

This project meets the criteria for mandatory public notice under WAC 173-400-171(3)(k) for establishing a voluntary limit on emissions as well as WAC 173-460-071(2). This is due to requesting a voluntary limit on emissions for Carbon Monoxide and taking a limit on emissions for the existing dryer (i.e. removing the existing dryer from operation). A 30-day public comment period was held from _____, 2017 through _____, 2017. Notices that the draft materials were open to comment were published in the Seattle Times and the Daily Journal of Commerce on _____, 2017. The Agency posted the application, the draft worksheet on the Agency's website during the comment period.

K. RECOMMENDED APPROVAL CONDITIONS

Standard Conditions:

1. Approval is hereby granted as provided in Article 6 of Regulation I of the Puget Sound Clean Air Agency to the applicant to install or establish the equipment, device or process described hereon at the installation address in accordance with the plans and specifications on file in the Engineering Division of the Puget Sound Clean Air Agency.

2. This approval does not relieve the applicant or owner of any requirement of any other governmental agency.

Specific Conditions:

NSPS

3. The hot mix asphalt facility is an affected facility under 40 CFR Part 60, Subparts I and A.

BACT

4. The 300XL Gencor Rotary UltraDrum dryer shall be fired only on natural gas. The existing Gencor Ultradrum rotary mixer shall be removed from service prior to the first operation of the 300XL Gencor Rotary Ultradrum Dryer. A record of the date of the last operation of the existing Gencor Ultradrum rotary mixer shall be kept on file for Agency inspection.

5. The following emission limitations are set on the dryer/mixer stack:

   a. Total particulate matter emissions shall not exceed 0.027 gr/dscf (corrected to 7% O2) as measured by U.S. EPA Method 5 as modified by Puget Sound Clean Air Agency Board Resolution 540 dated August 11, 1983.

   b. Filterable particulate matter emissions shall not exceed 0.014 gr/dscf (corrected to 7% O2) as measured by U.S. EPA Method 5 as modified by Puget Sound Clean Air Agency Board Resolution 540 dated August 11, 1983.

   c. Opacity shall not exceed 5% opacity for a period or periods aggregating more than 3 minutes during any one hour as measured by WDOE Method 9A.

   d. Emissions of oxides of nitrogen shall not exceed 32.0 ppmvd (corrected to 7% O2) as determined in accordance with Section 3.07 of PSCAA Regulation I using USEPA reference methods 1, 3A, 4, and 7E from Appendix A of 40 CFR Part 60 by the average of three 60-minute test runs.

   e. Emissions of carbon monoxide shall not exceed 311.0 ppmvd (corrected to 7% O2) as determined in accordance with Section 3.07 of PSCAA Regulation I using USEPA reference methods 1, 3A, 4, and 10 from Appendix A of 40 CFR Part 60 by the average of three 60-minute test runs.

   f. Emissions of Non-Methane/Non-Ethane VOC (NMNEVOC) shall not exceed 0.032 lb NMNEVOC per ton of hot mixed asphaltic concrete produced as determined in accordance with Section 3.07 of PSCAA Regulation 1 using EPA reference methods 1, 3A, 4, and 25A (using either an FID with a methane “cutter”, OR using EPA Method 320 or EPA Method 18 to analyze for methane and ethane, and subtracting the methane and ethane results from the total VOC measured by the FID analyzer) from Appendix A of 40 CFR Part 60 by the average of three 60-minute test runs. NMNEVOC shall be expressed as propane. Other equivalent test methods may be used with the approval of the Agency. If other test methods are desired, the owner or operator must submit a test plan for Agency approval at least 30 days prior to the test which describes the test methods proposed for use.”

   g. There shall be no visible emissions from the Recycled Asphalt (RA) collar.

6. There shall be no visible emissions from each of the hot mix asphaltic concrete storage silos, drag conveyor(s), and mineral silo.

7. The temperature of the asphaltic concrete mix exiting the dryer shall not exceed the optimum mix temperature +25F for each product specification as set out in the product's WSDOT Mix Design Evaluation Report. Documentation of each product's WSDOT Mix Design Evaluation Report including optimum mix temperature shall be kept on file and incorporated into the Operations and Maintenance plan required by Agency Regulation I, Section 5.05(c).

8. The combined total recycled asphalt (RAP) added to the drum shall not exceed on a 3-hour average hourly basis the greatest total RAP percentage by weight used in a passing source test of both conditions 5.a, 5.b., and 5.c until a new test is conducted.

9. Icon shall not include Recycled Asphalt Shingles in the produced asphaltic concrete.

SOURCE TESTING

10. During production of hot mix asphalt, Icon shall have emissions tested for compliance with Conditions 5.a, 5.b, 5.c, 5.d, 5.e, 5.f of this Order within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup of such facility. The emission tests listed in this requirement shall be repeated at an interval no less than once every five years. Note: the initial tests demonstrating compliance with Conditions 5.b and 5.c can also be used to demonstrate compliance with the NSPS (Condition 3) emission limits provided the Department of Ecology Method 9a test data is collected for three one-hour test runs. Tests shall be conducted with a mix temperature of 275F or greater. Icon shall submit a compliance test plan with the test notification submitted under Regulation I, Section 3.07(b)

11. During production of warm mix asphalt, Icon shall have emissions tested for compliance with Conditions 5.a, 5.b, 5.c, 5.d, 5.e, 5.f of this Order within 90 days after receiving an order for warm mix of 1,000 tons or greater. Warm Mix Asphalt production shall be defined as a mix temperature of less than 275F. The emission tests listed in this requirement shall be repeated at an interval no less than once every five years. If, after the initial tests are conducted, the Warm Mix VOC emission rates in pounds per ton are less than the Hot Mix VOC emission rates then the periodic testing of Warm Mix Asphalt operation is not required. Icon shall submit a compliance test plan with the test notification submitted under Regulation I, Section 3.07(b).

12. Icon may conduct an emission test as set out in Condition 10 at any time (given notification as required in Regulation I, Section 3.07(b)) for the purposes of setting the RAP limit in Condition 8. Icon shall submit a compliance test plan with the test notification submitted under Regulation I, Section 3.07(b).

13. During the emission tests required by conditions 10, 11, and 12 the following operation data shall be collected during each test run and reported in the source test report:

    a. Tons of production of asphaltic concrete;

    b. standard cubic feet of fuel combusted;

c. tons of RAP included in the mix;

d. Maximum temperature of mix as it exits the dryer;

e. aggregate moisture percentage (as measured by the Quality Control lab for a representative sample taken the day of the test);

f. asphalt cement content percentage;

g. baghouse pressure drop;

h. baghouse fan speed (as a percentage of full speed);

i. baghouse pulse cycle time;

j. burner water injection nozzle pressure (psig) ; and

k. flue gas damper setting (as a percentage of maximum opening);

l. Product specification produced during the run, a copy of the specification and maximum temperature allowed by the specification.

