

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

ENGINEERING DIVISION

APPLICATION PROCESSING AND CALCULATIONS

PAGES	PAGE
10	1
APPL. NO.	DATE
516126	12/07/10
PRCSD BY	CHCKD BY
REL	

APPLICANT'S NAME: Northrop Grumman Space and Mission Systems Corporation

FACILITY PERMIT ID# 800408

CONTACT PERSON: Ron Frazer

MAILING ADDRESS: ONE SPACE PARK DRIVE, R11/2000
REDONDO BEACH, CA 90278

EQUIPMENT ADDRESS: 1700 ROSECRANS AVE., BLDG D1
MANHATTAN BEACH, CA 90266

Title V Permit Revision:
Application No. 516127

**PERMIT TO CONSTRUCT
SECTION "H"**

Equipment Description:

PROCESS 4: Degreasers					
Equipment	Device ID	Connected To	Source Type/ Monitoring Unit	Emissions	Equipment Specific Conditions
DEGREASER, VAPOR, BARON-BLAKESLEE, MODEL MVR-574LE, VAPOR ZONE WIDTH: 1FT 2IN; HEIGHT: 2FT 3IN; LENGTH 3FT 5IN; Reference A/N 515126	D612		ADD		B59.21, B59.70, D322.2, H23.7, H339.1

Conditions:

F2.2 The operator shall limit the emissions from this facility as follows:

Contaminant	Emission Limit
VOC	Less than or Equal to 22 lbs in any one month.

To ensure compliance with the monthly Volatile Organic Compound (VOC) emission limit(s) of this condition, the operator shall comply with the following recordkeeping requirements:

- (1) The operator shall comply with Rule 109 (Recordkeeping for Volatile Organic Compound emissions)

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

ENGINEERING DIVISION

APPLICATION PROCESSING AND CALCULATIONS

PAGES	PAGE
10	2
APPL. NO.	DATE
516126	12/07/10
PRCSD BY	CHCKD BY
REL	

- (2) Within 14 calendar days after the end of each month, the operator shall total and record VOC emissions for the month from all equipment and operations covered by the monthly emission limit. The record shall include any procedures used to account for control device efficiencies and/or waste disposal. It shall be signed and certified for accuracy by the highest ranking individual responsible for compliance with District rules.
- (3) The operator shall maintain a single list which includes only the name and address of each person from whom the facility acquired VOC-containing material regulated by the District that was used or stored at the facility during the preceding 12 months.
- (4) The operator shall retain all purchase invoices for all VOC-containing material used or stored at the facility, and all waste manifests for all waste VOC-containing material removed from the facility, for five years.

For the purpose of this condition, the VOC emission limit shall be from all vapor degreasers operating under the Rule 1122 exemption pursuant to Rule 1122 (k)(2).

- B59.21 The operator shall not use the following material(s) in this device.
NESHAP halogenated solvents including but not limited to :
carbon tetrachloride
trichloroethylene
chloroform
methylene chloride
1,1,1 trichloroethane
perchloroethylene
- B59.70 The operator shall not use the following material(s) in this device.
Toxic Air Contaminants in Table 1 of Rule 1401 with a Listing Date of 9/10/10 or earlier.

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

ENGINEERING DIVISION

APPLICATION PROCESSING AND CALCULATIONS

PAGES	PAGE
10	3
APPL. NO.	DATE
516126	12/07/10
PRCSD BY	CHCKD BY
REL	

D322.2 The operator shall perform a monthly inspection of the cover to assure compliance with Rule 1122(c)(2)(A).

H23.5 This equipment is subject to the applicable requirements of the following rules or regulations:

Contaminant	Rule	Rule/Subpart
VOC	District Rule 1122	

H339.1 The operator shall determine compliance with rule 1122(e)(1)(B) requirements by measuring the temperature at the center of the air blanket once a month if the freeboard refrigeration device is used, or measuring the temperature at the center of the superheated solvent vapor zone once a month if superheated vapor system is used. In addition to the recordkeeping requirements in section K of this facility permit, the operator shall keep records of the corrective actions taken when monitoring demonstrates non-compliance.

Background

Northrop has filed application no. 516126 on 11/09/10, as a new construction of an open top vapor degreaser (D612). This new degreaser will be replacing D309 (a/n 445616) an existing operating vapor degreaser. This degreaser will be solely used for satellite electronics as defined under Rule 1122(k)(2)(A) and is limited to a facility cap of 22 lbs VOC per month.

