

STATE OF MISSOURI



DEPARTMENT OF NATURAL RESOURCES

MISSOURI AIR CONSERVATION COMMISSION

PERMIT TO CONSTRUCT

Under the authority of RSMo 643 and the Federal Clean Air Act the applicant is authorized to construct the air contaminant source(s) described below, in accordance with the laws, rules and conditions as set forth herein.

Permit Number: **032013-012** Project Number: 2012-11-017
Installation Number: 031-0099

Parent Company: PolyOne Designed Structures and Solutions LLC

Parent Company Address: 33587 Walker Road, Avon Lake, OH 44012

Installation Name: Spartech Polycom, Inc. - Cape Girardeau

Installation Address: 4753 Nash Road, Cape Girardeau, MO 63702

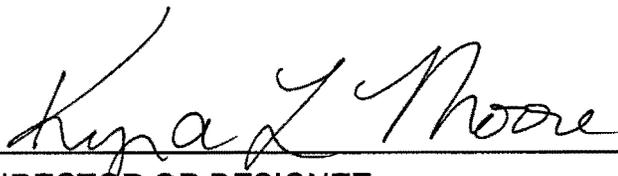
Location Information: Cape Girardeau County, S27, T30N, R13E

Application for Authority to Construct was made for:
Installation of a heavy metals colorant blending room including three twin-cone blenders that will be used to mix colorant with thermoplastic resins before extrusion. A new dust collector (EP-12) will have pick up points positioned close to the twin-cone blender discharge spout inside the blend room as a control device. This review was conducted in accordance with Section (5), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*.

-
- Standard Conditions (on reverse) are applicable to this permit.
 - Standard Conditions (on reverse) and Special Conditions are applicable to this permit.

MAR 22 2013

EFFECTIVE DATE



DIRECTOR OR DESIGNEE
DEPARTMENT OF NATURAL RESOURCES

STANDARD CONDITIONS:

Permission to construct may be revoked if you fail to begin construction or modification within two years from the effective date of this permit. Permittee should notify the Air Pollution Control Program if construction or modification is not started within two years after the effective date of this permit, or if construction or modification is suspended for one year or more.

You will be in violation of 10 CSR 10-6.060 if you fail to adhere to the specifications and conditions listed in your application, this permit and the project review. In the event that there is a discrepancy between the permit application and this permit, the conditions of this permit shall take precedence. Specifically, all air contaminant control devices shall be operated and maintained as specified in the application, associated plans and specifications.

You must notify the Department's Air Pollution Control Program of the anticipated date of start up of these air contaminant sources. The information must be made available within 30 days of actual startup. Also, you must notify the Department of Natural Resources Regional office responsible for the area within which you are located within 15 days after the actual start up of these air contaminant sources.

A copy of this permit and permit review shall be kept at the installation address and shall be made available to Department of Natural Resources' personnel upon request.

You may appeal this permit or any of the listed special conditions to the Administrative Hearing Commission (AHC), P.O. Box 1557, Jefferson City, MO 65102, as provided in RSMo 643.075.6 and 621.250.3. If you choose to appeal, you must file a petition with the AHC within 30 days after the date this decision was mailed or the date it was delivered, whichever date was earlier. If any such petition is sent by registered mail or certified mail, it will be deemed filed on the date it is mailed. If it is sent by any method other than registered mail or certified mail, it will be deemed filed on the date it is received by the AHC.

If you choose not to appeal, this certificate, the project review and your application and associated correspondence constitutes your permit to construct. The permit allows you to construct and operate your air contaminant sources(s), but in no way relieves you of your obligation to comply with all applicable provisions of the Missouri Air Conservation Law, regulations of the Missouri Department of Natural Resources and other applicable federal, state and local laws and ordinances.

The Air Pollution Control Program invites your questions regarding this air pollution permit. Please contact the Construction Permit Unit at (573) 751-4817. If you prefer to write, please address your correspondence to the Missouri Department of Natural Resources, Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102-0176, attention: Construction Permit Unit.

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SPECIAL CONDITIONS:

The permittee is authorized to construct and operate subject to the following special conditions:

The special conditions listed in this permit were included based on the authority granted the Missouri Air Pollution Control Program by the Missouri Air Conservation Law (specifically 643.075) and by the Missouri Rules listed in Title 10, Division 10 of the Code of State Regulations (specifically 10 CSR 10-6.060). For specific details regarding conditions, see 10 CSR 10-6.060 paragraph (12)(A)10. "Conditions required by permitting authority."

Spartech Polycom, Inc. - Cape Girardeau
Cape Girardeau County, S27, T30N, R13E

1. HAPs Emission Limitations
 - A. Spartech Polycom, Inc. - Cape Girardeau shall limit emissions of HAPs below the associated SMAL for each particulate HAP as shown in Table 1.

Table 1: Particulate HAP SMAL Levels

Particulate HAP	SMAL (tons/year)
Chromium (VI)	0.002
Lead Compounds	0.01
Cadmium	0.01

- B. Attachment A or equivalent forms, such as electronic forms, approved by the Air Pollution Control Program shall be used to demonstrate compliance with Special Condition 1.A.

2. Control Device Requirement-Cartridge Filters
 - A. Spartech Polycom, Inc. - Cape Girardeau shall control emissions from the equipment listed in Table 2 using Donaldson Torit Downflo Model DFT dust collectors equipped with cartridge filters as specified in the permit application.

