Notice of Construction (NOC) Worksheet

PUGET SOUND
Clean Air Agency

Source: Western Pneumatic Tube Co	**NOC Number:** 11987
Installation Address: 835 6th St S | Kirkland, WA 98033	**Registration Number:** 20100
Contact Name: Alan Haake	**Contact Email:** alan.haake@leggett.com
Applied Date: 05/11/2020	**Contact Phone:** (425) 890-3988
Engineer: Maggie Corbin	**Inspector:** Manolo Zaldivar

A. DESCRIPTION

For the Order of Approval:

One UltraKool Model 408-48-37 vapor degreaser with a 155 ft^2 (14.4 m^2) surface area using a stabilized n-propyl bromide solvent.

Facility

Western Pneumatic is a custom producer of welded metal tubing made from stainless steel, nickel, titanium, and aluminum alloys. The facility started producing tubes in 1952. This high specification tubing is manufactured for structural, hydraulic, and pneumatic systems in a wide variety of applications, from submersible pumps to aircraft and spacecraft components.

Western Pneumatic's raw materials (metal alloys) are received in sheet form. These flat or coiled sheets are trimmed (slit) to size, formed and welded on one of several tungsten-inert gas shielded arc welding lines. The sheet edges are fused together by heat alone. The welded tubing is further refined by drawing, degreasing, annealing, and pickling. These processes are described below.

- Drawing is a metal working operation that precisely sizes tube wall thickness and diameter. The tubes are coated with a lubricant prior to drawing to assist in the drawing process.
- Degreasing is necessary for tubes that have been through the drawing process and have a coating of lubricant. Degreasing is conducted in the vapor degreaser.
- Annealing is conducted in a 1 MMBtu/hr atmospheric, natural gas furnace. Tubing which has been cold-worked is passed through seven in-line furnace "barrels," or cells, to soften the metals for further work.
- Pickling is necessary to remove the metal oxide/hydroxide scale formed on tubes during annealing. Annealed tubes are bathed in pickling tanks containing a solution of 8% nitric acid, 4% hydrofluoric acid, and 88% water. The tubes are occasionally pre-soaked in a tank containing a solution of 6% potassium permanganate, 15% sodium hydroxide, and 81% water. There are two tanks (one 800 gallon and one 1000 gallon) containing the acidic pickling solution, and one tank (800 gallons) containing the potassium permanganate solution.

Permit History

There are only two NOCs related to the operation at this facility:

Baghouses: NOC Order of Approval No. 8549 was issued for two baghouses that were installed in 2002. One baghouse rated at 1,500 cfm controls emissions from the tube grinding process and is still in place. A second baghouse rated at 2400 cfm baghouse was found to be oversized for the operation which it was performing and was replaced by a 1000 cfm baghouse. At the time, it was determined that permitting was not required.

Vapor Degreaser: A degreaser was originally reviewed and permitted in 1990 under NOC 3364. The degreaser employed trichloroethylene, a hazardous air pollutant. The only specific operating condition in the Order was to install a refrigerated freeboard chiller.

In 2007, Western Pneumatic requested approval to install a new degreaser using n-propyl bromide solvent to replace the trichloroethylene degreaser. This was reviewed and approved under NOC 9636. I reviewed the application and the following information was included:

- Make and Model: UltraKool Model 408-48-37
- Hours of operation at time of review: 6:00 AM on Monday through 6:00 AM on Friday
- Maximum Temperature of Solvent: 159 F
- Vapor Pressure >100 mm Hg
- Distance from top of tank to the bottom of coils: 42”
- Distance from top of tank to the top of coils: 42”
- Width: 54”
- Length: 414”
- Cover: Power, bi-parting
- Refrigerated Freeboard Chiller Temperature: Below freezing
- No sprayer pump
- No exhaust system on the vapor degreaser

Other equipment located at the facility:

- 1.0 MMBtu/hr natural gas boiler (exempt from NOC requirements)
- Annealing furnace installed in 1962 (not modified)
- Pickling tanks installed in 1978 – 2 acid tanks, 1 caustic tank
- 3000-gallon solvent storage tank installed in 1962
- Plastic Lubrication application installed in 1962

Based on the potential emissions calculations, I requested additional information about the cutoff saws and associated baghouses to determine if those needed permitting. On 6/15/20, the applicant submitted the following information noting the cutoff saws were exempt:

Regarding the 4 Cutoff Saws:
Do-All – no baghouse collection device; exempt from permitting under Puget Sound Regulation 1 Section 6.03 (c)(39)
Torit (1500 cfm) – baghouse collection devices; regulated by PSCAA NOC No. 8549

Cambelmatic (2400 cfm) – baghouse collection devices regulated by PSCAA NOC No. 8549
ME Hydraulic – baghouse collection devices exempt; exempt from permitting under Puget Sound Regulation 1 Section 6.03 (c)(39).

Proposed Action:

The applicant is proposing to modify the existing NOC Order of Approval 9636 on the vapor degreaser to include a limit on VOC emissions in accordance with WAC 173-400-111(8):

