PERMIT TO OPERATE EVALUATION
SPRAY BOOTHS

Applicant's Name	AMERICAN SECURITY PRODUCTS, INC.
Company I.D.	059237
Mailing Address	11925 PACIFIC AVE., FONTANA, CA 92337
Equipment Address	11925 PACIFIC AVE., FONTANA, CA 92337

EQUIPMENT DESCRIPTION

Application No. 503246

SPRAY BOOTH NO. 7, FLOOR TYPE, SPRAY TECH, MODEL NO. SDD-SE48, 16' – 8.75" W. X 24' – 0.312" L. X 13' – 9" H, WITH TWENTY 20" X 20" EXHAUST FILTERS, TWO 3 H. P. EXHAUST FANS AND ONE 1,000,000 BTU/HR NATURAL GAS-FIRED HEATER.

Application No. 504543

SPRAY BOOTH NO. 8 , FLOOR TYPE, SPRAY TECH, MODEL NO. SDD-SE48, 16' – 8.75" W. X 24' – 0.312" L. X 13' – 9" H, WITH TWENTY 20" X 20" EXHAUST FILTERS, TWO 3 H. P. EXHAUST FANS AND ONE 1,000,000 BTU/HR NATURAL GAS-FIRED HEATER.

HISTORY

American Security Products Co. submitted one application to construct a new spray booth. The new booth replaced a permitted old spray booth with P/N F69886 The applicant was informed later on that with the four independent exhaust fans and a partition in the middle, these are two spray booths. The applicant later on submitted another application for the other half of this spray booth.

The facility already has a number of active permits from the District for spray booths, abrasive blasting unit, laser cutters and a cement mixing equipment. This company manufactures security safes for residential and business uses. The above equipment is used to apply coatings for external aesthetics. The company currently uses other spray booths for this purpose. The coatings to be used in this equipment comply with Rule 1107 VOC requirements.

A facility-wide VOC emission limit of 4,080 (136 lbs/day) pounds per month has been established for this location. Some of the permitted equipment has individual usage limits too. The applicant has not requested any increases in the facility-wide VOC emission limit under this project. Thus, no VOC offsets are required for this project. The applicant has requested to operate the new booths with less than 850 lbs/month VOC emission limit. Thus, a public notice will not be required for this project and it will comply with the current BACT requirements. The applicant has accepted 7692 cubic feet natural gas usage limit for the booths, which will have less than 1 pound of NOx emissions per day. Thus, NOx BACT will not trigger for this project.

Permits to construct in the form of a revised Title V facility permit was issued to this project on February 16, 2010. The company has installed the equipment and is operating in compliance with the permit conditions, per an e-mail from Mr. Bob Staton, consultant of the company, dated 7/19/10.

The district database shows one notice of violation issued to this company to provide records in the last two years. The database did not show any notices to comply issued to this facility in the last two years. The facility now operates "in compliance" upon follow-up inspections. Also, the database shows no complaint against this facility for nuisance odors or visible emissions in the last two years.

American Security is a Title V facility. A Title V renewal permit was issued to this facility in June 2006. This is the fifth revision to the renewed Title V permit. This permit revision to convert from P/C to P/O is considered an "administrative permit revision" to the renewed Title V permit, as described in the Regulation XXX evaluation.

PROCESS DESCRIPTION

The company is in the security safe manufacturing business. The parts are manufactured from different metals and assembled on site. The safes are spray coated using liquid coatings in the new spray booths and then heat dried. The spray booths have regular 2" thick particulate arrestor filters. The filter system is 90.00% efficient in controlling PM/PM10 emissions. Coatings are applied using HVLP spray equipment. The recent inspection report indicated that they use HVLP spray guns in their existing booths. The spray guns are cleaned by Rule 1171 compliant (acetone) gun cleaning solvent within an enclosed gun washer. The soiled rags are stored in closed container for later disposal. The company is using only Rule 1107 compliant coatings in this equipment. PCL topcoats (maximum 1.42 lbs/gal VOC). The topcoat complies 2.3 lbs/gal VOC limit of the Rule 1107.

OPERATING HOURS

Average : 16 hour/day, 7 day/week, 52 weeks/year
Maximum: 24 hour/day, 7 days/week, 52 weeks/year

EMISSION CALCULATIONS

The spray booths are used to apply coatings. Average usage is 3 gallons/day. Maximum usage is 7 gallons/day. For the PM10 emissions, transfer efficiency is assumed at 65% and spray booth filter efficiency is assumed at 90%.