Table 2: Emission Points Controlled by Cartridge Filters

Emission Point	Transfer Description
EP-14	Loading Chute to Twin Cone Blender
EP-15	Dispensing to Weigh Station
EP-16	Twin Cone Blender to Super Sack
EP-17	Super Sack Loading Chute to Extruder Line 040

- B. The cartridge filters shall be operated and maintained in accordance with the manufacturer's specifications. The cartridge filters shall be equipped with a gauge or meter, which indicates the pressure drop across the control device. These gauges or meters shall be located such that the Department of Natural Resources' employees may easily observe them.

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SPECIAL CONDITIONS:

The permittee is authorized to construct and operate subject to the following special conditions:

- C. Replacement filters for the dust collectors shall be kept on hand at all times. The filters shall be made of fibers appropriate for operating conditions expected to occur (i.e. temperature limits, acidic and alkali resistance, and abrasion resistance).
 - D. Spartech Polycom, Inc. - Cape Girardeau shall monitor and record the operating pressure drop across the filters at least once every 24 hours. The operating pressure drop shall be maintained within the design conditions specified by the manufacturer's performance warranty.
 - E. Spartech Polycom, Inc. - Cape Girardeau shall maintain a copy of the cartridge filter and dust collector manufacturer's performance warranty on site.
 - F. Spartech Polycom, Inc. - Cape Girardeau shall maintain an operating and maintenance log for the cartridge filters which shall include the following:
 - 1) Incidents of malfunction, with impact on emissions, duration of event, probable cause, and corrective actions; and
 - 2) Maintenance activities, with inspection schedule, repair actions, and replacements, etc.
3. Capture Device Requirement – Permanent Total Enclosure
- A. Spartech Polycom – Cape Girardeau shall operate each of the emission units listed in Table 3 within a permanent total enclosure such that all emissions associated with the heavy metals colorant blending room are controlled by the Donaldson Torit dust collector.

Table 3: Emission Units with a Permanent Total Enclosure

Emission Unit	Description
EU-14	Loading Chute to Twin Cone Blender
EU-16	Twin Cone Blender to Super Sack

- B. Spartech Polycom – Cape Girardeau shall verify, within 30 days of the startup of each individual emission unit in Table 3, that the respective permanent total enclosure has 100 percent capture efficiency according to the procedures of EPA Test Method 204 *Criteria for and Verification of a Permanent or Temporary Total Enclosure*, set forth in 40 CFR Part 51, Appendix M.

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SPECIAL CONDITIONS:

The permittee is authorized to construct and operate subject to the following special conditions:

- C. Spartech Polycom – Cape Girardeau shall maintain an operating and maintenance log associated with each permanent total enclosure which shall include the following:
 - 1) Incidents of malfunction, with impact on emissions, time, date and duration of event, probable cause, and corrective actions; and
 - 2) Maintenance activities, with inspection schedule, repair actions, and replacements, etc.

- 4. Use of Alternative Colorant Containing HAPs
 - A. When considering using an alternative colorant that contains HAPs in the extrusion process that is different than a material listed in the Application for Authority to Construct, Spartech Polycom, Inc. - Cape Girardeau shall calculate the potential emissions of VOCs and all individual HAP in the alternative material.

 - B. Spartech Polycom, Inc. - Cape Girardeau shall seek approval from the Air Pollution Control Program before use of the alternative material if the potential individual HAP emissions for the alternative material are equal to or greater than the screening model action level (SMAL) for any chemical listed in Attachment B.

- 5. Record Keeping and Reporting Requirements
 - A. Spartech Polycom, Inc. - Cape Girardeau shall maintain all records required by this permit for not less than five years and shall make them available immediately to any Missouri Department of Natural Resources' personnel upon request. These records shall include MSDS for all materials used.

 - B. Spartech Polycom, Inc. - Cape Girardeau shall report to the Air Pollution Control Program's Compliance/Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after the end of the month during which any record required by this permit show an exceedance of a limitation imposed by this permit.

REVIEW OF APPLICATION FOR AUTHORITY TO CONSTRUCT AND OPERATE
SECTION (5) REVIEW

Project Number: 2012-11-017
Installation ID Number: 031-0099
Permit Number:

Spartech Polycom, Inc. - Cape Girardeau
4753 Nash Road
Cape Girardeau, MO 63702

Complete: November 8, 2012

Parent Company:
PolyOne Designed Structures and Solutions LLC
33587 Walker Road
Avon Lake, OH 44012

Cape Girardeau County, S27, T30N, R13E

REVIEW SUMMARY

- Spartech Polycom, Inc. - Cape Girardeau has applied for authority to install a heavy metals colorant blending room including three twin-cone blenders that will be used to mix colorant with thermoplastic resins before extrusion. A new dust collector (EP-12) will have pick up points positioned close to the twin-cone spout inside the blend room as a control device.
- HAP emissions are expected from the proposed equipment. HAPs of concern from this process are lead compounds, hexavalent chromium, antimony, and cadmium.
- None of the New Source Performance Standards (NSPS) apply to the installation.
- None of the NESHAPs apply to this installation. None of the currently promulgated MACT regulations apply to the proposed equipment.
- Cartridge filters will be used to control the particulate HAPs emissions from the equipment in this permit.
- This review was conducted in accordance with Section (5) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of all pollutants are below the respective de minimis levels. All HAPs associated with this project are limited below the associated SMAL for each pollutant.
- This installation is located in Cape Girardeau County, an attainment area for all criteria pollutants.
- This installation is not on the List of Named Installations found in 10 CSR 10-6.020(3)(B), Table 2. The installation's major source level is 250 tons per year and fugitive emissions are not counted toward major source applicability.