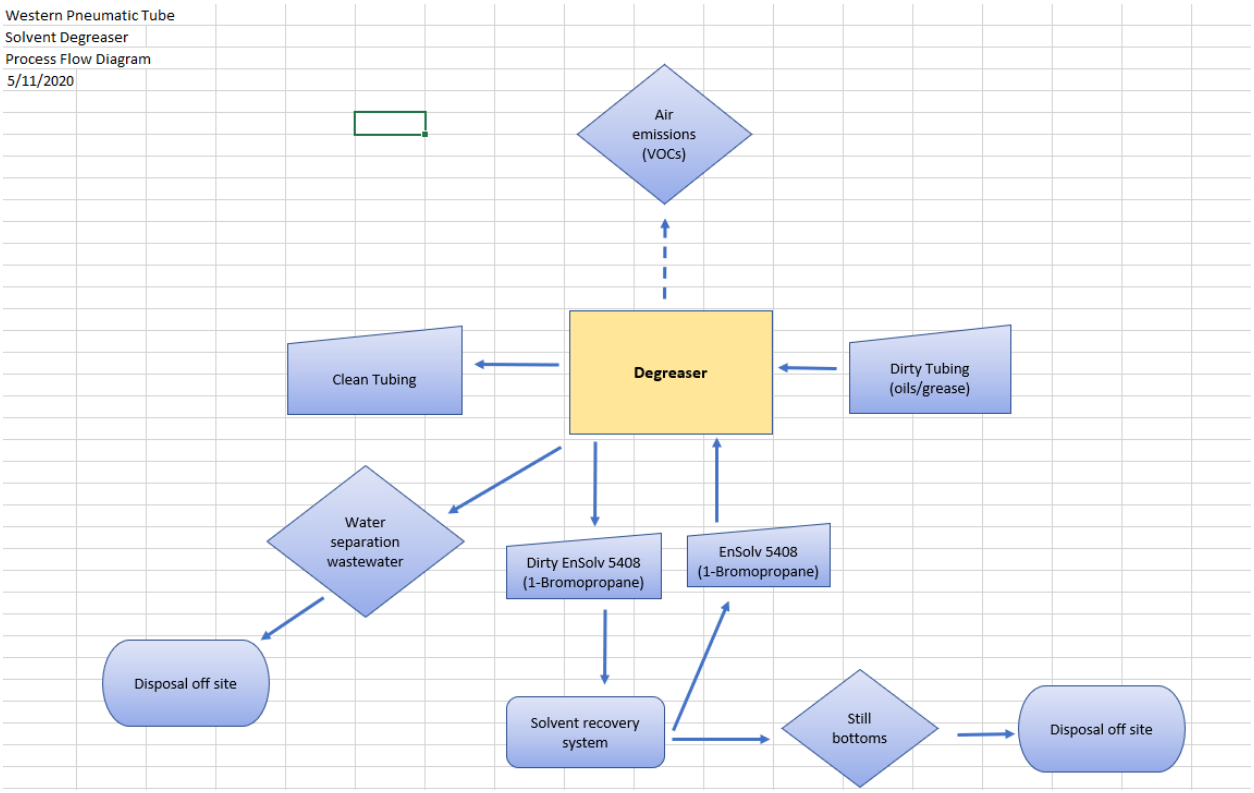
(8) Change of conditions or revisions to orders of approval.
(a) The owner or operator may request, at any time, a change in the conditions of an approval order and the permitting authority may approve the request provided the permitting authority finds that:
(i) The change in conditions will not cause the source to exceed an emissions standard set by regulation or rule;
(ii) No ambient air quality standard will be exceeded as a result of the change;
(iii) The change will not adversely impact the ability of the permitting authority to determine compliance with an emissions standard;
(iv) The revised order will continue to require BACT for each new source approved by the order except where the Federal Clean Air Act requires LAER; and
(v) The revised order meets the requirements of WAC 173-400-111, 173-400-112, 173-400-113, 173-400-720, 173-400-830, and 173-460-040, as applicable.
(b) Actions taken under this subsection are subject to the public involvement provisions of WAC 173-400-171 or the permitting authority's public notice and comment procedures.
(c) The applicant must consider the criteria in 40 C.F.R. 52.21 (r)(4) (in effect on the date in WAC 173-400-025) or 173-400-830(3), as applicable, when determining which new source review approvals are required.

I reviewed the original application and technical worksheet for NOC 9636. A discussion of BACT is included in Section E "BACT Review" of this worksheet. I verified that no modifications were made to the degreaser and therefore a new BACT determination is not required. At the time of permit issuance, n-propyl bromide was not listed as a toxic air contaminant in WAC 173-460-150, but the stabilizers in the solvent were toxic air pollutants and reviewed. It was determined at the time of issuance that tBACT was not more stringent than BACT. I have retained the original conditions that reflected the BACT determination under Order 9636.

I also reviewed the potential emission estimates from the original application and concur that this does not reflect an increase in emissions. A detailed discussion of emissions is included in Section F "Emission Estimates" of this worksheet.

Based on this analysis, WAC 173-400-111(8) can be used to add a limit since the change in conditions will not result in an exceedance of an emission standard, no ambient air quality standard will be exceeded as a result of the change, the change will not adversely impact the ability of the Agency to determine compliance with an emission standard, the revised order will continue to require BACT, and the revised order meets the applicable WAC requirements listed in WAC 173-400-111(8)(a).

Process Diagram:
A process diagram was submitted with the application:



B. DATABASE INFORMATION

New NSPS due to this NOCOA?	**No**	**Applicable NSPS:**	**Delegated?**
New NESHAP due to this NOCOA?	**No**	**Applicable NESHAP:**	**Delegated?**
New Synthetic Minor due to this NOCOA?	**Yes**		

This request to limit emissions from the facility will limit emissions below major source threshold for the Title V operating permit program.

C. NOC FEES AND ANNUAL REGISTRATION FEES

NOC Fees:

Fees have been assessed in accordance with the fee schedule in Regulation I, Section 6.04. All fees must be paid prior to issuance of the final Order of Approval.

Fee Description	Cost	Amount Received (Date)
Filing Fee	$ 1,150	
Modification to Permit Condition on Equipment	$600	
Establishing Voluntary Limit Concurrent with NOC Application Review	$2000	
Public Notice Fee	$700	
Filing received		$ 1,150 (5/11/20)
Additional fee received		$3,300 (9/5/20)
Total	**$4,450**	

Registration Fees:

Registration fees are assessed to the facility on an annual basis. Fees are assessed in accordance with Regulation I, Section 5.07. No change in fee since the $2,300 additional fee is charged for facilities with annual emissions that meet or exceed emission thresholds as specified in 5.03(a)(3) or have a federally enforceable limit in accordance with Section 5.03(a)(2). The database has been updated to reflect emission capped.