Liquid Paint Booth with Dry Filters											
	MAX	AVE	control efficiency			0%	filter efficiency			0%	
hr/dy	24	16			Spray gun TE	65%	HEPA filter efficiency			90.00%	
dy/wk	7	7			PM_{10} in PM	50%					
wk/yr	52	52									
					ave	max				ave	max
		VOC	AVE	MAX	VOC	VOC		density	% solid	PM	PM
		lb/gal	gal/dy	gal/dy	lb/dy	lb/dy		lb/gal	weight	lb/dy	lb/dy
Topcoat 1		1.42	3	7	4.26	9.94		8.20	30%	2.583	6.027
Topcoat 2		1.42	3	7	4.26	9.94		8.20	30%	2.583	6.027
Topcoat 3		1.42	3	5.7	4.26	8.09		8.20	30%	2.583	4.9077
		0	0	0	0.00	0.00		0.00	0%	0	0
		0	0	0	0.00	0.00		0.00	0%	0	0
		0	0	0	0.00	0.00		0.00	0%	0	0
		0	0	0	0.00	0.00		0.00	0%	0	0
		0	0	0	0.00	0.00		0.00	0%	0	0
		0	0	0	0.00	0.00		0.00	0%	0	0
		0	0	0	0.00	0.00		0.00	0%	0	0
		0	0	0	0.00	0.00		0.00	0%	0	0
		0	0	0	0.00	0.00		0.00	0%	0	0
		0	0	0	0.00	0.00		0.00	0%	0	0
		Exempted Compounds*									
acetone		6.6	0.5	0.75	3.30	4.95					
		0	0	0	0.00	0.00					
NSR--->>>		max	max	30-day				AEIS--->>>	ave	ave	
		lb/hr	lb/dy	lb/dy					lb/hr	lb/yr	
ROG (R1)		1.17	27.97	NA					0.80	NA	
ROG (R2)		1.17	27.97	27.97					0.80	4651.9	
PM(R1)		0.71	16.96	NA					0.48	NA	
PM(R2)		0.07	1.70	1.53					0.02	98.7	
PM10(R1)		0.35	8.48	NA					0.24	NA	
PM10(R2)		0.04	0.85	0.76					0.01	49.4	
TOG (R1)		1.37	32.92	NA					1.01	NA	
TOG (R2)		1.37	32.92	32.92					1.01	5853.1	

Combustion emissions:

This equipment is heated with a 1.0 mm BTU/HR burner. The following table provides data on the emissions from the natural gas combustions.

503246, 504543 Spray Booth Heater @

	maximum	normal		
hr/dy	24	24	max heat input	1.00E+06 (BTU/hr)
dy/wk	7	7	gross heating value	1050 (BTU/scf)
wk/yr	52	52		
load	100%	100%		

	Emission Factors	MAX (lb/hr)	AVE (lb/hr)	MAX (lb/dy)	30-DAY (lb/dy)	MAX (lb/yr)	MAX (ton/yr)
SO_2 (R1)	0.83	0.001	0.001	0.019	NA	7	0.003
SO_2 (R2)	0.83	0.001	0.001	0.019	0.019	7	0.003
NO_2 (R1)	130	0.124	0.124	2.971	NA	1,082	0.541
NO_2 (R2)	130	0.124	0.124	2.971	2.971	1,082	0.541
CO (R1)	39	0.037	0.037	0.891	NA	324	0.162
CO (R2)	39	0.037	0.037	0.891	0.891	324	0.162
N_2O (R1)	2.2	0.002	0.002	0.050	NA	18	0.009
N_20 (R2)	0.64	0.001	0.001	0.015	0.015	5	0.003
PM, PM_{10} (R1=R2)	7.5	0.007	0.007	0.171	0.171	62	0.031
CO_2(R1=R2)	0.000012	0.000	0.000	0.000	0.000	0	0.000
TOC(R1=R2)	7	0.007	0.007	0.160	0.160	58	0.029
ethyle benzene	0.0095	9.0E-06	9.0E-06	2.2E-04	NA	7.90E-2	3.95E-5
acetaldchyde	0.0043	4.1E-06	4.1E-06	9.8E-05	NA	3.58E-2	1.79E-5
acrolein	0.0027	2.6E-06	2.6E-06	6.2E-05	NA	2.25E-2	1.12E-5
benzene	0.008	7.6E-06	7.6E-06	1.8E-04	NA	6.66E-2	3.33E-5
formaldehyde	0.017	1.6E-05	1.6E-05	3.9E-04	NA	1.41E-1	7.07E-5
napthalene	0.0003	2.9E-07	2.9E-07	6.9E-06	NA	2.50E-3	1.25E-6
PAH's	0.0001	9.5E-08	9.5E-08	2.3E-06	NA	8.32E-4	4.16E-7
toluene	0.0366	3.5E-05	3.5E-05	8.4E-04	NA	3.05E-1	1.52E-4
xylenes	0.0272	2.6E-05	2.6E-05	6.2E-04	NA	2.26E-1	1.13E-4