PLANT MAINTENANCE

14. The baghouse shall be equipped with a gauge measuring the pressure drop across the baghouse. The pressure gauge shall be in operation whenever the baghouse is in operation. The pressure gauge shall be marked with the acceptable pressure drop range. The maximum acceptable pressure drop shall be determined from manufacturer specifications for the bags used in the baghouse. The minimum acceptable pressure drop shall be determined from manufacturer specifications for the bags used in the baghouse. The pressure drop observed during the most recent compliance source test shall fall within the defined acceptable range of pressure drop. The acceptable range and the basis for the range shall be included in the facility Operations and Maintenance plan required by Agency Regulation I, Section 5.05(c).

OPERATIONS AND MAINTENANCE PLAN

15. When operating, Icon Materials shall monitor and record the following information:

(a) one daily pressure drop across the baghouse;
(b) one daily inspection for visible emissions and particulate fallout for the baghouse, silos, conveyors, RA collar, and asphalt storage tanks;
(c) hourly weight of RAP used, plus the hourly weight of asphalt produced;
(d) calculated 3-hour average RAP total percent by weight usage;
(e) annual (12 consecutive months rolling total) asphalt production; and
(f) Daily fuel use.
(g) one mix temperature reading recorded for each hour in which the mixer operates.
(h) the product specification produced and the hour it was produced.
(i) the time (in hours) the mixer operated.

ANNUAL PRODUCTION LIMITATION

16. Annual asphalt production from the rotary dryer plant shall not exceed either 2,720 hours of total operation or 1,020,184 tons production per year as a 12 consecutive months rolling total.

17. A notification of a violation of Condition 15 shall be sent to Puget Sound Clean Air Agency within 30 days following any month when either the dryer hours of operation exceed 2,720 hours or the 12 consecutive months rolling total exceeds 1,020,184 tons per year of asphalt production.

EMISSION LIMITATION

18. Facility-wide emissions of carbon monoxide shall not exceed 99.0 tons during any during any 12 consecutive months after the date of this Order.

19. Within 30 days of the end of each month, Icon Materials shall calculate the facility-wide carbon monoxide emissions for the previous 12 months using the monthly natural gas usage and either the BACT emission limit in Condition 5.e or the results of the most recent carbon monoxide emission test that shows compliance with the BACT emission limit of Condition 5.e. For the purposes of this calculation, the BACT limit in Condition 5.e or the source test results shall be converted to into terms of pounds of carbon monoxide per million Btu of fuel used using EPA Method 19.

20. Icon Materials shall notify the Puget Sound Clean Air Agency in writing, within 30 days after the end of each 12-month period if, during that period, emissions of CO exceed 90 tons. The report shall include emissions data for the time period for which these thresholds were exceeded.

COMPLAINTS

21. Icon Materials shall establish a complaint response program as part of the O&M Plan. The program shall include a complaint phone line, criteria and methods for establishing whether Icon may be the source of emissions related to the complaint, and a format for communicating results of investigation and advising complainants of Icon corrective actions.

    (a) Icon Materials shall record and investigate complaints received regarding air quality as soon as possible, but no later than one working day after receipt.

    (b) Icon Materials shall correct any problems identified by these complaint investigations within 24 hours of identification.

    (c) Records of all complaints received regarding air quality issues shall include information regarding date and time of complaint; name and address of complainant (if known); nature of the complaint; investigation efforts completed and basis for conclusion reached; and date, time, and nature of any corrective action taken.

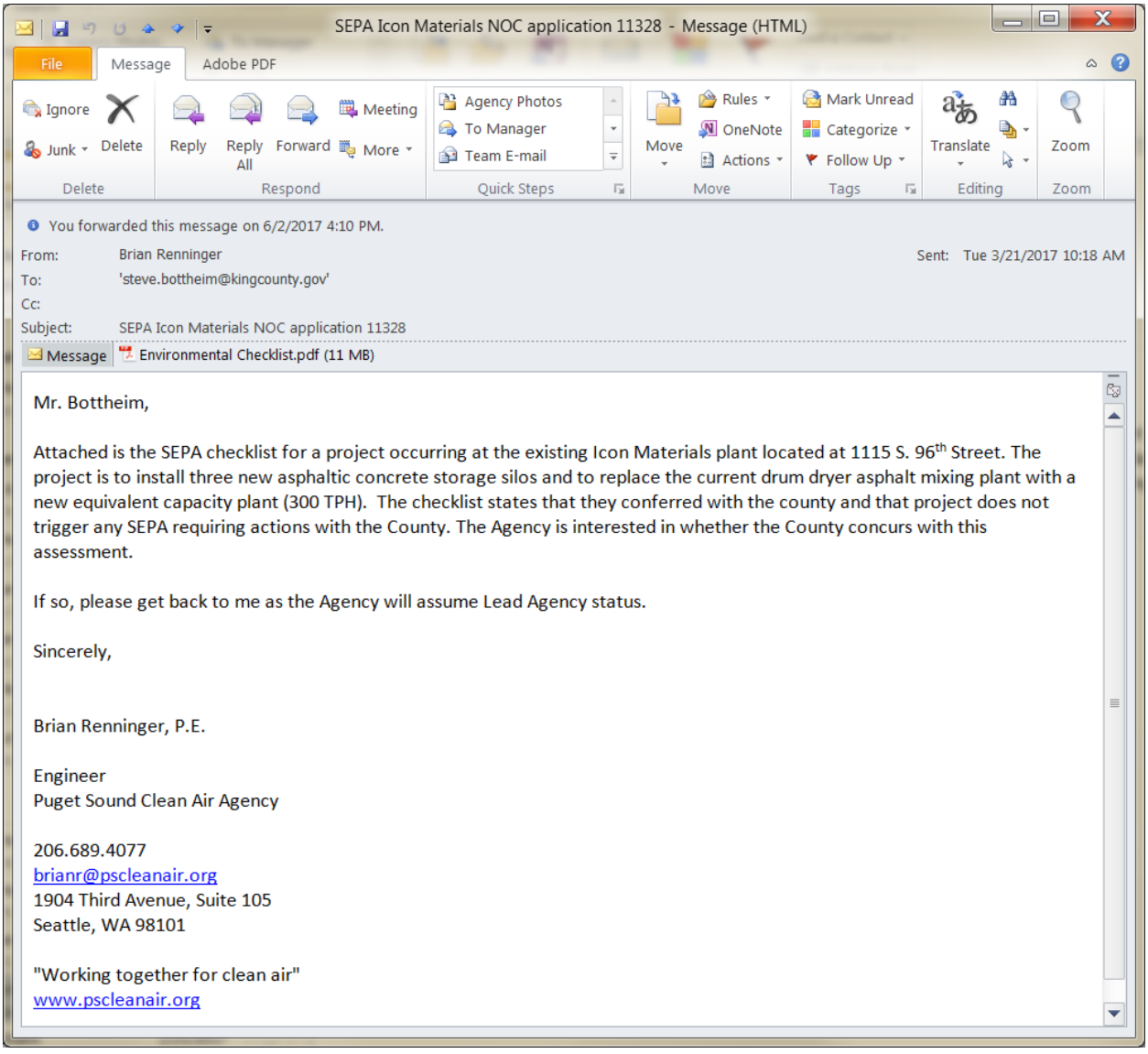
RECORDS

22. Icon Materials shall maintain records required by this Order of Approval, as well as the records identified in the Operation and Maintenance Plan required by Regulation I, Section 5.05, for two years and make them available to Puget Sound Clean Air Agency personnel upon request.