Bill To:
Western Pneumatic Tube Co **835 6th St S** **Kirkland, WA 98033** **Attention: Accounts Payable**

Invoice Date:	Invoice #:
November 18, 2019	20200057
Due Date:	**Terms:**
January 02, 2020	Net 45 Days
Facility ID (Registration #):	
20100	

Site Address: ***Western Pneumatic Tube Co***
835 6th St S, Kirkland, WA 98033

The annual registration fee is required by Washington State law and Puget Sound Clean Air Agency's Regulation I.

Facility Fees and Applicable Regulations			Charges
Base Fee for Registered Sources. Reg I, 5.07(c)			$ 1,150.00
Reg I, 5.03(a)(3) - Facilities with annual emissions that meet or exceed thresholds Reg I, 5.03(a)(5) - Facilities with gas or odor control equipment (>= 200 cfm) Reg I, 5.03(a)(6) - Facilities with particulate control equipment (>= 2,000 cfm)			
Additional Fees:			
Reg I, 5.07(c)(2) - Facilities with annual emissions that meet or exceed thresholds			$ 2,300.00
			$ 3,450.00
Emission Surcharges - Reg I, 7.07(b)(2)	**Tons in 2018**	**Per Ton**	
VOC (Volatile Organic Compounds)	52	$ 60	$ 3,120.00
			$ 3,120.00
Fee Totals			
TOTAL REGISTRATION FEE			**$ 6,570.00**
The Total Registration Fee is due by January 02, 2020. If unpaid after January 02, 2020, the facility may be subject to enforcement action with civil penalties (Reg I, 5.07(b)).			

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D. STATE ENVIRONMENTAL POLICY ACT (SEPA) REVIEW

State Environmental Policy Act (SEPA) review was conducted in accordance with Regulation I, Article 2. The SEPA review is undertaken to identify and help government decision-makers, applicants, and the public to understand how a project will affect the environment. A review under SEPA is required for projects that are not categorically exempt in WAC 197-11-800 through WAC 197-11-890. A new source review action which requires a NOC application submittal to the Agency is not categorically exempt.

A new SEPA determination is not required because the potential impacts from this project were reviewed under SEPA by the Puget Sound Clean Air Agency and a DNS was issued with NOC 9636 on 8/9/07. A copy of this DNS is included below and is being relied upon for this project.


9636-dns.pdf

E. BEST AVAILABLE CONTROL TECHNOLOGY (BACT) REVIEW

Best Available Control Technology (BACT)

New stationary sources of air pollution are required to use BACT to control all pollutants not previously emitted, or those for which emissions would increase as a result of the new source or modification. BACT is defined in WAC 173-400-030 as, “an emission limitation based on the maximum degree of reduction for each air pollutant subject to regulation under Chapter 70.94 RCW emitted from or which results from any new or modified stationary source, which the permitting authority, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such source or modification through application of production processes and available methods, systems, and techniques, including fuel cleaning, clean fuels, or treatment or innovative fuel combustion techniques for control of each pollutant.”

An emissions standard or emissions limitation means “a requirement established under the Federal Clean Air Act or Chapter 70.94 RCW which limits the quantity, rate, or concentration of emissions of air contaminants on a continuous basis, including any requirement relating to the operation or maintenance of a source to assure continuous emission reduction and any design, equipment, work practice, or operational standard adopted under the Federal Clean Air Act or Chapter 70.94 RCW.”

Best Available Control Technology for Toxics (tBACT)

New or modified sources are required to use tBACT for emissions control for TAP. Best available control technology for toxics (tBACT) is defined in WAC 173-460-020 as, “the term defined in WAC 173-400-030, as applied to TAP.”