NO_2 @ 3% excess O_2------>>> 100.16 (ppmv)
SO_2 @ 3% excess O_2------>>> 0.46 (ppmv)
CO @ 3% excess O_2------>>> 49.35 (ppmv)
PM @ 12% CO_2------>>> 5.5E-09 (grain/ft^3)

Ver. 1.3

The applicant has accepted 7,692 cu. feet per day natural gas usage limit, so that they comply with the BACT requirements. Also,

NOx Emissions from Natural Gas usage of 7,692 SCF/day:

= (130 lb/1 x 10^6 SCF) x 7,692 SCF/day = 1 lb/day (0.04 lb/hr)

Toxic Emissions:

Topcoat coatings contain a number of toxic compounds, such as toluene, xylene, and ethyl benzene.

The industrial metal coatings contain compounds with HI risk (isopropyl alcohol, ethylene glycol monobutyl ether, methanol, methyl ethyl ketone, ethyl benzene, toluene, and xylene). Based on previous analysis, the coatings comply with HI risk even at worst case scenario (emissions of 850 lb-VOC which is equivalent to 28 lb-VOC/day) and the risk levels are sometimes four times less than the allowed limit. Since the risk is less than the allowed limit even at worst case scenario no further analysis was carried out and the permits to construct were issued without concentration limit for compounds with HI risk. The facility cap of 850 lb-VOC/month is the limiting factor.

There is increase in the toxic emissions from the natural gas combustion. However, with the natural gas usage limited to <7,692 cu. feet per day, combustion emissions complied with the Rule 1401 requirements.

RULES/REGULATION EVALULATIONS

¤*RULE 212, PUBLIC NOTIFICATION*
v*SECTION 212(c)(1):*
This section requires a public notice for all new or modified permit units that may emit air contaminants located within 1,000 feet from the outer boundary of a school. This source is not located within 1,000 feet from the outer boundary of a school. Therefore, public notice was not required by this section.

v *SECTION 212(c)(2):*
This section requires a public notice for all new or modified facilities which have on-site emission increases exceeding any of the daily maximums as specified in subdivision (g). These two spray booths replaced one old spray booth with no net emission increase from the facility. As shown in the following table, the emission increases from this project are below the daily maximum limits specified by Rule 219(g). Therefore, these applications were not subject to this section.

LB/DAY	CO	NOX	PM_{10}	ROG	Lead	SOX
MAX. LIMIT	220	40	30	30	3	60
INCREASES	2	2	0	0	0	0

v ***SECTION 212(c)(3):***
There are no carcinogenic compounds in the materials used in this equipment. Combustion emissions were negligible with gas usage limit. Therefore, these applications were not subject to this section.

v ***SECTION 212(g):***
This section requires a public notice for all new or modified sources which undergo construction or modifications resulting an emissions increase exceeding any of the daily maximum specified in the table below. As shown in the following table, the emission increases from this project are below the daily maximum limits specified by paragraph (g). Therefore, public notice was not required by this section.

LB/DAY	CO	NOX	PM_{10}	ROG	Lead	SOX
MAX. LIMIT	220	40	30	30	3	60
INCREASES	1	1	1	28	0	0

¤***RULES 401 & 402, VISIBLE EMISSIONS & NUISANCE***
(a) SPRAY BOOTH
With the use of 2" thick dry filters in liquid coating booth compliance with the provisions of these rules is expected. AQMD database has no records of any visible emissions or nuisance complaints against this company.