- Ambient air quality modeling was not performed since potential emissions of the application are limited below the associated SMAL for each pollutant.
- Emissions testing are not required for the equipment.
- A Basic Operating Permit application is required for this installation within 30 days of equipment startup.
- Approval of this permit is recommended with special conditions.

INSTALLATION DESCRIPTION

Spartech Polycom – Cape Girardeau (herein referred to as Spartech) is an existing thermoplastic extrusion facility. Spartech receives base plastics in pellet form which are blended with the required additives as per customer requirements. The blend is then extruded back into pellet form before shipment. Spartech also operates a low oxygen metal parts cleaning furnace. The furnace is considered an incinerator for permitting purposes. Spartech currently operates under a basic operating permit and is considered a minor source for construction permitting purposes.

The following New Source Review permits have been issued to Spartech Polycom, Inc. - Cape Girardeau from the Air Pollution Control Program.

Table 4: Permit History

Permit Number	Description
0899-020	Low oxygen furnace

PROJECT DESCRIPTION

Spartech has proposed the installation of a heavy metals colorant blending room including three twin-cone blenders that will be used to mix colorant with thermoplastic resins before extrusion. A new dust collector (EP-12) will have pick up points positioned close to the twin-cone discharge spouts inside the blend room as a control device. The heavy metals colorant blending room will be totally enclosed. An existing Donaldson Torit dust collector will be used to control emissions from the existing weigh hopper as well as the Line 040 extruder that will process material from the new heavy metals colorant blending process. The HAPs being emitted from this facility are particulate HAPs and will be controlled by the dust collectors. The extruder serves as the bottleneck of █████ of plastic extruded per hour for this process. Potential emissions are based on the conservative recipes provided by Spartech. According to Spartech, the extruder will never exceed the stated plastic resin recipe. Spartech will use colorants in the extrusion process that contain particulate HAPs as shown in Table 5. The maximum hourly usage rates of each colorant are listed in Table 5 and are based on the conservative recipes provided by Spartech. The extruder line 040 has an MHDR equal to █████ lbs of extruded plastic/hour. Therefore, the MHDR for the HAP colorants (Table 5) are limited to █████ lbs of colorant/hour for all colorants except JMB Cadmium Pigment which is limited by its recipe to █████ lbs of colorant/hour. This project will not debottleneck any of the other extrusion lines.

Table 5: Extrusion Colorants Containing HAPs

Colorant	MHDR (tons)	Pollutant of Concern	SMAL (tpy)
JMB Cadmium Pigment	■	Cadmium	0.01
Lead Chromate Pigment: DCC – 1019, 4019, 4020, 5020, 5021	■	Chromium (VI)	0.002
Lead Chromate Pigment: DCC – 1019, 4019, 4020, 5020, 5021	■	Lead	0.01
Lead Chromate Pigment: DCC – 1019, 4019, 4020, 5020, 5021	■	Antimony	5.0

EMISSIONS/CONTROLS EVALUATION

The emission factors used in this analysis were obtained from the EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition, Mineral Products Industry: 11.24 Metallic Minerals Processing, August 1982.

The following table provides an emissions summary for this project. The record keeping emission factors associated with this facility could not be verified because the original basis for the emission factors could not be found. The existing potential emissions were recalculated because Spartech proposed new SCC codes associated with the process. Using the updated SCC codes and the Michigan Department of Environmental Quality Emission Calculation Fact Sheet #9847, an accurate existing potential emission estimate was calculated. Spartech will use the new emission factors for recording actual emissions.

Existing actual emissions were taken from the installation's 2010 EIQ as 2010 was the last year a full EIQ was completed by Spartech. The reported actual emissions from this facility were likely incorrect because of the unknown emission factors. Actual PM₁₀ emissions were previously underestimated while VOC emissions were overestimated.

Potential emissions of the application represent the potential of the new equipment, assuming continuous operation (8760 hours per year). The emission factor for material handling and transfer from AP-42 Chapter 11.24 was used for the calculation of potential particulate matter and particulate HAPs emissions. Dust collectors will be used to limit emissions of particulate matter and particulate HAPs. A control efficiency of 99.5% was assigned to the emission points that are controlled by dust collectors, as shown in Table 2, in accordance with the manufacturer's data submitted by Spartech. The collection efficiencies for EP-14 and EP-16 are assumed to be 100% because the blend room will remain enclosed with negative pressure maintained. Blend room enclosure shall be proven using EPA test method 204. EPA test method 204 is used for VOC emissions, but in this case method 204 will be used to verify room enclosure and negative pressure with respect to particulate emissions. The collection efficiencies for EP-15 and EP-17 were estimated based on engineering judgment to be 60% because of the small distance between emission points and the dust collector.

The new installation potential emissions are based on the existing PTE plus this project's PTE. The potential to emit lead is directly limited below the associated SMAL by the Chromium (VI) emission limitation.