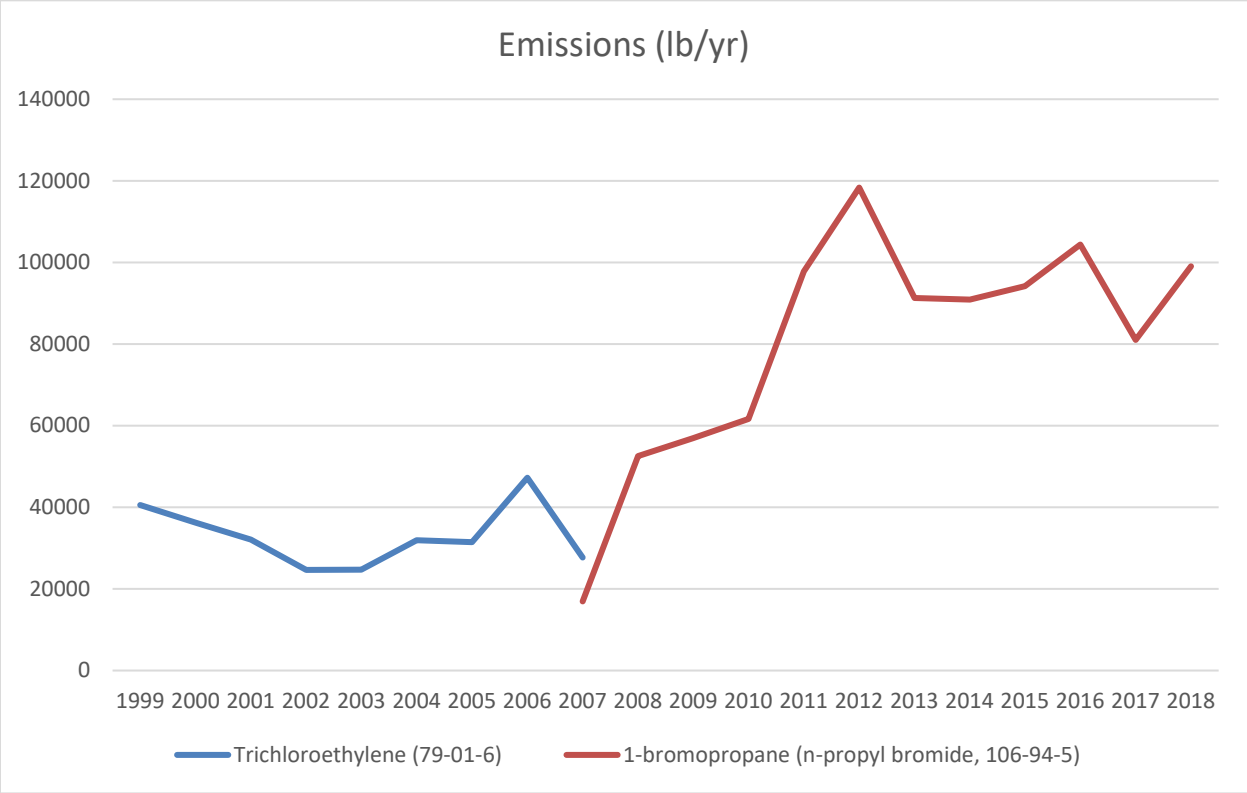
Analysis

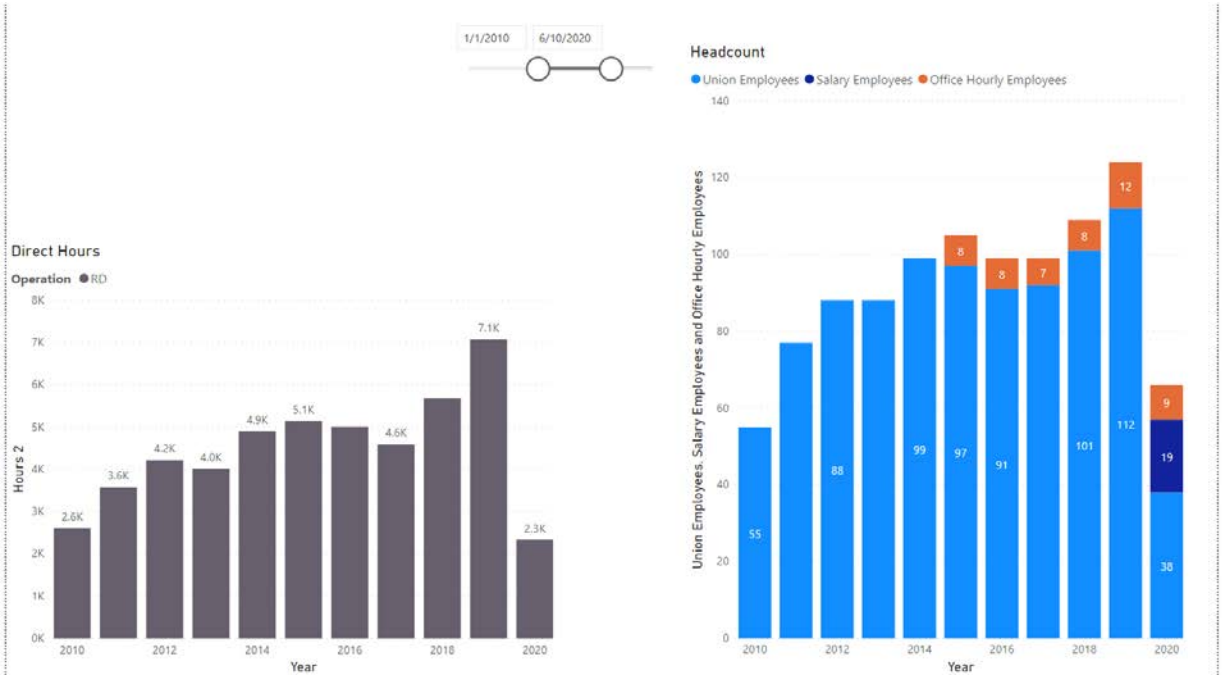
In this case, there is no increase in emissions since the degreaser has not been modified. I verified that the degreaser in place is consistent with the original application and the applicant verified there has

been no physical modification to the degreaser other than improvements such as improving the design of the cover which would result in a potential decrease in emissions. There has been an increase in actual emissions over time, but the applicant believes those are the result of increased production, and not from a change in the method of operation. The applicant provided this information by e-mail on 6/15/20 regarding the increase in actual emissions:

"Below and attached is information that supports our stand that there was no modification (as defined in WAC 173-400-030) made to the Western Pneumatic Tube Degreaser that would have triggered review of the operation. The increase in NPB emissions between 2010 and 2012 was to the best of our knowledge the result of increased production. Attached is your chart demonstrating NPB emissions, along with direct hours and employee headcount. Since all tubes manufactured pass through the degreaser, direct labor hours and employee headcount correlate with increased production and increased degreaser usage.

No modifications have been made to the degreaser that would increase emissions. The degreaser tank equipment and dip process is fairly simple with emissions based on the number of tubes (sling loads) processed per hour. Emissions are released when the degreaser lid is opened to insert and remove baskets of tubes. There is some potential for fugitive emissions from small openings in the lid for the cable system that raises and lowers tubes, however required control systems are in place. The degreaser contains a chiller system designed to control fugitive emissions and operating procedures are in place to ensure the lid is closed as much as possible. Over the past few years, the chiller cooling system has been repaired and improved; a better fitting lid designed and installed; and employee operating procedures improved. All of these measures were designed to reduce emissions. The degreaser is operated in compliance with all BACT criteria, and as indicated in the NOC."





BACT was based on the requirement in WAC 173-460-060(5) at the time which included:

- A cover which will be closed at all times except when processing work
- A facility for draining cleaned parts such that the drained solvent is returned to the solvent tank;
- Vapor degreasers shall have:
  - A high vapor cutoff thermostat with manual reset; and
  - Either a freeboard ratio greater than or equal to 1.00 or a refrigerated freeboard chiller; and
- The operation of any solvent metal cleaner shall meet the following requirements:
  - Solvent shall not leak from any portion of the degreasing equipment;
  - Solvent, including waste solvent, shall be stored in closed containers and shall be disposed of in such a manner as to prevent its evaporation into the atmosphere;
  - Degreasers shall be constructed to allow liquid solvent from cleaned parts to drain into a trough or equivalent device and return to the solvent tank.
- For open-top vapor degreasers, solvent drag-out shall be minimized by the following measures:
  - Racked parts shall be allowed to drain fully;
  - Work load shall be degreased in the vapor zone until condensation ceases;
  - When using a powered hoist, the vertical speed of parts in and out of the vapor zone shall be less than three meters per minute (ten feet per minute);
  - When the cover is open, the lip of the degreaser shall not be exposed to steady drafts greater than 15.3 meters per minute (fifty feet per minute); and
  - When equipped with a lip exhaust, the fan shall be turned off when the cover is closed.