This is a RECLAIM Cycle 2 and title V facility. The proposed project is considered as a "de minimus" significant permit revision to this facility title V permit.

District records indicate that during the last five years Northrop Grumman was issued two Notices of Violation (NOV). Notice P49771 was issued on 11/08/2006 for operating without submitting the 3rd quarter, cycle 1 emissions report in a timely manner. NOV P50342 was issued on 5/5/2010 for failure to conduct the source tests for boilers D365 and D457. These issues have been resolved and Northrop is now in full compliance.

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

ENGINEERING DIVISION

APPLICATION PROCESSING AND CALCULATIONS

PAGES	PAGE
10	4
APPL. NO.	DATE
516126	12/07/10
PRCSD BY	CHCKD BY
REL	

Emissions Calculations:

This equipment is subject to the facility cap of 22 lbs VOC per month.

Solvent	% VOC	VOC	Density lbs/gal	VOC Density lbs/gal
AK-225	0	Nopne	12.93	0
AK-225AES	4.9	Ethyl Alcohol-4.5% Nitro Methane-0.4%	11.18	0.548
AK-225T	14.9	Ethyl Alcohol-4.5% Nitro Methane-0.4% Cyclohexane-10%	12.43	1.852

Operating Schedule: 8 hrs/day, 30 days/month

ROG:

$$\begin{aligned}
 R1 = R2 &= 22 \text{ lbs/month} / (30 \text{ day/month}) / (8 \text{ hrs/day}) \\
 &= 0.0917 \text{ lbs/hr} \\
 &= 0.733 \text{ lbs/day} \\
 &\text{Not to exceed 22 lbs/month}
 \end{aligned}$$

Risk Assessment:

The material used in this device listed in the previous emission section has the following Hazardous Contaminants. None of which are subject to Rule 1401:

Material	CAS#	Contaminant	Wt%	1401 Contaminant
AK-225	422-56-0	HCFC-225ca	40-50	NO
	507-55-1	HCFC-225cb	60-50	NO
AK-225AES	422-56-0	HCFC-225ca	38-48	NO
	507-55-1	HCFC-225cb	57-47	NO
	64-17-5	Ethyl Alcohol	4.5	NO
	75-52-5	Nitromethane	0.4	NO
AK-225T	422-56-0	HCFC-225ca	34-42.6	NO
	507-55-1	HCFC-225cb	51.1-42.5	NO
	64-17-5	Ethyl Alcohol	4.5	NO
	75-52-5	Nitromethane	0.4	NO
	110-52-5	Cyclohexane	10.0	NO

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

ENGINEERING DIVISION

APPLICATION PROCESSING AND CALCULATIONS

PAGES	PAGE
10	5
APPL. NO.	DATE
516126	12/07/10
PRCSD BY	CHCKD BY
REL	

The emissions from this equipment D612 will be limited to 22 lbs VOC per month total and have no contaminants subject to Rule 1401 . D612 will be replacing D309. The addition of this equipment will not trigger a risk assessment and is exempt from the provisions of this rule under 1401(g)(1)(C) Functional Identical Replacement with no increase in toxic emissions. Compliance with this rule is expected.

(g) Exemptions

(1) The requirements of subdivision (d) shall not apply to:

(C) Functionally Identical Replacement

A permit unit replacing a functionally identical permit unit, provided there is no increase in maximum rating or increase in emissions of any toxic air contaminants. For replacement of dry cleaning permit units only, provided there is no increase in any toxic air contaminants.

Rule Review

Specific compliance with the following rules is expected.

Rule 212 (c)(1):This section requires a public notice for all new or modified permit units that emit air contaminants located within 1,000 feet from the outer boundary of a school.

No public notice is required since no school is located within 1,000 ft from the above site.

Rule 212 (c)(2):This section requires a public notice for all new or modified facilities that have on-site emission increases exceeding any of the daily maximums as specified by Rule 212(g).

The proposed project will not result in an emission increase from the facility in excess of the limits specified in Rule 212(g). Therefore, a public notice requirement will not be required under this section of the rule.