Table 6: Emissions Summary (tons per year)

Pollutant	Regulatory <i>De Minimis</i> Levels	Existing Potential Emissions	Existing Actual Emissions **(2010 EIQ)	Uncontrolled Potential Emissions of the Application	New Installation Potential
PM	25.0	N/D	N/D	1.37	N/A
PM ₁₀	15.0	69.26	**1.003	1.37	70.63
PM _{2.5}	10.0	N/D	N/D	1.37	N/D
SO _x	40.0	0.01	0.0026	N/A	0.01
NO _x	40.0	0.12	0.039	N/A	0.12
VOC	40.0	2.88	**3.85	N/A	2.88
CO	100.0	0.22	0.072	N/A	0.22
GHG (CO ₂ e)	100,000	N/D	N/D	N/D	N/D
GHG (mass)	250.0	N/D	N/D	N/D	N/D
HAPs	10.0/25.0	N/A	N/D	1.025	0.0248
Antimony	*5.0	N/A	N/D	0.025	0.004
Chromium (VI)	*0.002	N/A	N/D	0.126	<0.002
Lead	0.6 / *0.01	N/A	N/D	0.555	0.0088
Cadmium	*0.01	N/A	N/D	0.319	<0.01

N/A = Not Applicable; N/D = Not Determined

* Indicates the applicable SMAL for the specified pollutant. The total mass of the compound is used to determine emissions for comparison to the Major Source Thresholds. The mass of the metal portion of the compound is used to determine emissions for comparison to the SMALs and RALs.

**Record keeping emission factors are being changed with this project in order to accurately estimate actual emissions. These numbers were calculated with the incorrect emission factors. PM₁₀ emissions were previously underestimated while VOC emissions were overestimated.

PERMIT RULE APPLICABILITY

This review was conducted in accordance with Section (5) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of all pollutants are below de minimis levels. All potential HAP emissions are limited below the associated SMAL for each pollutant.

APPLICABLE REQUIREMENTS

Spartech Polycom, Inc. - Cape Girardeau shall comply with the following applicable requirements. The Missouri Air Conservation Laws and Regulations should be consulted for specific record keeping, monitoring, and reporting requirements. Compliance with these emission standards, based on information submitted in the application, has been verified at the time this application was approved. For a complete list of applicable requirements for your installation, please consult your operating permit.

GENERAL REQUIREMENTS

- *Submission of Emission Data, Emission Fees and Process Information*, 10 CSR 10-6.110

- *Operating Permits*, 10 CSR 10-6.065
- *Restriction of Particulate Matter to the Ambient Air Beyond the Premises of Origin*, 10 CSR 10-6.170
- *Restriction of Emission of Visible Air Contaminants*, 10 CSR 10-6.220
- *Restriction of Emission of Odors*, 10 CSR 10-6.165

STAFF RECOMMENDATION

On the basis of this review conducted in accordance with Section (5), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*, I recommend this permit be granted with special conditions.

J Luebbert
New Source Review Unit

Date

PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated October 18, 2012, received November 7, 2012, designating PolyOne Designed Structures and Solutions LLC as the owner and operator of the installation.
- U.S. EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition.
- "Emission Calculation Fact Sheet #9847," Michigan Department of Environmental Quality

Attachment A – HAPs SMAL 12-Month Compliance Worksheet

Spartech Polycom, Inc. - Cape Girardeau
 Cape Girardeau County, S27, T30N, R13E
 Project Number: 2012-11-017
 Installation ID Number: 031-0099
 Permit Number: _____

This sheet covers the period from _____ to _____.
 (month, year) (month, year)

(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)
Date (mm/yy)	Colorant Used	Pollutant	Colorant Use	Amount of Colorant Used (tons)	Emission Factor (lb/ton)	Emission (tons)	Monthly Emission (tons)	12-Month Rolling Total (tons)
EX: 12/12	JMB Cadmium	Cadmium	Used	1.5	0.0385	0.00003	0.000033	0.005
			Weighed	0.15	0.376	0.000003		
	Medium Yellow*	Lead	Used	1.5	0.0327	0.000025	0.000027	0.005
			Weighed	0.15	0.0319	0.000002		
		Chromium	Used	1.5	0.00734	0.000006	0.0000065	0.005
			Weighed	0.15	0.00725	0.0000005		
JMB Cadmium	Cadmium	Used		0.0385				
		Weighed		0.376				
*Medium Yellow	Lead	Used		0.0327				
		Weighed		0.0319				
	Chromium	Used		0.00734				
		Weighed		0.00725				
JMB Cadmium	Cadmium	Used		0.0385				
		Weighed		0.376				
*Medium Yellow	Lead	Used		0.0327				
		Weighed		0.0319				
	Chromium	Used		0.00734				
		Weighed		0.00725				
JMB Cadmium	Cadmium	Used		0.0385				
		Weighed		0.376				
*Medium Yellow	Lead	Used		0.0327				
		Weighed		0.0319				
	Chromium	Used		0.00734				
		Weighed		0.00725				
JMB Cadmium	Cadmium	Used		0.0385				
		Weighed		0.376				
*Medium Yellow	Lead	Used		0.0327				
		Weighed		0.0319				
	Chromium	Used		0.00734				
		Weighed		0.00725				

- a) Record the date (month/year)
- b) Colorant Used
- c) Pollutant being tracked
- d) Colorant used for extrusion or weighed at EP-15 (weigh scale)
- e) Record the amount of colorant used for extrusion and the amount weighed at EP-15
- f) Specific emission factor for the pollutant contained within the colorant
- g) Calculate using the following equation for each pollutant: $(g) = (e) * (f) / 2000$
- h) Record the total emissions of each pollutant for this month
- i) Calculate using the following equation for each pollutant: $(i) = (i)_{\text{last month}} + (h)_{\text{this month}} - (h)_{\text{this month last year}}$

A 12-month rolling total less than the SMAL for each pollutant indicates compliance with Special Condition 1.A