Although the EPA NESHAP (40 CFR 63, Subpart T) does not apply to n-propyl bromide, the NESHAP was used for guidance in setting the appropriate temperature for the air blanket when a freeboard refrigeration device is used and for determining compliance with reduced room draft.

I recommend retaining the original conditions although the monitoring requirement for the chilled blanket and the manual hoist have been updated to clarify what the monthly monitoring to demonstrate compliance must include.

F. EMISSION ESTIMATES

Proposed Project Emissions

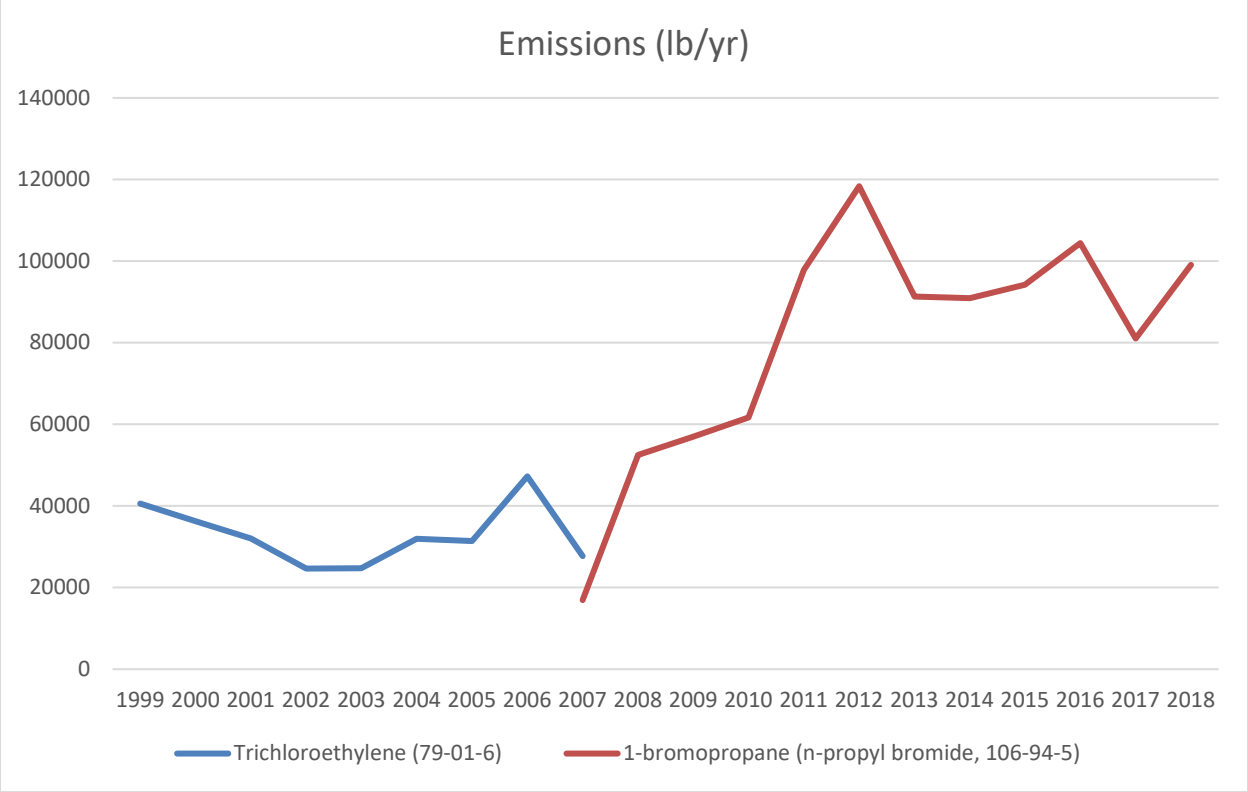
Actual Emissions

Actual emissions (pounds per year) from the vapor degreaser operation are summarized below:

Chemical Name	CAS	2019	2018	2017	2016	2015
1,2-Epoxybutane (1,2-Butylene oxide)	106-88-7	310	308	252	324	292
1-bromopropane (n-propyl bromide)	106-94-5	96989	99052	81060	104376	94231
Nitromethane	75-52-5	310	308	252	324	292

Emissions are associated with the use of EnSolv 5408 which was reviewed in the original permit. A second solvent, Spec 490 was also reviewed but is no longer used in the degreaser.

The primary emissions from the degreaser are n-propyl bromide. This pollutant was not a listed toxic air contaminant until the recent revision of WAC 173-460. Therefore, it was reviewed as a VOC only and BACT was applied for control of n-propyl bromide. The graph below shows the dramatic increase between 2010 and 2012 of n-propyl bromide associated with degreaser operations. As noted in Section E "BACT Review" above, the facility reviewed records and believes are the result of increased production. There was no change in the method of operation or a physical change to the degreaser.



Potential Emissions

The permitted potential to emit calculations use in reviewing the vapor degreaser under NOC 9636 were based on prorating the emissions based on hours of operation. The application indicated the tank was operated 24 hours/day, 5 days per week. The assumed actual usage was estimated based on emissions of TCE in the old vapor degreaser. Potential emissions were calculated based on 8760 hours per year which resulted in an emission of n-propyl bromide of 38.5 tons/year. There were lower emission of other pollutants that were listed in WAC 173-460-150 as toxic air pollutants that were evaluated for both the EnSolv-5408 (currently in use) and the Tech Kleen Product:

VOC, HAP, and TAC emissions based on 77,000 lb/yr of solvent emitted:

			VOC	HAP	TAC	ASIL	Class
If EnSolv-5408 is used:							
nPB	71610	Lb/yr	Yes	No	No		
nitromethane	32	Lb/yr	Yes	No	Yes	830	B
1,2 butylene oxide	32	Lb/yr	Yes	Yes	Yes	20	B
Total lb/yr:			**71,675**	**32**	**65**		
If Tech Kleen Product is used:							
nPB	69300	Lb/yr	Yes	No	No		
2-propanol	7700	Lb/yr	Yes	No	Yes	3300	B
Total lb/yr:			**77,000**	**0**	**7,700**		

Based on a review of this calculation, this did not adequately project potential emissions. The assumption that usage of TCE is the old degreaser and n-propyl bromide in the new degreaser would be equivalent was not supported. In addition, prorating of hours does not accurately reflect potential emissions from a degreaser since the unit may be on but not in use and the majority of the emissions will be when the unit is in use. In addition, at the time of permit issuance, the Agency was using EPA guidance that if actual emissions were below 50% of the major source thresholds, that was an indication that potential emissions were below major source thresholds. However, this did not provide any federally enforceable limit on emissions, and the assumptions made were found to be inaccurate based on actual emissions.

Although not a perfect method, the NESHAP for halogenated solvents does provide a calculation for potential to emit (PTE) in 40 CFR 63.465(e):

(e) An owner or operator of a source shall determine their potential to emit from all solvent cleaning operations, using the procedures described in paragraphs (e)(1) through (e)(3) of this section. A facility's total potential to emit is the sum of the HAP emissions from all solvent cleaning operations, plus all HAP emissions from other sources within the facility.

(e)(1) Determine the potential to emit for each individual solvent cleaning using equation 6.

$$PTE_i = H_i \times W_i \times SAI_i \quad (6)$$

Where:

PTE_i = the potential to emit for solvent cleaning machine i (kilograms of solvent per year).

H_i = hours of operation for solvent cleaning machine i (hours per year).

= 8760 hours per year, unless otherwise restricted by a Federally enforceable requirement.

W_i = the working mode uncontrolled emission rate (kilograms per square meter per hour).

= 1.95 kilograms per square meter per hour for batch vapor and cold cleaning machines.

= 1.12 kilograms per square meter per hour for in-line cleaning machines.

SAI_i = solvent/air interface area of solvent cleaning machine i (square meters). Section 63.461 defines the solvent/air interface area for those machines that have a solvent/air interface. Cleaning machines that do not have a solvent/air interface shall calculate a solvent/air interface area using the procedure in paragraph (e)(2) of this section.

PTE = 8760 hours/year * 1.95 * 14.4 m2 = 245981 kg/yr = 271 tons/year

This assumes there are not control measures put in place and that the degreaser is in working mode at all time which is not a realistic PTE since this degreaser does have control measures in place and normal operations would include downtime. However, a review of this PTE at the time of original permitting would have indicated a need for a federally enforceable limit in the original permit.

The applicant developed a PTE based on production and included with their facility-wide calculations. This method appears reasonable and probably best reflects a maximum emission rate without a federally enforceable limit:

The applicant tracked both actual hours of operation of the degreaser, NPB usage and the number of sling load during 2019 and developed an estimate of NPB usage per load. They also evaluated the maximum potential sling load capacity based on the 40 to 50 tubes/load and 44 loads in 24 hours. With that, the applicant estimated a PTE of NPB associated with the degreaser operations of 134 tons of VOC per year. The assumptions used in their calculations are shown below:

Potential NPB Usage/Emissions Theory:

2019 Usage: 10,182 gals/yr
2019 Hours of Operation (Degreaser): 6519 hrs/yr
Production metric: 6563 sling loads/yr

NPB usage per load
10,182 gals/yr x 1 yr/6563 loads = *1.55 gals NPB/load*

Potential sling load capacity:
40 to 50 tubes/load; 44 loads in 24 hours = *1.8 loads/hr*
1.8 loads/hr x 8760 hrs/yr = *15,768 loads/yr*

Potential NPB usage
1.55 gals NPB/load x 15,768 loads/yr = *24,440 gals NPB/yr*

This is well above the actual usage but again would have been an indication of the need for a limit when originally reviewed.

Based on the request to limit emissions from the degreaser so that facility-wide emissions remain below the major source threshold of 100 tons/year, the emission limit for VOCs associated with the degreaser operation are set at 70 tons/year. The applicant requested a limit of 14,000 gallons of NPB which would have resulted in a PTE of 77 tons per year from the degreasing operation. But this assumes PTE from the other VOC sources are accurately accounted for and it would also bring the PTE of the facility to 99 tons per year. Since this permit only restricts the emissions from the degreaser, I am recommending a slightly lower limit of 70 tons/year. The remaining potential VOC emissions from other operations at the facility are 22 tons/year (see Facility-wide Potential Emissions).

Facility-wide Emissions

Actual Emissions

Western Pneumatic Tube is a reporting source and reports actual emissions on an annual basis. An emission summary over the previous 10 years is shown below (tons per year):

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
HAP	0.261			2.115	0.142	0.283	0.146	0.163	0.126	0.154
TAC	1.725			4.499	2.074	2.4225	2.424	1.953	2.132	2.1455
VOC	30.336	30.953	49.0305	66.1895	48.2555	48.505	50.315	54.8035	43.2275	52.2695

Individual chemicals reported in 2018 in tons per year are shown below:

CAS	Chemical Name	Quantity
102-71-6	Triethanolamine	0.01
106-88-7	1,2-Epoxybutane (1,2-Butylene oxide)	0.15
106-94-5	1-bromopropane (n-propyl bromide)	49.66
109-60-4	n-Propyl acetate	0
123-86-4	n-Butyl acetate	0.01
141-78-6	Ethyl acetate	0
43207	Other Volatile Organic Compounds (VOC)	0.1
4/4/4719	Hexahydro-1,3,5,-tris-(2-Hydro XYL-S-Triazin)	0
56-81-5	Glycerol	0.01
64-17-5	Ethyl alcohol (Ethanol)	0.01
67-63-0	Isopropyl alcohol (Isopropanol)	0
68551-16-6	Aromatic hydrocarbons	0.12
71-36-3	n-Butyl alcohol	0
75-52-5	Nitromethane	0.15
78-93-3	2-Butanone (MEK; Methyl ethyl ketone)	1.99

Most of the emissions are associated with n-propyl bromide which is used in the vapor degreaser but the lubricant used to draw tubing also contains NPB (reported as Point 3, Segment 3) and NPB is also used to thin out Product 1.