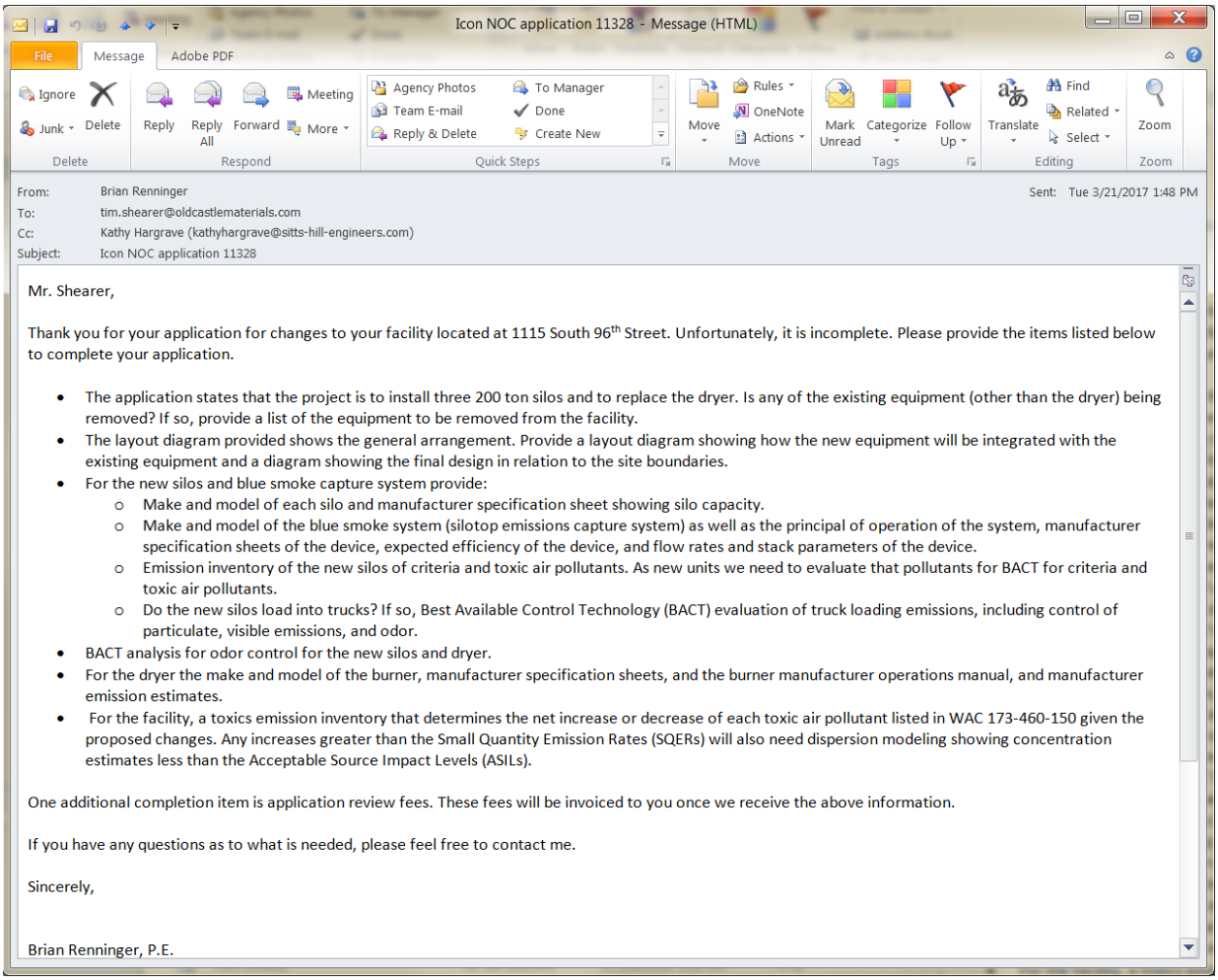
23. Upon startup of the equipment reviewed under this Order of Approval, this Order supersedes and cancels Order of Approval No. 10954 dated August 1, 2016.

L. CORRESPONDENCE AND SUPPORTING DOCUMENTS

1. E-mail to King County, March 21, 2017



2. E-mail to Tim Shearer, March 21, 2017



Icon NOC application 11328 - Message (HTML)

File | Message | Adobe PDF

Ignore | Junk | Delete | Reply | Reply All | Forward | Meeting | More | Delete | Respond

Agency Photos | Team E-mail | Reply & Delete | To Manager | Done | Create New | Quick Steps

Move | Rules | OneNote | Actions | Move

Mark Unread | Categorize | Follow Up | Tags

Translate | Find | Related | Select | Editing

Zoom | Zoom

From: Brian Renninger
Sent: Tue 3/21/2017 1:48 PM
To: tim.shearer@oldcastlematerials.com
Cc: Kathy Hargrave (kathyhargrave@sitts-hill-engineers.com)
Subject: Icon NOC application 11328

Mr. Shearer,

Thank you for your application for changes to your facility located at 1115 South 96th Street. Unfortunately, it is incomplete. Please provide the items listed below to complete your application.

- The application states that the project is to install three 200 ton silos and to replace the dryer. Is any of the existing equipment (other than the dryer) being removed? If so, provide a list of the equipment to be removed from the facility.
- The layout diagram provided shows the general arrangement. Provide a layout diagram showing how the new equipment will be integrated with the existing equipment and a diagram showing the final design in relation to the site boundaries.
- For the new silos and blue smoke capture system provide:
  - Make and model of each silo and manufacturer specification sheet showing silo capacity.
  - Make and model of the blue smoke system (silotop emissions capture system) as well as the principal of operation of the system, manufacturer specification sheets of the device, expected efficiency of the device, and flow rates and stack parameters of the device.
  - Emission inventory of the new silos of criteria and toxic air pollutants. As new units we need to evaluate that pollutants for BACT for criteria and toxic air pollutants.
  - Do the new silos load into trucks? If so, Best Available Control Technology (BACT) evaluation of truck loading emissions, including control of particulate, visible emissions, and odor.
- BACT analysis for odor control for the new silos and dryer.
- For the dryer the make and model of the burner, manufacturer specification sheets, and the burner manufacturer operations manual, and manufacturer emission estimates.
- For the facility, a toxics emission inventory that determines the net increase or decrease of each toxic air pollutant listed in WAC 173-460-150 given the proposed changes. Any increases greater than the Small Quantity Emission Rates (SQERs) will also need dispersion modeling showing concentration estimates less than the Acceptable Source Impact Levels (ASILs).