Attachment B – HAPs SMAL Reference Table

Chemical	CAS #	SMAL (tons/yr)	Group ID	VOC	PM	Chemical	CAS #	SMAL (tons/yr)	Group ID	VOC	PM	Chemical	CAS #	SMAL (tons/yr)	Group ID	VOC	PM
ACETALDEHYDE	75-07-0	9		Y	N	CARBARYL	63-25-2	10	V	Y	Y	DICHLOROPROPANE, [1,2-]	78-87-5	1		Y	N
ACETAMIDE	60-35-5	1		Y	N	CARBON DISULFIDE	75-15-0	1		Y	N	DICHLOROPROPENE, [1,3-]	542-75-6	1		Y	N
ACETONITRILE	75-05-8	4		Y	N	CARBON TETRACHLORIDE	56-23-5	1		Y	N	DICHLORVOS	62-73-7	0.2		Y	N
ACETOPHENONE	98-86-2	1		Y	N	CARBONYL SULFIDE	463-58-1	5		Y	N	DIETHANOLAMINE	111-42-2	5		Y	N
ACETYLAMINOFLUORINE, [2-]	53-96-3	0.005	V	Y	Y	CATECHOL	120-80-9	5		Y	N	DIETHYL SULFATE	64-67-5	1		Y	N
ACROLEIN	107-02-8	0.04		Y	N	CHLORAMBEN	133-90-4	1		Y	Y	DIETHYLENE GLYCOL MONOBUTYL ETHER	112-34-5	5	P	Y	N
ACRYLAMIDE	79-06-1	0.02		Y	N	CHLORDANE	57-74-9	0.01		Y	Y	DIMETHOXYBENZIDINE, [3,3-]	119-90-4	0.1	V	Y	Y
ACRYLIC ACID	79-10-7	0.6		Y	N	CHLORINE	7782-50-5	0.1		N	N	DIMETHYL BENZIDINE, [3,3-]	119-93-7	0.008	V	Y	Y
ACRYLONITRILE	107-13-1	0.3		Y	N	CHLOROACETIC ACID	79-11-8	0.1		Y	N	DIMETHYL CARBAMOYL CHLORIDE	79-44-7	0.02		Y	N
ALLYL CHLORIDE	107-05-1	1		Y	N	CHLOROACETOPHENONE, [2-]	532-27-4	0.06		Y	N	DIMETHYL FORMAMIDE	68-12-2	1		Y	N
AMINOBIIPHENYL, [4-]	92-67-1	1	V	Y	N	CHLOROBENZENE	108-90-7	10		Y	N	DIMETHYL HYDRAZINE, [1,1-]	57-14-7	0.008		Y	N
ANILINE	62-53-3	1		Y	N	CHLOROBENZILATE	510-15-6	0.4	V	Y	Y	DIMETHYL PHTHALATE	131-11-3	10		Y	N
ANISIDINE, [ORTHO-]	90-04-0	1		Y	N	CHLOROFORM	67-66-3	0.9		Y	N	DIMETHYL SULFATE	77-78-1	0.1		Y	N
ANTHRACENE	120-12-7	0.01	V	Y	N	CHLOROMETHYL METHYL ETHER	107-30-2	0.1		Y	N	DIMETHYLAMINOAZOBENZENE, [4-]	60-11-7	1		Y	N
ANTIMONY COMPOUNDS		5	H	N	Y	CHLOROPRENE	126-99-8	1		Y	N	DIMETHYLANILINE, [N-N-]	121-69-7	1		Y	N
ANTIMONY PENTAFLUORIDE	7783-70-2	0.1	H	N	Y	CHROMIUM (VI) COMPOUNDS		0.002	L	N	Y	DINITRO-O-CRESOL, [4,6-] (Note 6)	534-52-1	0.1	E	Y	Y
ANTIMONY POTASSIUM TARTRATE	28300-74-5	1	H	N	Y	CHROMIUM COMPOUNDS		5	L	N	Y	DINITROPHENOL, [2,4-]	51-28-5	1		Y	N
ANTIMONY TRIOXIDE	1309-64-4	1	H	N	Y	CHRYSENE	218-01-9	0.01	V	Y	N	DINITROTOLUENE, [2,4-]	121-14-2	0.02		Y	N
ANTIMONY TRISULFIDE	1345-04-6	0.1	H	N	Y	COBALT COMPOUNDS		0.1	M	N	Y	DIOXANE, [1,4-]	123-91-1	6		Y	N
ARSENIC COMPOUNDS		0.005	I	N	Y	COKE OVEN EMISSIONS	8007-45-2	0.03	N	Y	N	DIPHENYLHYDRAZINE, [1,2-]	122-66-7	0.09	V	Y	Y
ASBESTOS	1332-21-4	0	A	N	Y	CRESOL, [META-]	108-39-4	1	B	Y	N	DIPHENYLMETHANE DIISOCYANATE, [4,4-]	101-68-8	0.1	V	Y	N