Rule 212(c)(3):This section requires a public notice for all new or modified permit unit with increases in emissions of toxic air contaminants listed in Table I of Rule 1401 resulting in MICR greater than 1E-6 per permit unit or greater than 10E-6 per facility.

The proposed project will not result in an emission increase of toxic emissions associated with the operation of the degreaser. As discussed in additional detail in the evaluation, there are no toxic emissions subject to Rule 1401 being emitted from this equipment and is exempt pursuant to

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

ENGINEERING DIVISION

APPLICATION PROCESSING AND CALCULATIONS

PAGES	PAGE
10	6
APPL. NO.	DATE
516126	12/07/10
PRCSD BY	CHCKD BY
REL	

1401(g)(1)(C). This addition will not result in an increased MICR nor a hazard index since the material usage doesn't have any toxics. Public notice is not required under this section of the rule.

Rule 212(g): This section requires a public notice for all new or modified sources that result in emission increases exceeding any of the daily maximums as specified by Rule 212(g).

The emission increase due to the operation of the degreaser is summarized below:

	Maximum Daily Emissions					
	<u>ROG</u>	<u>NO_x</u>	<u>PM₁₀</u>	<u>SO₂</u>	<u>CO</u>	<u>Pb</u>
Emission increase	0.73	0	0	0	0	0
MAX Limit (lb/day)	30	40	30	60	220	3
Compliance Status	Yes	Yes	Yes	Yes	Yes	Yes

A Rule 212(g) notice will not be required since the emissions from the degreaser will not exceed the maximum limit of this rule.

Rule 401: With proper operation and maintenance compliance with this rule is expected.

Rule 402: With proper operation and maintenance compliance with this rule is expected.

Rule 1122: This equipment is being used only for cleaning of electrical components that are designed to travel 100 miles above the earth's surface and will be limited to 22 lbs VOC per month for all vapor degreasers that are operating under Rule 1122(k)(2) exemption to be exempt from the requirements under 1122(e)(3) . Compliance with this rule is expected.

REGULATION XIII: The proposed project will result in an increase in ROG emissions. The increase in emissions is as follows:

ROG (lb/day)

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

ENGINEERING DIVISION

APPLICATION PROCESSING AND CALCULATIONS

PAGES	PAGE
10	7
APPL. NO.	DATE
516126	12/07/10
PRCSD BY	CHCKD BY
REL	

0.73

RULE 1303(a)(1): The degreaser will be equipped with a freeboard ratio of 1.0 a refrigerated freeboard chiller and will comply with the operational requirements of Rule 1122.

RULE 1303(b)(1): No modeling is required for VOC.

RULE 1303(b)(2): The proposed project will result in a VOC emission increase for the facility. The emissions from the degreaser will be limited to a facility cap of 22 lbs VOC/month. Offsets are not required since the facility emissions for these space vehicle parts have an existing VOC cap of 22 lbs/month.

RULE 1303(b)(4): The facility is expected to be in full compliance with all applicable rules and regulations of the District.

RULES 1303(b)(5)(A) & 1303(b)(5)(D): The proposed project does not qualify as a major modification at a major polluting facility. Further, the proposed project is exempt from CEQA according to the responses provided on Form 400-CEQA for this project. Their responses in "Review of Impacts Which May Trigger CEQA" on Form 400-CEQA were all marked "No".

RULE 1303(b)(5)(B): The Increase in emissions associated with the proposed addition of this degrease does not qualify as a major modification at an existing major polluting facility.

Rule 1401: Toxics: Rule 1401 contains the following requirements:

1) *(d)(1) MICR and Cancer Burden* - The cumulative increase in MICR which is the sum of the calculated MICR values for all toxic air contaminants emitted from the new, relocated or modified permit unit will not result in any of the following:

(A) an increased MICR greater than one in one million (1.0×10^{-6}) at any receptor location, if the permit unit is constructed without T-BACT;

(B) an increased MICR greater than ten in one million (1.0×10^{-5}) at any receptor location, if the permit unit is constructed with T-BACT;

(C) a cancer burden greater than 0.5.

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

ENGINEERING DIVISION

APPLICATION PROCESSING AND CALCULATIONS

PAGES	PAGE
10	8
APPL. NO.	DATE
516126	12/07/10
PRCSD BY	CHCKD BY
REL	

- 2) *(d)(2) Chronic Hazard Index* - The cumulative increase in total chronic HI for any target organ system due to total emissions from the new, relocated or modified permit unit will not exceed 1.0 at any receptor location.
- 3) *(d)(3) Acute Hazard Index* - The cumulative increase in total acute HI for any target organ system due to total emissions from the new, relocated or modified permit unit will not exceed 1.0 at any receptor location.

The addition of this equipment will not trigger a risk assessment and is exempt from the provisions of this rule under 1401(g)(1)(C) Functional Identical Replacement with no increase in toxic emissions. Compliance with this rule is expected.

(g) Exemptions

(1) The requirements of subdivision (d) shall not apply to:

(C) Functionally Identical Replacement

A permit unit replacing a functionally identical permit unit, provided there is no increase in maximum rating or increase in emissions of any toxic air contaminants. For replacement of dry cleaning permit units only, provided there is no increase in any toxic air contaminants.

REG. XX: This modification has no impact on NOx. Compliance with this Regulation is expected.

REGULATION XXX:

This facility is in the RECLAIM program. The proposed project is considered as a "de minimis significant permit revision" for non-RECLAIM pollutants or hazardous air pollutants (HAPs), and a "minor permit revision" for RECLAIM pollutants to the RECLAIM/Title V permit for this facility.

Non-RECLAIM Pollutants or HAPs

Rule 3000(b)(6) defines a "de minimis significant permit revision" as any Title V permit revision where the cumulative emission increases of non-RECLAIM pollutants or HAPs from these permit revisions during the term of the permit are not greater than any of the following emission threshold levels:

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

ENGINEERING DIVISION

APPLICATION PROCESSING AND CALCULATIONS

PAGES	PAGE
10	9
APPL. NO.	DATE
516126	12/07/10
PRCSD BY	CHCKD BY
REL	

Air Contaminant	Daily Maximum (lbs/day)
HAP	30
VOC	30
NOx*	40
PM10	30
SOx*	60
CO	220

* Not applicable if this is a RECLAIM pollutant

To determine if a project is considered as a “de minimis significant permit revision” for non-RECLAIM pollutants or HAPs, emission increases for non-RECLAIM pollutants or HAPs resulting from all permit revisions that are made after the issuance of the Title V renewal permit shall be accumulated and compared to the above threshold levels. This proposed project is the 2nd permit revision to the Title V renewal permit issued to this facility on June 8, 2010. The following table summarizes the cumulative emission increases resulting from all permit revisions since the Title V renewal permit was issued:

Revision	HAP	VOC	NOx*	PM10	SOx	CO
Previous Permit Revision Total Cumulative to date. Title V permit renewed June 8, 2010	0	0	0	1.0	0	0
2 nd Permit Revision; <u>A/N 516127</u> Facility permit revision to; <u>A/N 516124-125</u> add one vacuum metalizer(E611) and vent to scrubber C161. <u>A/N 516126</u> replace existing open top vapor degreaser D309 by a new a new degreaser D612. <u>A/N 516129 & 516486</u> add one Plasma Etcher(D613) and vent to scrubber C160.	0	1.0	0	0	0	0
Cumulative Total	0	1.0	0	1.0	0	0
Maximum Daily	30	30	40*	30	60	220

* RECLAIM pollutant, not subject to emission accumulation requirements

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

ENGINEERING DIVISION

APPLICATION PROCESSING AND CALCULATIONS

PAGES	PAGE
10	10
APPL. NO.	DATE
516126	12/07/10
PRCSD BY	CHCKD BY
REL	

Since the cumulative emission increases resulting from all permit revisions are not greater than any of the emission threshold levels, this proposed project is considered as a "de minimis significant permit revision" for non-RECLAIM pollutants or HAPs.

RECOMMENDATION

The proposed project is expected to comply with all applicable District Rules and Regulations. Since the proposed project is considered as a "de minimis significant permit revision" for non-RECLAIM pollutants and a "minor permit revision", for RECLAIM pollutant, it is exempt from the public participation requirements under Rule 3006 (b). A proposed permit incorporating this permit revision will be submitted to EPA for a 45-day review pursuant to Rule 3003(j). If EPA does not raise any objections within the review period, a revised Title V permit will be issued to this facility.

Conclusion:

This equipment will operate in compliance with all District Rule and Regulations. A Permit to Construct are recommended for application numbers 516124-126, 516129 & 516486 subject to preceding conditions.