Reporting Source? Yes

Potential Emissions

Facility-wide potential emissions were provided by the facility and are summarized below:

Emissions Source	PM_{10} $PM_{2.5}$	NOX	SOX	CO	VOC	Lead	CO_2
Welding	No Emissions From Gas Tungsten Arc Welding (GTAW)						
Planishing	No Emissions From Planishing						
Vapor Degreaser		-	-	-	134		-
Misc. Solvent & Draw Lube Emissions					18		
Sub Slab Depressurization System		-	-	-	3.36		-
Natural Gas Combustion	0.28	3.66	0.02	3.07	0.20		
HF&HNO3 Pickling	3	-	-	-	-		-
KMnO4 Cleaning	1	-	-	-	-		-
Do-All Saw	1						
DC Mill Cutoff Saw	1	-	-	-	-		-
ME Cutoff Saw	0	-	-	-	-		-
Cambelmatic Cutoff Saw	0	-	-	-	-		-
X-RayDust Collector	0	-	-	-	-		-
Fluorescent Penetrant	No Emissions From Fluorescent Penetrant						
Cooling Towers	0.0	-	-	-	-		-
Totals (Tons/yr)	***6.4***	***4***	***0***	***3***	***156***	***-***	***-***

The worksheet providing emission estimates are embedded below:

Final Maximum Emissions Limit Requ

The facility is a natural minor for all criteria pollutants and hazardous air pollutants except VOC. (Note: EPA is proposing to add n-propyl bromide to the HAP list which will change the status of this facility to major source of hazardous air pollutant and require submittal of an operating permit application.)

G. OPERATING PERMIT OR PSD

The Title V Air Operating Permit (AOP) program applicability for the entire source has been reviewed. Currently, n-propyl bromide is not an EPA hazardous air pollutant so this facility is not a major source of HAP. Adding the limit to the n-propyl bromide used at the facility limits emissions below major source thresholds of VOCs. The facility is currently a major source of VOCs.

Emission increases associated with this project were reviewed for Prevention of Significant Deterioration (PSD) Program applicability. The facility is not an existing PSD major source and the increase in emissions from this permitting action is below PSD thresholds.

H. AMBIENT TOXICS IMPACT ANALYSIS

The estimated potential toxic air pollutant (TAP) emissions were reviewed under NOC 9636 based on n-propyl bromide emissions of 71,610 lb/yr. Potential emissions were shown to be below the Small Quantity Emission Rates (SQER) in WAC 173-460-150 in place at the time:

TOXICS

	lb/yr	lb/hr	TAC?	ASIL	Class	SQER (lb/yr)	SQER (lb/hr)	Below SQER?
If EnSolv-5408:								
nPB	71610	8.2	No	NA				
nitromethane	32	0.0037	Yes	830	B	43748	5.0	Yes
1,2 butylene oxide	32	0.0037	Yes	20	B	1750	0.20	Yes
If Tech Kleen Product:								
nPB	69300	7.9	No	NA	---	---	---	---
2-propanol	7700	0.88	Yes	3300	B	43748	5.0	Yes

Based on the potential emissions with the new limit the more accurately reflects degreaser operations, the emissions of other toxic air pollutants would double but still be well below the SQER.

I. APPLICABLE RULES & REGULATIONS

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 9.11: 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.

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.

Washington State Administrative Code

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.

Federal

40 CFR 63, Subpart T only applies to degreasers using halogenated solvents including methylene chloride (CAS No. 75-09-2), perchloroethylene (CAS No. 127-18-4), trichloroethylene (CAS No. 79-01-6), 1,1,1-trichloroethane (CAS No. 71-55-6), carbon tetrachloride (CAS No. 56-23-5) or chloroform (CAS No. 67-66-3), or any combination of these halogenated HAP solvents. Degreasers using n-propyl bromide are currently not subject to this NESHAP.

There is a petition to list n-propyl bromide as a hazardous air pollutant. EPA has recently granted the petition based on the analysis that n-propyl bromide meets the criteria in 112(b)(3) of the Clean Air Act. EPA is currently completing the final listing analysis. Once complete, EPA will propose listing n-propyl bromide as a HAP. At that point, requirements will apply. For Western Pneumatic, this will change their status from an area source of HAPs to a major source of HAPs. The facility will have 12 months to submit a complete operating permit application. It is anticipated that once the chemical is listed as a HAP, EPA may revise the NESHAP regulating halogenated solvent cleaning (40 CFR 63, Subpart T) to include degreasers using this chemical.

J. PUBLIC NOTICE

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

New Construction Projects

Company	Address	Project Description	Date Posted	Contact Engineer
Western Pneumatic Tube Co	835 6th St S, Kirkland, WA 98033	The applicant is requesting a change to a condition in an existing permit to limit potential emissions from their vapor degreasing operations.	5/11/20	Maggie Corbin

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 VOCs on vapor degreaser operations. A 30-day public comment period was held from <date> through <date>. Notices that the draft materials were open to comment were published in the xxxx. The Agency posted the application, draft Order of Approval, and the draft worksheet on the Agency's website during the comment period.

Comments/No comments were received during the public 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:

EMISSION LIMITS

3. Emissions of Volatile Organic Compounds (VOCs) as defined in 40 CFR Part 51.100 emitted from the vapor degreaser shall not exceed 70 tons in any consecutive 12-month period. In order to demonstrate compliance with this limit, the owner or operator shall:
    a. Maintain a log of solvent additions and deletions from the vapor degreaser; and
    b. Within 30 days of the month, calculate and record emissions of VOCs based on solvent additions and deletions and the VOC contents of the solvent based on manufacturer's supplied data such as a safety data sheet, product data sheet or technical data sheet. Emissions from solvent removed from the degreaser in solid waste may also be subtracted from usage if the solvent composition has been determined through waste analysis based on at least three representative samples obtained in the previous 12-month period; and
    c. If VOC emissions from the degreaser exceed 65 tons of VOC during the previous 12-month period, notify the Agency, in writing, within 45 days of the end of that month.
4. The owner or operator shall calculate and record actual VOC emissions from activities at the facility for the previous calendar year no later than June 30 of each year. If VOC emissions at the facility exceed 90 tons, the owner or operator shall notify the Agency, in writing, no later than July 15 of that year.
5. The owner or operator may use EnSolv-5408, Tech Kleen AZ, or another stabilized n-propyl bromide solvent that contains the same constituents as these two solvents in the degreaser. An alternative solvent requires approval by the Agency in accordance with Regulation I, Article 6.

DESIGN AND OPERATING REQUIREMENTS

6. The refrigerated freeboard chiller shall be operated whenever the vapor degreaser is in use.
7. The chilled air blanket temperature measured at the center of the air blanket shall be maintained at 46 degrees F or less except when the coils are being thawed. When coils are thawed, the degreaser may only be in idle mode with the cover in place.
8. The freeboard ratio shall be maintained at 1.0 or greater.
9. The vapor degreaser shall be equipped with a cover that is free of cracks, holes, and other defects and that completely covers the cleaning machine opening when in place. The cover shall be closed at all times except when processing work in the degreaser, or during maintenance. The cover shall be closed to the maximum extent possible when parts are being degreased and during maintenance.
10. The degreaser shall be equipped with an automated parts handling system that moves parts at a speed of 10 feet per minute or less.

11. Parts shall be oriented such that solvent drains freely, and parts shall not be removed from the degreaser until dripping stops.
12. The degreaser shall be equipped with a high vapor cutoff thermostat with manual reset.
13. Waste solvent, still bottoms, and sump bottoms shall be collected and stored in closed containers. These containers may contain a pressure relief device, but shall not allow liquid to drain from the container.
14. At least once each calendar month, the owner or operator shall conduct the following inspections and log the inspection results:
    a. Check the chilled air blanket temperature using a thermometer or thermocouple to measure the temperature at the center of the air blanket during the idling mode, but not when coils are being thawed;
    b. Check the degreaser for leaks;
    c. Check if the cover is operating properly, completely covers the degreaser, is free of cracks, holes, and other defects;
    d. Check whether the high vapor cutoff thermostat is operating properly;
    e. Check whether the vapor-up thermostat is operating properly; and
    f. Check the hoist speed by measuring the time it takes for the hoist to travel a measured distance. The speed is equal to the distance in meters divided by the time in minutes (meters per minute).

    Adjustments or repairs shall be made within 15 days of detection of any problems or parameters outside of the limits specified by this Order of Approval. Western Pneumatic shall keep a log of all such adjustments and repairs.
15. All records required per this Order of Approval shall be kept on-site for at least two years and shall be made available to Agency personnel upon request.
16. This Order of Approval No. 11987 issued to add a VOC limit to degreaser operations cancels and supersedes Order of Approval No. 9636 dated August 9, 2007, upon issuance.

L. CORRESPONDENCE AND SUPPORTING DOCUMENTS

Stored in Agency E-mail Management System

M. REVIEWS

Reviews	Name	Date
Engineer:	Maggie Corbin	7/29/20
Inspector:	Manolo Zaldivar	8/4/10
Second Review:	John Dawson	7/30/20
Applicant Name:	Alan Haake/Theresa Block	8/26/20

Comment from Theresa Block submitted on 8/4/20:

Maggie,

Alan and I are checking all the details on the new NOC, but I did have the following questions/concerns. The degreaser as you know operates with a refrigerated freeboard chiller that contains one set of refrigeration coils. The current procedure is to unthaw the coils multiple times per day. During the unthaw process the temperature at the center of the air blanket will naturally exceed the 46 deg. temperature. The current SOP is to only unthaw the coils when the degreaser is in idle mode and the lid closed. Is this something that can be or should be included in the permit DESIGN AND OPERATING REQUIREMENTS?

Thanks

Theresa

DESIGN AND OPERATING REQUIREMENTS

3. The refrigerated freeboard chiller shall be operated whenever the vapor degreaser is in use.
4. The chilled air blanket temperature measured at the center of the air blanket shall be maintained at 46 degrees F or less.

14. At least once each calendar month, the owner or operator shall conduct the following inspections and log the inspection results:

    a. Check the chilled air blanket temperature using a thermometer or thermocouple to measure the temperature at the center of the air blanket during the idling mode;

I requested additional information to verify thawing the coils multiple times per day is within the manufacturer's standard operating procedures and not that there is a malfunction that is resulting in an increased emission of n-propyl bromide. On 8/13/20, the applicant submitted the following information:

The company that built the degreaser was UltraKook. They appear to be out of business; even their website is no longer active.
Maintenance had on file a letter dated 2017 indicating the new company for the degreaser was "Ultimate Degreasing Systems". They have an active website. http://ultimatedegreasingsystems.com/
The degreaser manual on file in the maintenance department, included information useful information under COLD TRAP OPERATING INSTRUCTIONS ...."4. The timer will provide a defrost cycle every hour. Each cycle is time initiated." (See attached scan of page)
Note: Alan is working to get the entire manual scanned.

Below is guidance from MacDonald-Miller Facility Solutions that maintains the degreaser:

Alan:
I am not aware of any published standards.
To the best of my recollection:
The company that built the unit set it to one time per hour.
Within the first month there were icing issues.
Interval was changed to two A hour per their instructions.
Your staff and I have verified the duration over the years as needed.

After the recent refurb I changed the interval back to one time per hour with no adverse effects.
It reminds to be seen it on time per hour will be suffice during our cool humid winter.
The defrost timer (it is original) is a 1 hour timer; if you wanted to try more then an hour interval the timer would need to be changed.

Sense operation of the degreaser is mission critical to your business the design is simple and robust. Changes may affect reliability.
The defrost cycle also insures compressor oil doesn't log in the evaporators.

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