BENZ(A)ANTHRACENE	56-55-3	0.01	V	Y	N	CRESOL, [ORTHO-]	95-48-7	1	B	Y	N	EPICHLOROHYDRIN	106-89-8	2		Y	N
BENZENE	71-43-2	2		Y	N	CRESOL, [PARA-]	106-44-5	1	B	Y	N	ETHOXYETHANOL, [2-]	110-80-5	10	P	Y	N
BENZIDINE	92-87-5	0.0003	V	Y	N	CRESOLS (MIXED ISOMERS)	1319-77-3	1	B	Y	N	ETHOXYETHYL ACETATE, [2-]	111-15-9	5	P	Y	N
BENZO(A)PYRENE	50-32-8	0.01	V	Y	N	CUMENE	98-82-8	10		Y	N	ETHYL ACRYLATE	140-88-5	1		Y	N
BENZO(B)FLUORANTHENE	205-99-2	0.01	V	Y	N	CYANIDE COMPOUNDS		0.1	O	Y	N	ETHYL BENZENE	100-41-4	10		Y	N
BENZO(K)FLUORANTHENE	207-08-9	0.01	V	Y	N	DDE	72-55-9	0.01	V	Y	Y	ETHYL CHLORIDE	75-00-3	10		Y	N
BENZOTRICHLORIDE	98-07-7	0.006		Y	N	DI(2-ETHYLHEXYL) PHTHALATE, (DEHP)	117-81-7	5		Y	N	ETHYLENE GLYCOL	107-21-1	10		Y	N
BENZYL CHLORIDE	100-44-7	0.1		Y	N	DIAMINOTOLUENE, [2,4-]	95-80-7	0.02		Y	N	ETHYLENE GLYCOL MONOBUTYL ETHER (Delisted)	111-76-2				
BERYLLIUM COMPOUNDS		0.008	J	N	Y	DIAZOMETHANE	334-88-3	1		Y	N	ETHYLENE GLYCOL MONOHEXYL ETHER	112-25-4	5	P	Y	N
BERYLLIUM SALTS		0.00002	J	N	Y	DIBENZ(A,H)ANTHRACENE	53-70-3	0.01	V	Y	N	ETHYLENE IMINE [AZIRIDINE]	151-56-4	0.003		Y	N
BIPHENYL, [1,1-]	92-52-4	10	V	Y	N	DIOXINS/FURANS		6E-07	D,V	Y	N	ETHYLENE OXIDE	75-21-8	0.1		Y	N
BIS(CHLOROETHYL)ETHER	111-44-4	0.06		Y	N	DIBENZOFURAN	132-64-9	5	V	Y	N	ETHYLENE THIOUREA	96-45-7	0.6		Y	Y
BIS(CHLOROMETHYL)ETHER	542-88-1	0.0003		Y	N	DIBROMO-3-CHLOROPROPANE, [1,2-]	96-12-8	0.01		Y	N	FORMALDEHYDE	50-00-0	2		Y	N
BROMOFORM	75-25-2	10		Y	N	DIBROMOETHANE, [1,2-]	106-93-4	0.1		Y	N	GLYCOL ETHER (ETHYLENE GLYCOL ETHERS)		5	P	Y	N
BROMOMETHANE	74-83-9	10		Y	N	DIBUTYL PHTHALATE	84-74-2	10		Y	Y	GLYCOL ETHER (DIETHYLENE GLYCOL ETHERS)		5	P	Y	N
BUTADIENE, [1,3-]	106-99-0	0.07		Y	N	DICHLOROBENZENE, [1,4-]	106-46-7	3		Y	N	HEPTACHLOR	76-44-8	0.02		Y	N
BUTOXYETHANOL ACETATE, [2-]	112-07-2	5	P	Y	N	DICHLOROBENZIDENE, [3,3-]	91-94-1	0.2	V	Y	Y	HEXACHLOROBENZENE	118-74-1	0.01		Y	N
BUTYLENE OXIDE, [1,2-]	106-88-7	1		Y	N	DICHLOROETHANE, [1,1-]	75-34-3	1		Y	N	HEXACHLOROBUTADIENE	87-68-3	0.9		Y	N
CADMIUM COMPOUNDS		0.01	K	N	Y	DICHLOROETHANE, [1,2-]	107-06-2	0.8		Y	N	HEXACHLOROCYCLOHEXANE, [ALPHA-]	319-84-6	0.01	F	Y	N
CALCIUM CYANAMIDE	156-62-7	10		Y	Y	DICHLOROETHYLENE, [1,1-]	75-35-4	0.4		Y	N	HEXACHLOROCYCLOHEXANE, [BETA-]	319-85-7	0.01	F	Y	N
CAPROLACTAM (Delisted)	105-60-2					DICHLOROMETHANE	75-09-2	10		N	N	HEXACHLOROCYCLOHEXANE, [DELTA-]	319-86-8	0.01	F	Y	N
CAPTAN	133-06-2	10		Y	Y	DICHLOROPHENOXY ACETIC ACID, [2,4-]	94-75-7	10	C	Y	Y	HEXACHLOROCYCLOHEXANE, [TECHNICAL]	608-73-1	0.01	F	Y	N