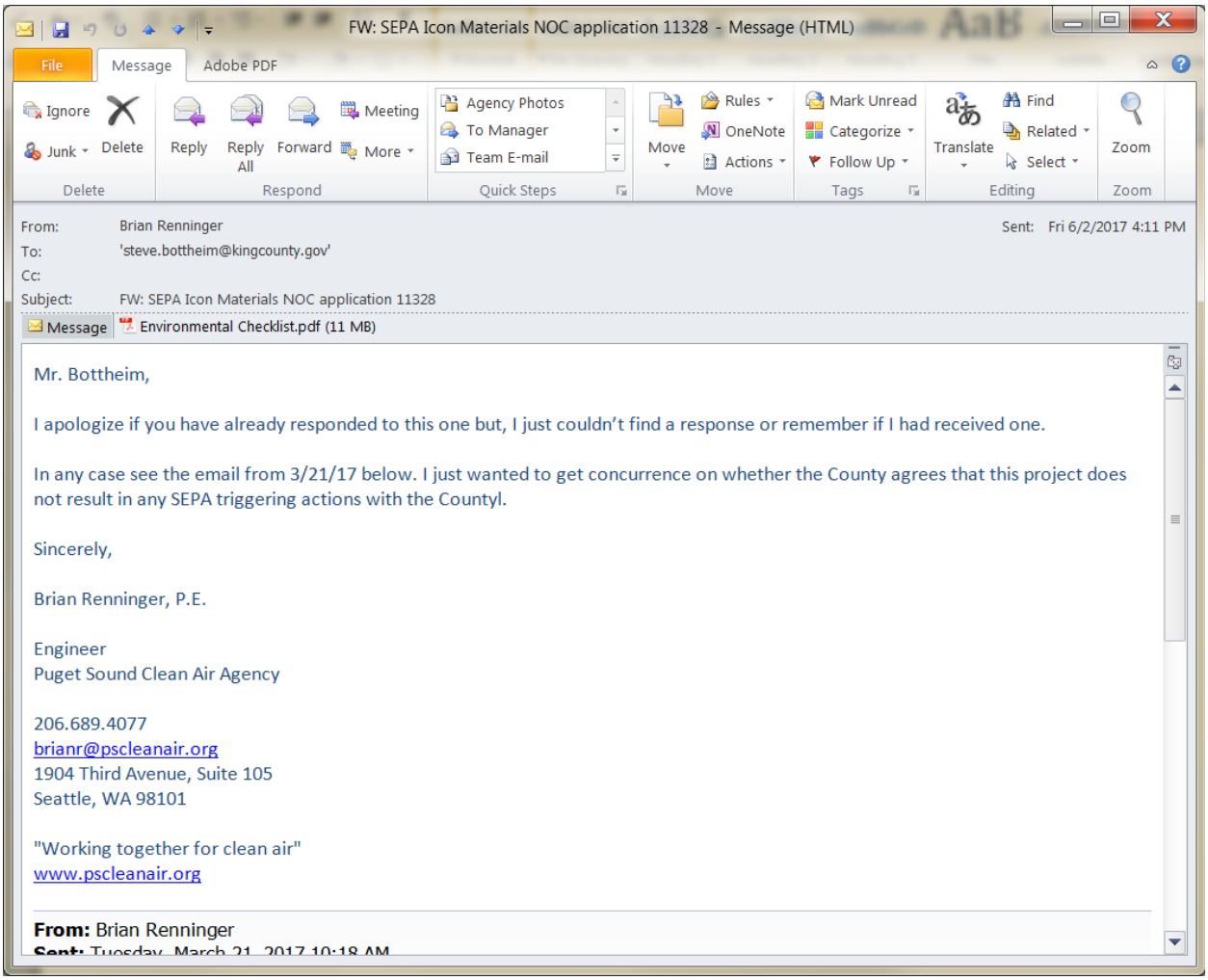
One additional completion item is application review fees. These fees will be invoiced to you once we receive the above information.

If you have any questions as to what is needed, please feel free to contact me.

Sincerely,

Brian Renninger, P.E.

3. E-mail to King County, June 2, 2017



FW: SEPA Icon Materials NOC application 11328 - Message (HTML)

File | Message | Adobe PDF

Ignore | Junk | Delete | Reply | Reply All | Forward | Meeting | More | Agency Photos | To Manager | Team E-mail | Move | Rules | OneNote | Actions | Mark Unread | Categorize | Follow Up | Translate | Find | Related | Select | Zoom

From: Brian Renninger
To: 'steve.bottheim@kingcounty.gov'
Cc:
Subject: FW: SEPA Icon Materials NOC application 11328
Sent: Fri 6/2/2017 4:11 PM

Message | Environmental Checklist.pdf (11 MB)

Mr. Bottheim,

I apologize if you have already responded to this one but, I just couldn't find a response or remember if I had received one.

In any case see the email from 3/21/17 below. I just wanted to get concurrence on whether the County agrees that this project does not result in any SEPA triggering actions with the Countyl.

Sincerely,

Brian Renninger, P.E.