¤***RULES 404 & 405, PARTICULATE MATTER CONCENTRATION& WEIGHT***
Compliance with these provisions is expected with proper operation of the equipment.

¤ ***RULE 481, SPRAY COATING OPERATIONS***
v ***SECTION (a)***
The use of HVLP spray equipment complies with these requirements.

¤ ***RULE 1107, METAL COMPONENT COATINGS***
v ***SECTION (c(2), VOC CONTENT OF COATINGS***

Material information submitted with these applications indicates compliance with the Rule. In addition, a condition is placed on the permit to comply with this rule.

Coating Category	Rule Limit (VOC)	Coating VOC	Compliance
PCL Topcoats	2.3 lb/gal	1.42 lb/gal	Yes

v***SECTION (c)(6), TRANSFER EFFICIENCY***
The use of HVLP spray equipment complies with these requirements.

¤ ***RULE 1171, SOLVENT CLEANING OPERATIONS***
The use of acetone (exempt VOC) provides compliance with these provisions.

REGULATION XIII

¤ ***RULE 1303(a), BEST AVAILABLE CONTROL TECHNOLOGY (BACT)***

(a) VOC EMISSIONS

Since the VOC emissions from this project do not exceed 850 lbs/month, the installation and operation of add-on control equipment is not achieved in practice.

(b) PM10 EMISSIONS

The use of 2" thick filtering system satisfies BACT requirement for PM emissions.

(c) NOx EMISSIONS

The NOx emissions are expected to be less than 1 lb/day with the natural gas usage limit of 7,692 SCF/day, therefore BACT is not triggered. Permit conditions are imposed to ensure compliance.

¤ ***RULE 1303(b)(1), MODELING***

Modeling is not required since PM10, and CO emissions are below the Table A-1 allowable emissions. Modeling was required for NOx. Please refer to attached modeling which shows compliance.

NOx		PM10		CO	
Allowed	Actual	Allowed	Actual	Allowed	Actual
0.20	0.12	1.2	0.01	11.0	0.04

¤ ***RULE 1303 (b)(2), EMISSION OFFSETS***

There are no VOC emission increases under this project, since the facility cap remains the same. Other emissions are within the R1304 threshold limits. Hence, no offsets were required.

¤ ***RULE 1401, NEW SOURCE REVIEW OF CARCINOGENIC AIR CONTAMINANTS***

As discussed in the evaluation report, the coatings used by this facility contain toxic air contaminants and with the usage limit imposed; this equipment is expected to comply with the rule requirements. Also, from the previous emission calculations data, the toxic emissions from the natural gas combustion of a 1,000,000 BTU/HR burner are also expected to comply with the rule requirements. This equipment is expected to comply with these rule requirements.

⊙ ***RULE 1469.1, SPRAYING OPERATIONS USING COATINGS CONTAINING CHROMIUM***

The materials proposed to be used in this equipment do not contain any carcinogenic compounds. A permit condition will be imposed not to use any carcinogenic toxic compound containing materials in this equipment.

REGULATION XXX

This equipment were previously issued Permits to Construct and were included in Section H of the Title V facility permit. Since installation is completed and the equipment is already been operated at this facility, permits to operate is recommended since the applicant has informed the District that this equipment is in compliance with all applicable rules and regulations. Pursuant to Rule 3000(b)(1)(D), issuance of a final Permits to Operate for equipment previously issued Title V Permits to Construct is considered as an administrative Title V Permit Revision.

Revision	HAP	VOC	NOx	PM_{10}	SOx	CO
1st Revision (Administrative) (A/N 466753)	0	0	0	0	0	0
2nd Revision. Modification (A/N 480171, 480172) (P/C)	0	0	0	0	0	0
3rd Revision (Administrative) (A/N 480171, 480172) (P/C to P/O)	0	0	0	0	0	0
4th Revision. Install new spray booths (A/N 503246, 504543)	0	0	2	0	0	2
5th Revision. P/C to P/O for spray booths (A/N 503246 and 504543).	0	0	0	0	0	0
Total	0	0	2	0	0	2
Maximum Daily	30	30	40	30	60	220

CONCLUSIONS / RECOMMENDATIONS

Permits to Operate is recommended for the equipment under application nos. 503246 and 504543.