Attachment B – HAPs SMAL Reference Table

Chemical	CAS #	SMAL (tons/yr)	Group ID	VOC	PM	Chemical	CAS #	SMAL (tons/yr)	Group ID	VOC	PM	Chemical	CAS #	SMAL (tons/yr)	Group ID	VOC	PM
HEXACHLOROCYCLOPENTADIENE	77-47-4	0.1		Y	N	NITROSODIMETHYLAMINE, [N-]	62-75-9	0.001		Y	N	TRIMETHYLPENTANE, [2,2,4-]	540-84-1	5		Y	N
HEXACHLOROETHANE	67-72-1	5		Y	N	NITROSOMORPHOLINE, [N-]	59-89-2	1		Y	N	URETHANE [ETHYL CARBAMATE]	51-79-6	0.8		Y	N
HEXAMETHYLENE,-1,6-DIISOCYANATE	822-06-0	0.02		Y	N	NITROSO-N-METHYLUREA, [N-]	684-93-5	0.0002		Y	N	VINYL ACETATE	108-05-4	1		Y	N
HEXAMETHYLPHOSPHORAMIDE	680-31-9	0.01		Y	N	OCTACHLORONAPHTHALENE	2234-13-1	0.01	V	Y	N	VINYL BROMIDE	593-60-2	0.6		Y	N
HEXANE, [N-]	110-54-3	10		Y	N	PARATHION	56-38-2	0.1		Y	Y	VINYL CHLORIDE	75-01-4	0.2		Y	N
HYDRAZINE	302-01-2	0.004		N	N	PCB [POLYCHLORINATED BIPHENYLS]	1336-36-3	0.009	X	Y	Y	XYLENE, [META-]	108-38-3	10	G	Y	N
HYDROGEN CHLORIDE	7647-01-0	10		N	N	PENTACHLORONITROBENZENE	82-68-8	0.3		Y	N	XYLENE, [ORTHO-]	95-47-6	10	G	Y	N
HYDROGEN FLUORIDE	7664-39-3	0.1		N	N	PENTACHLOROPHENOL	87-86-5	0.7		Y	N	XYLENE, [PARA-]	106-42-3	10	G	Y	N
HYDROQUINONE	123-31-9	1		Y	N	PHENOL	108-95-2	0.1		Y	N	XYLENES (MIXED ISOMERS)	1330-20-7	10	G	Y	N
INDENO(1,2,3CD)PYRENE	193-39-5	0.01	V	Y	N	PHENYLENEDIAMINE, [PARA-]	106-50-3	10		Y	N						
ISOPHORONE	78-59-1	10		Y	N	PHOSGENE	75-44-5	0.1		Y	N						
LEAD COMPOUNDS		0.01	Q	N	Y	PHOSPHINE	7803-51-2	5		N	N						
LINDANE [GAMMA-HEXACHLOROCYCLOHEXANE]	58-89-9	0.01	F	Y	N	PHOSPHOROUS (YELLOW OR WHITE)	7723-14-0	0.1		N	N						
MALEIC ANHYDRIDE	108-31-6	1		Y	N	PHTHALIC ANHYDRIDE	85-44-9	5		Y	N						
MANGANESE COMPOUNDS		0.8	R	N	Y	POLYCYCLIC ORGANIC MATTER		0.01	V	Y	N						
MERCURY COMPOUNDS		0.01	S	N	N	PROPANE SULTONE, [1,3-]	1120-71-4	0.03		Y	Y						
METHANOL	67-56-1	10		Y	N	PROPIOLACTONE, [BETA-]	57-57-8	0.1		Y	N						
METHOXYCHLOR	72-43-5	10	V	Y	Y	PROPIONALDEHYDE	123-38-6	5		Y	N						
METHOXYETHANOL, [2-]	109-86-4	10	P	Y	N	PROPOXUR [BAYGON]	114-26-1	10		Y	Y						
METHYL CHLORIDE	74-87-3	10		Y	N	PROPYLENE OXIDE	75-56-9	5		Y	N						
METHYL ETHYL KETONE (Delisted)	78-93-3					PROPYLENEIMINE, [1,2-]	75-55-8	0.003		Y	N						
METHYL HYDRAZINE	60-34-4	0.06		Y	N	QUINOLINE	91-22-5	0.006		Y	N						
METHYL IODIDE	74-88-4	1		Y	N	QUINONE	106-51-4	5		Y	N						
METHYL ISOBUTYL KETONE	108-10-1	10		Y	N	RADIONUCLIDES		Note 1	Y	N	Y						
METHYL ISOCYANATE	624-83-9	0.1		Y	N	SELENIUM COMPOUNDS		0.1	W	N	Y						
METHYL METHACRYLATE	80-62-6	10		Y	N	STYRENE	100-42-5	1		Y	N						
METHYL TERT-BUTYL ETHER	1634-04-4	10		Y	N	STYRENE OXIDE	96-09-3	1		Y	N						
METHYLCYCLOPENTADIENYL MANGANESE	12108-13-3	0.1	R	N	Y	TETRACHLORODIBENZO-P-DIOXIN,[2,3,7,8]	1746-01-6	6E-07	D,V	Y	Y						
METHYLENE BIS(2-CHLOROANILINE), [4,4-]	101-14-4	0.2	V	Y	Y	TETRACHLOROETHANE, [1,1,2,2-]	79-34-5	0.3		Y	N						
METHYLENEDIANILINE, [4,4-]	101-77-9	1	V	Y	N	TETRACHLOROETHYLENE	127-18-4	10		N	N						
METHYLNAPHTHALENE, [2-]	91-57-6	0.01	V	Y	N	TITANIUM TETRACHLORIDE	7550-45-0	0.1		N	N						
MINERAL FIBERS		0	T	N	Y	TOLUENE	108-88-3	10		Y	N						
NAPHTHALENE	91-20-3	10	V	Y	N	TOLUENE DIISOCYANATE, [2,4-]	584-84-9	0.1		Y	N						
NAPHTHYLAMINE, [ALPHA-]	134-32-7	0.01	V	Y	N	TOLUIDINE, [ORTHO-]	95-53-4	4		Y	N						
NAPHTHYLAMINE, [BETA-]	91-59-8	0.01	V	Y	N	TOXAPHENE	8001-35-2	0.01		Y	N						
NICKEL CARBONYL	13463-39-3	0.1	U	N	Y	TRICHLOROBENZENE, [1,2,4-]	120-82-1	10		Y	N						
NICKEL COMPOUNDS		1	U	N	Y	TRICHLOROETHANE, [1,1,1-]	71-55-6	10		N	N						
NICKEL REFINERY DUST		0.08	U	N	Y	TRICHLOROETHANE, [1,1,2-]	79-00-5	1		Y	N						
NICKEL SUBSULFIDE	12035-72-2	0.04	U	N	Y	TRICHLOROETHYLENE	79-01-6	10		Y	N						
NITROBENZENE	98-95-3	1		Y	N	TRICHLOROPHENOL, [2,4,5-]	95-95-4	1		Y	N						
NITROBIPHENYL, [4-]	92-93-3	1	V	Y	N	TRICHLOROPHENOL, [2,4,6-]	88-06-2	6		Y	N						
NITROPHENOL, [4-]	100-02-7	5		Y	N	TRIETHYLAMINE	121-44-8	10		Y	N						
NITROPROPANE, [2-]	79-46-9	1		Y	N	TRIFLURALIN	1582-09-8	9		Y	Y						