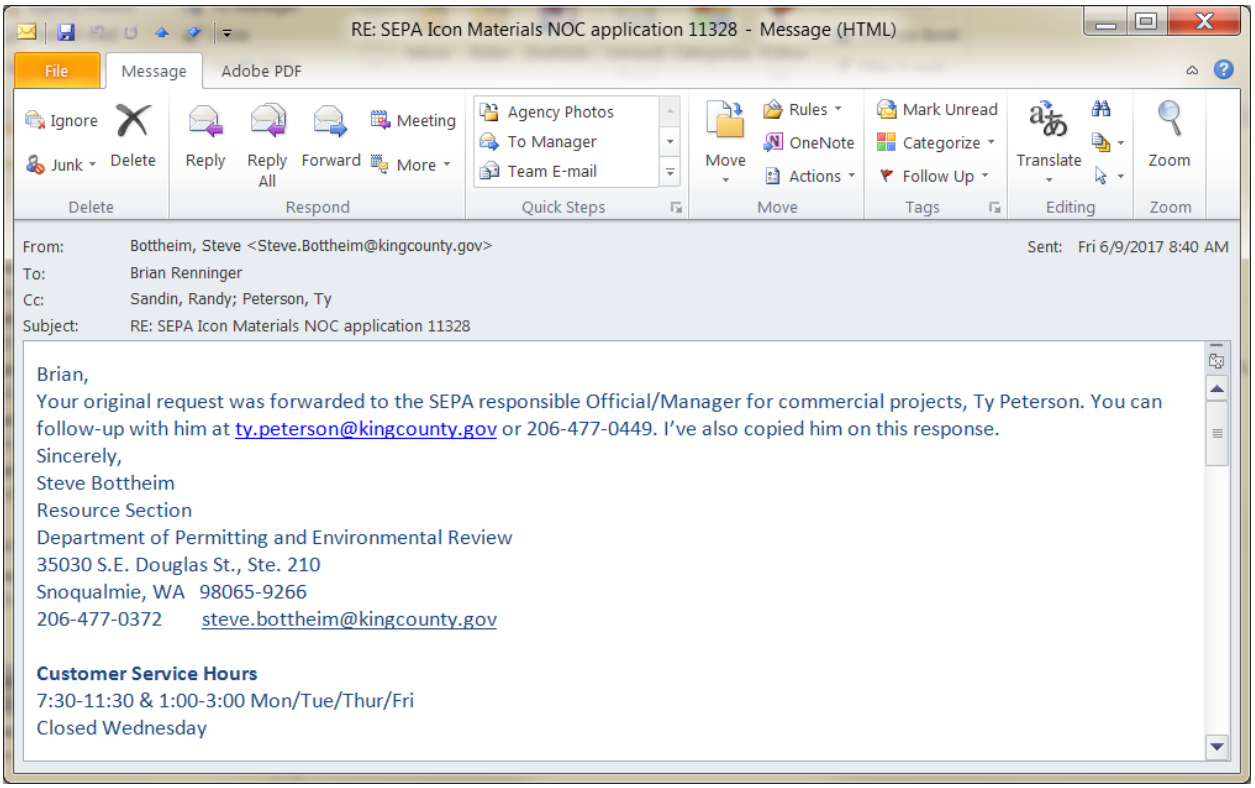
Engineer
Puget Sound Clean Air Agency

206.689.4077
brianr@pscleanair.org
1904 Third Avenue, Suite 105
Seattle, WA 98101

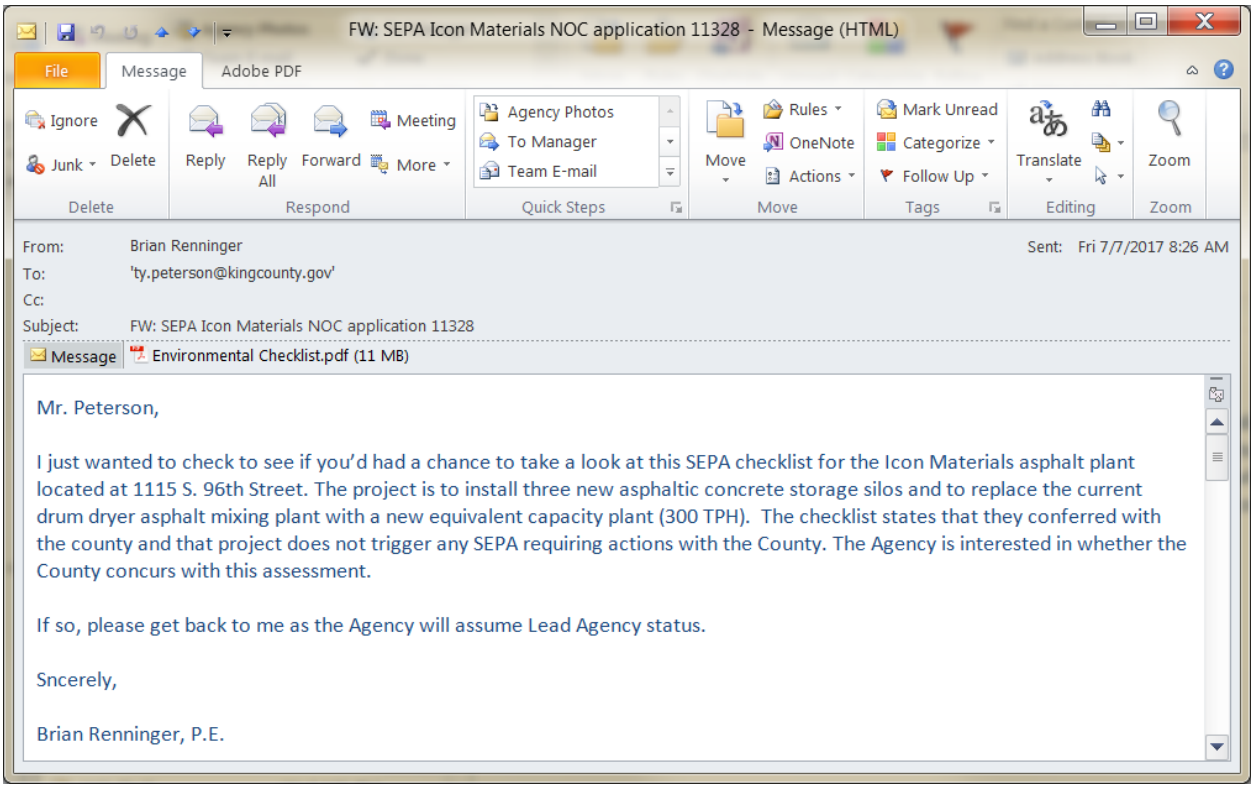
"Working together for clean air"
www.pscleanair.org

From: Brian Renninger
Sent: Tuesday, March 21, 2017 10:18 AM

4. E-mail from King County, June 9, 2017



5. E-mail to King County, July 7, 2017



6. Icon Comments on Draft Worksheet, October 24, 2017

Note: Agency responses in Blue.

General Comments:

1. ICON is looking for PSCAA input on what might be the best way to change the tons/hour on the original application. The production rate from the manufacturer is always somewhat of an unknown until the plant becomes operational in the actual setting. ICON would like to make sure they are not limited prematurely. ICON sees 2 options but doesn't know the ramifications of either: a) do it now while the permit is still being discussed or b) request a permit modification after the permit has been issued and ICON has a better understanding of the limitations/abilities. Based on similar plants/dryers, ICON has reason to believe that the plant could be easily capable of 375 tons/hour. PSCAA suggestion on the best way to address this?

Agency Response: Condition 1 of every Order of Approval says "Approval is hereby granted as provided in Article 6 of Regulation I of the Puget Sound Clean Air Agency to the applicant to install or establish the equipment, device or process described hereon at the installation address in accordance with the plans and specifications on file in the Engineering Division of the Puget Sound Clean Air Agency." What that means is that you are required to build and operate according to what was stated in your application. So, after an application has been approved, increases in capacity would require a new application and potentially be a violation of Condition 1 if no application were submitted. Ideally, this current application should be for the equipment's maximum potential capacity (in tons per hour production) in order to avoid further applications and to review the worst-case scenario. If the plant is more realistically able to function at 375 tons per hour then this application should address this which means a new emission inventory and TAPs analysis. I have done this using the same annual production limitation. The result of this did not change the annual estimates (due to the production limit) but, did raise the daily maximum emissions. Fortunately, even given the daily increase, no new TAPs were drawn into the analysis. The manganese modeling was revised but, did not result in an exceedance of the ASIL. I have revised the worksheet to reflect this capacity increase.

2. There was side discussion regarding the Agency's source test method and the methylene chloride it requires the source testing companies to use. Due to the hazards, source testing companies are trying to eliminate the use of it. We would like to work with the Agency to revise the source test method regulation to avoid the use of methylene chloride.

Agency Response: Currently the test method for particulate matter is set in Agency Board Resolution 540. This would require a resolution by Board to change and would take some significant work to accomplish. While the Agency is sympathetic to the hazards of handling methylene chloride, revision to the method cannot be done as part of this application.

BACT Comments:

1. **Conditions 5.a & b**

   ICON understands the concept and calculations of using the 7% O2 correction factor, however, ICON is not comfortable with it given the ambiguity it can introduce to the test results. ICON would like to see permit language that would allow for a post source test conversation with the Agency to access the results with and without the correction factor and if the correction factor worked as how the Agency anticipated. ICON does not want to face an NOV/penalty if something is awry with the rationale, etc. Also, can the Agency provide some guidance and/or calculations to the source testing companies to assist in this process? We would like to have some additional clarity on this prior to finalization of the permit.

Agency Response: We understand that you are uncomfortable with this approach but, no information has been provided to show where a problem might lie in the use of an oxygen correction. Use of an oxygen correction factor is common for a variety of difference source types. Additionally, numerous other Agencies also use a variety of oxygen corrections for setting asphalt plant emission limits including limits for particulate matter. Should there be a potential violation after emission testing, the Agency's enforcement procedures afford substantial opportunity to provide mitigating information to be evaluated at the time. Mitigating information if judged as relevant can lessen the severity of a penalty up to and including cancelling an NOV.

2. **Condition 5.f currently states:**
   Emissions of VOC shall not exceed 0.032 lb VOC per ton of hot mixed asphaltic concrete produced as determined in accordance with Section 3.07 of PSCAA Regulation I using USEPA reference methods 1, 3A, 4, and 25A from Appendix A of 40 CFR Part 60 by the average of three 60-minute test runs. VOC shall be expressed as propane. Optionally, the owner or operator may choose to subtract emissions of methane and other compounds with negligible photochemical reactivity from the measured total. If the owner or operator chooses to subtract methane and/other compound with negligible photochemical reactivity, then a test plan shall be submitted for Agency approval at least 30 days prior to the test which outline which compounds will be tested for and what test methods will be used.

   Based on issues with past VOC testing and talking with source testing consultant, ICON suggests the following permit language:

   "f. Emissions of Non-Methane/Non-Ethane VOC (NMNEVOC) shall not exceed 0.032 lb NMNEVOC per ton of hot mixed asphaltic concrete produced as determined in accordance with Section 3.07 of PSCAA Regulation 1 using EPA reference methods 1, 3A, 4, and 25A (using either an FID with a methane "cutter", OR using EPA Method 320 or EPA Method 18 to analyze for methane and ethane, and subtracting the methane and ethane results from the total VOC measured by the FID analyzer) from Appendix A of 40 CFR Part 60 by the average of three 60-minute test runs. NMNEVOC shall be expressed as propane. Other equivalent test methods may be used with the approval of the Agency. If other test methods are desired, the owner or operator must submit a test plan for Agency approval at least 30 days prior to the test which describes the test methods proposed for use."

Agency Response: the suggested testing language is acceptable and the condition has been modified to include the suggested language.

3. **Condition 7**

ICON understands that the temperature limit was set in conjunction with the VOC limit. Due to the varying temperature limits of asphalt oil and the constantly changing industry/oil over which ICON has no control, ICON requests removing this condition from the permit altogether. Other competing hot mix plants within PSCAA jurisdiction have no such limitation. Accordingly inclusion of the current limitation would result in ICON potentially being unable to perform projects, supply materials to third party customers and imposes an unnecessary restraint on competition.

Agency Response: the Agency has reviewed the additional information provided and discussed in our meeting. Based on that information, the temperature limit has been revised to allow a maximum temperature to the mix temperature the existed during a passing emission source test. This approach will not restrict the production of any product except those that would result in an exceeding emission.

4. Condition 8

ICON proposes a much simpler condition in regards to setting the RAP value and suggests some of the following language:

The percentage of RAP used in the asphalt plant is limited to the percentage of RAP used during the most recent source test.

The recycled asphalt content shall not exceed the percent (by weight) which was processed through the drum dryer mixer during the most recent source test.

Agency Response: The conditions regulating use of recycled asphalt have been modified to allow only the use of RAP and to prohibit use of recycled shingles. The three-hour average requirement was retained as emission source tests consist of three one-hour sampling runs.

5. Condition 11

ICON would like to remove the condition for Warm Mix Source testing and has attached a US Army Engineer Research and Development Center document that concludes there are lower emissions with Warm Mix both during production and placement of the mix.

Agency Response: the Agency has reviewed the document provided and also reviewed other studies regarding emissions from Warm Mix Asphalt production. We agree that the majority of the data supports the idea that emissions should be less than that of hot mix asphalt. The emission the emission testing requirement is being retained to confirm that this implementation does reduce emissions. The warm mix testing condition is a one-time testing requirement provided Warm Mix emission are less than Hot Mix. However, to accommodate the reduced demand for warm mix asphalt the condition has been modified to allow a greater time to complete the testing.

6. **Condition 15**

   ICON would like the following changes:

   (b) remove "(including fugitive dust)" – it is included in "visible emissions" and becomes an NOV trap during an inspection as the inspectors are likely to require a check for fugitive dust and visible emissions although duplicative.

Agency Response: the Agency concurs that the reference to visible emissions includes fugitive dust and has removed the duplicative term.

   (c) & (d) – remove and defer to maximum RAP percentage limit

Agency Response: removed the reference to recycled asphalt shingles and limited the condition solely to RAP. However, the data collection requirement is retained. The data elements in (c) are necessary to calculate the percentages in (d) and are needed to ensure that the maximum RAP used is within the amount used during the test. From our meeting I understand that these weights are measured continuously throughout production and that the addition of equipment to record and average the data would need to be added. It could be that more discussion is needed here as I don't believe I fully understand how you document that the product is made to the customer's specifications without this data. So, if the revised condition remains not to your liking perhaps a more detailed discussion of how the weighting system works.

   (e) – ICON would like to see some language added as to the availability of documents and time in which they need to be produced. As we discussed in our meeting, plants don't typically have access to monthly and annual reports at the site but records can be produced from the corporate office upon request.

Agency Response: the record keeping Condition 21 (previously Condition 22) has been modified to remove the requirement to keep records on-site but, to have them available upon Agency request. Agency strongly encourages the maintenance of records on-site as easier during inspections for both the facility and Agency inspectors. For records stored off-site, Agency inspector will communicate a timeline for when they want them provided.

(f) – Remove this condition – there is no permit condition restricting the amount of fuel used

Agency response: the condition is retained. The monitoring and recording of fuel use is being required to ensure the data to calculate emissions is available. The requirement to know your emissions is required specifically by the annual carbon monoxide limitation in the permit conditions and by in general by Agency Regulation I, Section 5.05.

7. **Condition 22**

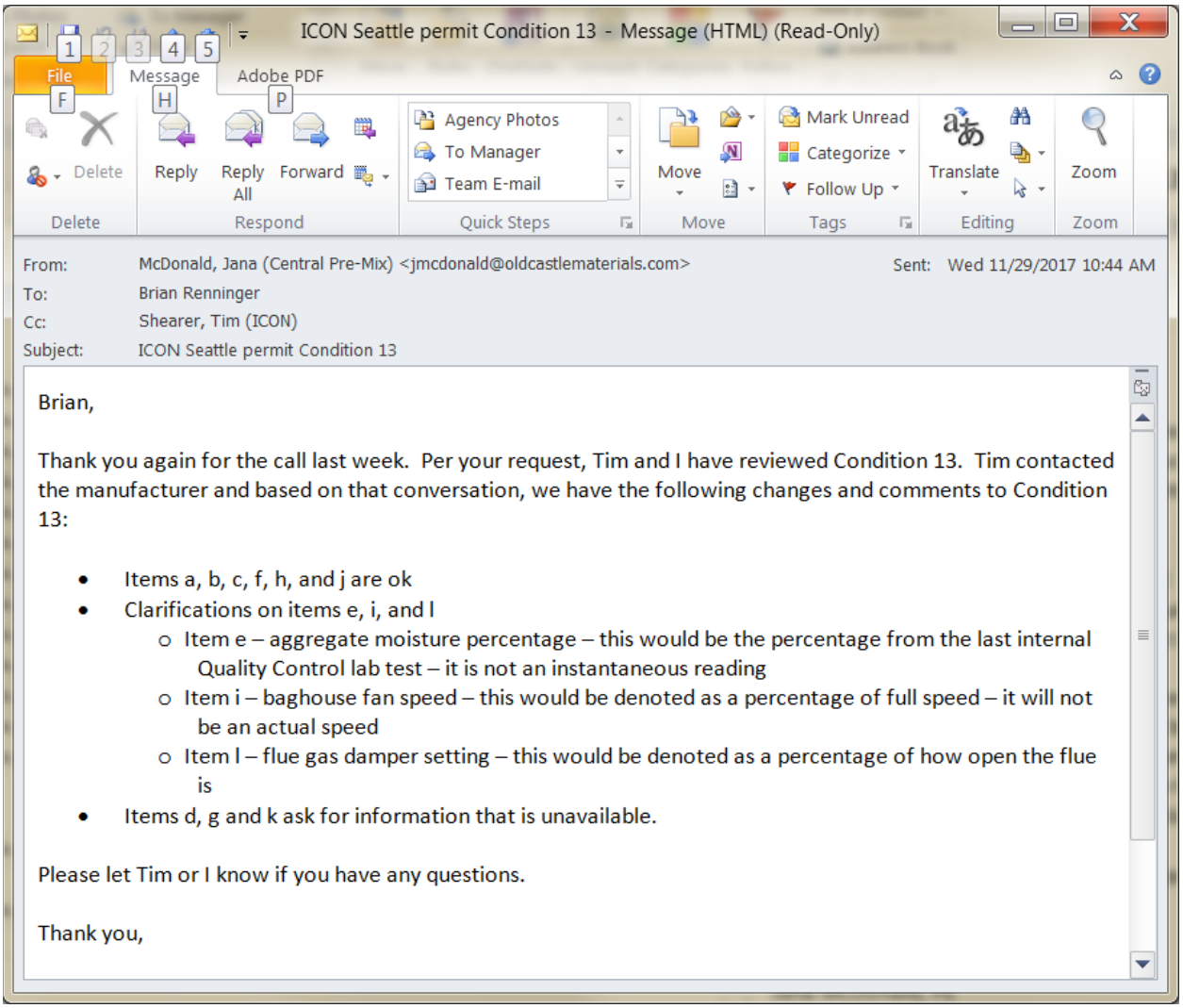
   Remove the words "at least" as it implies that ICON must retain records on site indefinitely which is inconsistent with PSCAA regulation.

Agency response: "At least" has been removed.

7. Icon Teleconference on Draft Worksheet, November 22, 2017

Discussed draft with Icon Personnel, Tim Shearer & Jana McDonald. Applicant requested that the source testing condition for hot mix and warm mix asphalt be separated into two conditions. Applicant discussed issued with testing warm mix and lack of large enough orders to conduct test in a single session. Applicant discussed hot mix temperature limit and how raising mix temperature limits maximum capacity of the unit. Applicant discussed the subsequent complication of source testing due to trying to test at maximum capacity versus maximum temperature given how high temperature lowers capacity. Applicant also mentioned that they would submit comments on the operating parameters to be measured during the emission tests.

7. Jana McDonald Email, November 29, 2017



ICON Seattle permit Condition 13 - Message (HTML) (Read-Only)

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From: McDonald, Jana (Central Pre-Mix) <jmcdonald@oldcastlematerials.com> Sent: Wed 11/29/2017 10:44 AM
To: Brian Renninger
Cc: Shearer, Tim (ICON)
Subject: ICON Seattle permit Condition 13

Brian,

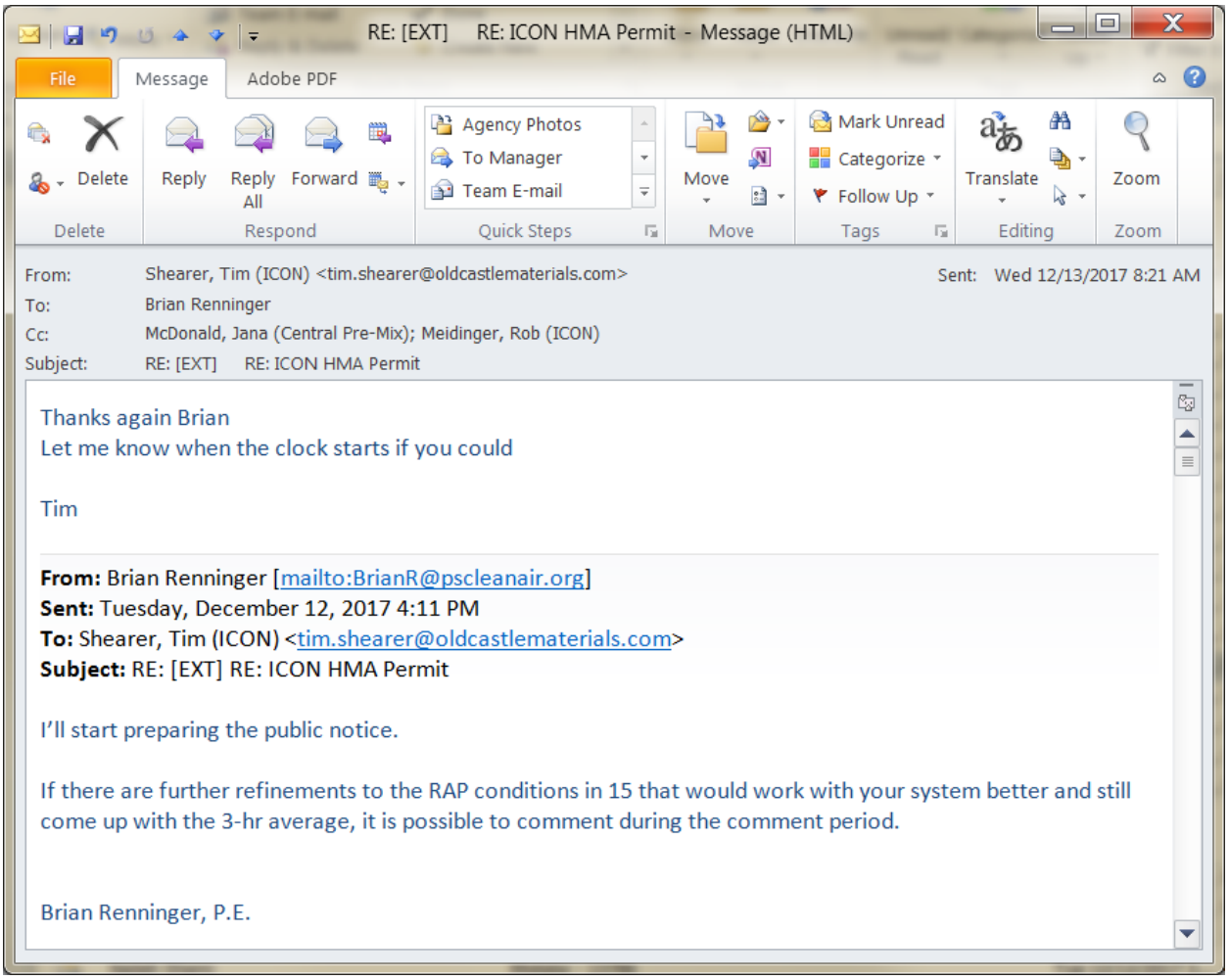
Thank you again for the call last week. Per your request, Tim and I have reviewed Condition 13. Tim contacted the manufacturer and based on that conversation, we have the following changes and comments to Condition 13:

- Items a, b, c, f, h, and j are ok
- Clarifications on items e, i, and l
  - Item e – aggregate moisture percentage – this would be the percentage from the last internal Quality Control lab test – it is not an instantaneous reading
  - Item i – baghouse fan speed – this would be denoted as a percentage of full speed – it will not be an actual speed
  - Item l – flue gas damper setting – this would be denoted as a percentage of how open the flue is
- Items d, g and k ask for information that is unavailable.

Please let Tim or I know if you have any questions.

Thank you,

8. Tim Shearer Email, November 29, 2017



RE: [EXT] RE: ICON HMA Permit - Message (HTML)

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Delete | Respond | Quick Steps | Move | Tags | Editing | Zoom

From: Shearer, Tim (ICON) <tim.shearer@oldcastlematerials.com> Sent: Wed 12/13/2017 8:21 AM
To: Brian Renninger
Cc: McDonald, Jana (Central Pre-Mix); Meidinger, Rob (ICON)
Subject: RE: [EXT] RE: ICON HMA Permit

Thanks again Brian
Let me know when the clock starts if you could

Tim

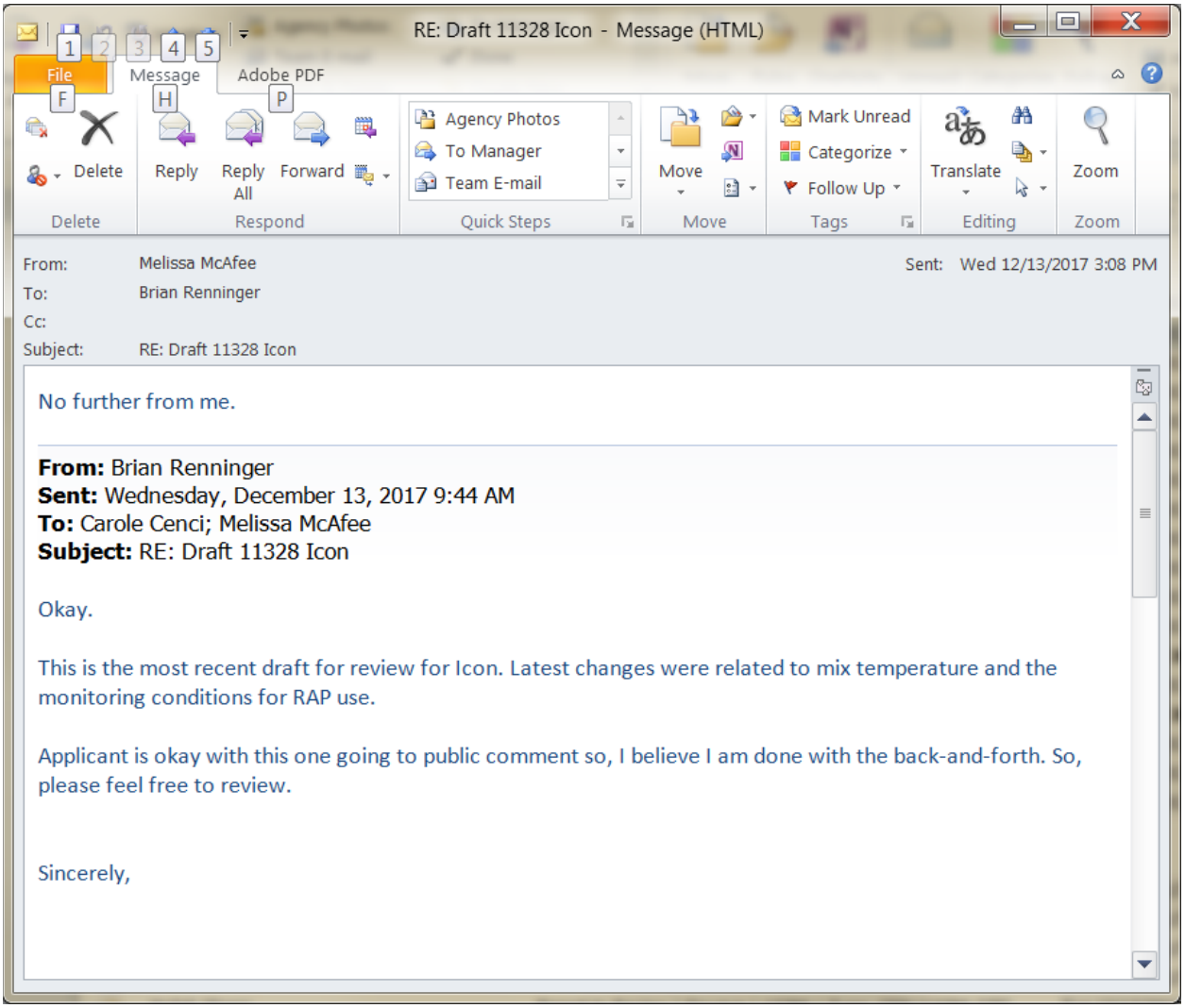
From: Brian Renninger [mailto:BrianR@pscleanair.org]
Sent: Tuesday, December 12, 2017 4:11 PM
To: Shearer, Tim (ICON) <tim.shearer@oldcastlematerials.com>
Subject: RE: [EXT] RE: ICON HMA Permit

I'll start preparing the public notice.

If there are further refinements to the RAP conditions in 15 that would work with your system better and still come up with the 3-hr average, it is possible to comment during the comment period.

Brian Renninger, P.E.

9. Email from Mellissa McAfee, December 13, 2017



M. REVIEWS

Inspector Name	Melissa McAfee	Date: 12/13/17
Second Reviewer	Carole Cenci	Date: 12/19/17
Source Name	Tim Shearer	Date: 12/13/17