Legend	
Group ID	Aggregate Group Name
A	Asbestos
B	Cresols/Cresylic Acid (isomers and mixtures)
C	2,4 - D, Salts and Esters
D	Dibenzofurans, Dibenzodioxins
E	4, 6 Dinitro-o-cresol, and Salts
F	Lindane (all isomers)
G	Xylenes (all isomers and mixtures)
H	Antimony Compounds
I	Arsenic Compounds
J	Beryllium Compounds
K	Cadmium Compounds
L	Chromium Compounds
M	Cobalt Compounds
N	Coke Oven Emissions
O	Cyanide Compounds
P	Glycol Ethers
Q	Lead Compounds (except elemental Lead)
R	Manganese Compounds
S	Mercury Compounds
T	Fine Mineral Fibers
U	Nickel Compounds
V	Polycyclic Organic Matter
W	Selenium Compounds
X	Polychlorinated Biphenyls (Aroclors)
Y	Radionuclides

Notes

Note 1 The SMAL for radionuclides is defined as the effective dose equivalent to 0.3 millirems per year for 7 years exposure associated with a cancer risk of 1 in 1 million

APPENDIX A

Abbreviations and Acronyms

%	percent	m/s	meters per second
°F	degrees Fahrenheit	Mgal	1,000 gallons
acfm	actual cubic feet per minute	MW	megawatt
BACT	Best Available Control Technology	MHDR	maximum hourly design rate
BMPs	Best Management Practices	MMBtu	Million British thermal units
Btu	British thermal unit	MMCF	million cubic feet
CAM	Compliance Assurance Monitoring	MSDS	Material Safety Data Sheet
CAS	Chemical Abstracts Service	NAAQS ...	National Ambient Air Quality Standards
CEMS	Continuous Emission Monitor System	NESHAPs National Emissions Standards for Hazardous Air Pollutants
CFR	Code of Federal Regulations	NO_x	nitrogen oxides
CO	carbon monoxide	NSPS	New Source Performance Standards
CO₂	carbon dioxide	NSR	New Source Review
CO_{2e}	carbon dioxide equivalent	PM	particulate matter
COMS	Continuous Opacity Monitoring System	PM_{2.5}	particulate matter less than 2.5 microns in aerodynamic diameter
CSR	Code of State Regulations	PM₁₀	particulate matter less than 10 microns in aerodynamic diameter
dscf	dry standard cubic feet	ppm	parts per million
EQ	Emission Inventory Questionnaire	PSD	Prevention of Significant Deterioration
EP	Emission Point	PTE	potential to emit
EPA	Environmental Protection Agency	RACT	Reasonable Available Control Technology
EU	Emission Unit	RAL	Risk Assessment Level
fps	feet per second	SCC	Source Classification Code
ft	feet	scfm	standard cubic feet per minute
GACT	Generally Available Control Technology	SIC	Standard Industrial Classification
GHG	Greenhouse Gas	SIP	State Implementation Plan
gpm	gallons per minute	SMAL	Screening Model Action Levels
gr	grains	SO_x	sulfur oxides
GWP	Global Warming Potential	SO₂	sulfur dioxide
HAP	Hazardous Air Pollutant	tph	tons per hour
hr	hour	tpy	tons per year
hp	horsepower	VMT	vehicle miles traveled
lb	pound	VOC	Volatile Organic Compound
lbs/hr	pounds per hour		
MACT	Maximum Achievable Control Technology		
µg/m³	micrograms per cubic meter		

Mr. Doug Spooler
Plant Manager
Spartech Polycom, Inc. - Cape Girardeau
P.O. Box 1719
Cape Girardeau, MO 63702

RE: New Source Review Permit - Project Number: 2012-11-017

Dear Mr. Spooler:

Enclosed with this letter is your permit to construct. Please study it carefully and refer to Appendix A for a list of common abbreviations and acronyms used in the permit. Also, note the special conditions on the accompanying pages. The document entitled, "Review of Application for Authority to Construct," is part of the permit and should be kept with this permit in your files. Operation in accordance with these conditions, your new source review permit application and with your operating permit is necessary for continued compliance. The reverse side of your permit certificate has important information concerning standard permit conditions and your rights and obligations under the laws and regulations of the State of Missouri.

If you have any questions regarding this permit, please do not hesitate to contact J Luebbert, at the Department of Natural Resources' Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102 or at (573) 751-4817. Thank you for your attention to this matter.

Sincerely,

AIR POLLUTION CONTROL PROGRAM

Susan Heckenkamp
New Source Review Unit Chief

SH:jl

Enclosures

c: Southeast Regional Office
PAMS File: 2012-11-017

Permit Number: