

**CONSTRUCTION PERMIT  
OFFICE OF AIR MANAGEMENT**

**Thomson Consumer Electronics  
3301 South Adams Street  
Marion, Indiana 46952**

is hereby authorized to construct very large screen television picture tube manufacturing facilities,  
consisting of the equipment listed in Page 2 of this permit.

This permit is issued to the above mentioned company (herein known as the Permittee) under the provisions  
of 326 IAC 2-1 and 40 CFR 52.780, with conditions listed on the attached pages.

Construction Permit No.: CP 053-8511-00020	
Issued by: Paul Dubenetzky, Branch Chief Office of Air Management	Issuance Date:

- (a) One (1) panel wash station, equipped with an existing VLS scrubber as air pollution control, exhausting through stack (34-E33), maximum capacity: 125 glass tubes per hour.
- (b) One (1) matrix development station, equipped with a low volume, low pressure spray gun, exhausting through an existing incinerator for volatile organic compounds control and stack 9, maximum capacity: 125 glass tubes per hour.
- (c) One (1) screen development station, equipped with low volume, low pressure spray guns, maximum capacity: 125 glass tubes per hour.
- (d) One (1) spray film station, equipped with a low volume, low pressure spray gun and dipping equipment, exhausting through an existing incinerator for volatile organic compounds control and stack 9, maximum capacity: 125 glass tubes per hour.
- (e) One (1) panel seal land clean station, exhausting through stack (34-E33), maximum capacity: 125 glass tubes per hour.
- (f) One (1) bismuth oxide spray station, exhausting through stack (34-E41), maximum capacity: 125 glass tubes per hour.
- (g) One (1) acid neck wash station, equipped with an existing VLS scrubber as air pollution control, exhausting through stack (34-E31), maximum capacity: 125 glass tubes per hour.
- (h) One (1) funnel acid rim wash station, equipped with an existing VLS scrubber as air pollution control, exhausting through stack (34-E33), increased capacity: 125 glass tubes per hour.
- (i) One (1) frit application station for manual application, maximum capacity: 125 glass tubes per hour.
- (j) One (1) external coating station, equipped with roll-on applicators, exhausting through stack (27A-E19), maximum capacity: 125 glass tubes per hour.
- (k) One (1) ammonium bifluoride station, equipped with an existing VLS scrubber as air pollution control, exhausting through stack (34-E33), maximum capacity: 125 glass tubes per hour.
- (l) One (1) anti-glare, anti-static station, equipped with an existing carbon filter as air pollution control, maximum capacity: 125 glass tubes per hour.
- (m) One (1) salvage station, exhausting through stack (36-9), maximum capacity: 25 glass tubes per hour.
- (n) One (1) cleaning station, maximum capacity: 125 glass tubes per hour.

### **Construction Conditions**

#### General Construction Conditions

1. That the data and information supplied with the application shall be considered part of this permit. Prior to any proposed change in construction which may affect allowable emissions, the change must be approved by the Office of Air Management (OAM).
2. That this permit to construct does not relieve the Permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.

#### Effective Date of the Permit

3. That pursuant to IC 13-15-5-3, this permit becomes effective upon its issuance.
4. That pursuant to 326 IAC 2-1-9(b)(Revocation of Permits), the Commissioner may revoke this permit if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is suspended for a continuous period of one (1) year or more.
5. That notwithstanding Construction Condition No. 6, all requirements and conditions of this construction permit shall remain in effect unless modified in a manner consistent with procedures established for modifications of construction permits pursuant to 326 IAC 2 (Permit Review Rules).

#### First Time Operation Permit

6. That this document shall also become a first-time operation permit pursuant to 326 IAC 2-1-4 (Operating Permits) when, prior to start of operation, the following requirements are met:
  - (a) The attached affidavit of construction shall be submitted to the Office of Air Management (OAM), Permit Administration & Development Section, verifying that the facilities were constructed as proposed in the application. The facilities covered in the Construction Permit may begin operating on the date the Affidavit of Construction is postmarked or hand delivered to IDEM.
  - (b) If construction is completed in phases; i.e., the entire construction is not done continuously, a separate affidavit must be submitted for each phase of construction. Any permit conditions associated with operation start up dates such as stack testing for New Source Performance Standards (NSPS) shall be applicable to each individual phase.
  - (c) Permittee shall receive an Operation Permit Validation Letter from the Chief of the Permit Administration & Development Section and attach it to this document.
  - (d) The operation permit will be subject to annual operating permit fees pursuant to 26 IAC 2-7-19 (Fees)
  - (e) The Permittee has submitted their Part 70 (T-053-7202-00020) application on November 18, 1996 for the existing source. The equipment being reviewed under this permit shall be incorporated in the submitted Part 70 application.
7. That when the facility is constructed and placed into operation the following operation conditions shall

be met:

### **Operation Conditions**

#### General Operation Conditions

1. That the data and information supplied in the application shall be considered part of this permit. Prior to any change in the operation which may result in an increase in allowable emissions exceeding those specified in 326 IAC 2-1-1 (Construction and Operating Permit Requirements), the change must be approved by the Office of Air Management (OAM).
2. That the Permittee shall comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder.

#### Preventive Maintenance Plan

3. That pursuant to 326 IAC 1-6-3 (Preventive Maintenance Plans), the Permittee shall prepare and maintain a preventive maintenance plan, including the following information:
  - (a) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices.
  - (b) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions.
  - (c) Identification of the replacement parts which will be maintained in inventory for quick replacement.

The preventive maintenance plan shall be submitted to IDEM, OAM upon request and shall be subject to review and approval.

#### Transfer of Permit

4. That pursuant to 326 IAC 2-1-6 (Transfer of Permits):
  - (a) In the event that ownership of these very large screen television picture tube manufacturing facilities are changed, the Permittee shall notify OAM, Permit Branch, within thirty (30) days of the change. Notification shall include the date or proposed date of said change.
  - (b) The written notification shall be sufficient to transfer the permit from the current owner to the new owner.
  - (c) The OAM shall reserve the right to issue a new permit.

#### Permit Revocation

5. That pursuant to 326 IAC 2-1-9(a)(Revocation of Permits), this permit to construct and operate may be revoked for any of the following causes:
  - (a) Violation of any conditions of this permit.
  - (b) Failure to disclose all the relevant facts, or misrepresentation in obtaining this permit.

- (c) Changes in regulatory requirements that mandate either a temporary or permanent reduction of discharge of contaminants. However, the amendment of appropriate sections of this permit shall not require revocation of this permit.
- (d) Noncompliance with orders issued pursuant to 326 IAC 1-5 (Episode Alert Levels) to reduce emissions during an air pollution episode.
- (e) For any cause which establishes in the judgment of IDEM, the fact that continuance of this permit is not consistent with purposes of 326 IAC 2-1 (Permit Review Rules).

Availability of Permit

6. That pursuant to 326 IAC 2-1-3(l), the Permittee shall maintain the applicable permit on the premises of this source and shall make this permit available for inspection by the IDEM, or other public official having jurisdiction.

Opacity Limitations

7. That pursuant to 326 IAC 5-1-2 (Visible Emission Limitations) except as provided in 326 IAC 5-1-3 (Temporary Exemptions), the visible emissions shall meet the following:
- (a) visible emissions shall not exceed an average of 40 percent opacity in 24 consecutive readings.
  - (b) visible emissions shall not exceed 60 percent opacity for more than a cumulative total of 15 minutes (60 readings) in a 6-hour period.

Fugitive Dust Emissions

8. That pursuant to 326 IAC 6-4 (Fugitive Dust Emissions), the Permittee shall be in violation of 326 IAC 6-4 (Fugitive Dust Emissions) if any of the criteria specified in 326 IAC 6-4-2(1) through (4) are violated. Observations of visible emissions crossing the property line of the source at or near ground level must be made by a qualified representative of IDEM. [326 IAC 6-4-5(c)].

Particulate Matter Limitation

9. That pursuant to 326 IAC 6-3 (Process Operations):
- (a) The VLS scrubber for particulate matter overspray control shall be in operation at all times when the panel wash, panel seal land clean, acid neck wash, funnel acid rim wash, and ammonium bifluoride stations are in operation. The Carbon Filter will be in operation at all times when the anti-glare, anti-static station is in operation.
  - (b) The very large screen television picture tube manufacturing facilities shall comply with 326 IAC 6-3-2(c) using the following equations:

If P is equal to or less than 60,000 pounds per hour (30 tons per hour):

$$E = 4.10P^{0.67} \quad \text{where: } E = \text{rate of emission in pounds per hour,} \\ P = \text{process weight in tons per hour.}$$

If P is greater than 60,000 pounds per hour (30 tons per hour):

$E = 55.0P^{0.11}-40$  where: E = rate of emission in pounds per hour,  
P = process weight in tons per hour.

- (c) Additional inspections and preventive measures shall be performed as prescribed in the Preventive Maintenance Plan.

Particulate Matter and Particulate Matter - 10 microns

10. Any change or modification which may increase actual emissions from the equipment covered in this permit and the equipment covered in CP 053-8592-00020 to 25 tons per year or more of PM or 15 or more tons per year of PM<sub>10</sub> shall obtain a PSD permit pursuant to 326 IAC 2-2 before such change may occur.

BACT Condition

11. That pursuant to 326 IAC 8-1-6, the incinerator shall be in operation at all times when the matrix development and spray film stations are in operation. When operating, the thermal incinerator shall maintain a minimum operating temperature of 1,400 degrees Fahrenheit or a temperature determined in the compliance tests.

Volatile Organic Compound

12. That pursuant to 326 IAC 2-1-3(i)(8), records of surface coating quantities and organic solvent contents shall be maintained for a minimum period of 36 months and made available upon request of the Office of Air Management (OAM). Any change or modification which may increase the volatile organic compounds (VOC) emissions after control from the equipment covered in this permit and the equipment covered in CP 053-8592-00020 to 40 tons per year or more shall obtain a PSD permit pursuant to 326 IAC 2-2 before such change may occur.

Open Burning

13. That the Permittee shall not open burn any material except as provided in 326 IAC 4-1-3, 326 IAC 4-1-4 or 326 IAC 4-1-6.

Performance Testing

14. That pursuant to 326 IAC 2-1-3 (Construction and Operating Permit Requirements) compliance stack tests shall be performed for the incinerator for the minimum temperature required to obtain the 95% control efficiency for volatile organic compounds destruction within 60 days after achieving maximum production rate, but no later than 180 days after initial start-up. These tests shall be performed according to 326 IAC 3-2.1 (Source Sampling Procedures) using the methods specified in the rule or as approved by the Commissioner.

- (a) A test protocol shall be submitted to the OAM, Compliance Data Section, 35 days in advance of the test.
- (b) The Compliance Data Section shall be notified of the actual test date at least two (2) weeks prior to the date.
- (c) All test reports must be received by the Compliance Data Section within 45 days of completion of the testing.
- (d) Whenever the results of the stack test performed exceed the level specified in this permit, appropriate corrective actions shall be implemented within thirty (30) days of receipt of the

test results. These actions shall be implemented immediately unless notified by OAM that they are acceptable. The Permittee shall minimize emissions while the corrective actions are being implemented.

- (e) Whenever the results of the stack test performed exceed the level specified in this permit, a second test to demonstrate compliance shall be performed within 120 days. Failure of the second test to demonstrate compliance may be grounds for immediate revocation of this permit to operate the affected facility.

15. Record Keeping

The Permittee shall record the temperature of the incinerator once per day when the incinerator is operating. These records shall be maintained for a minimum period of 36 months and made available upon request of the Office of Air Management (OAM).

## Indiana Department of Environmental Management Office of Air Management

### Technical Support Document (TSD) for New Construction and Operation

#### Source Background and Description

Source Name: Thomson Consumer Electronics  
Source Location: 3301 South Adams Street, Marion, Indiana 46952  
County: Grant  
Construction Permit No.: CP 053 - 8511 - 00020  
SIC Code: 3761  
Permit Reviewer: Mark L. Kramer

The Office of Air Management (OAM) has reviewed an application from Thomson Consumer Electronics relating to the construction and operation of very large screen television picture tube manufacturing facilities at an existing permitted major source. In addition to the modification of the very large screen television picture tube manufacturing line that manufactures tubes of thirty-one (31) inches and greater, Thomson Consumer Electronics also submitted an application to modify the existing base plant (tubes twenty-seven (27) inches and less) at this source. The expansion at the base plant and the very large screen facilities are in no way related in terms of raw materials and products produced, will not utilize common equipment, and process throughput material separately. Traditionally, the base plant and the very large screen production line have had individual construction permits and modifications, even though they are considered one source. Therefore, the two (2) modifications will be permitted separately for easy tracking and future modifications. Although the modifications are proposed as two (2) separate permits, PSD applicability has been evaluated as if there is only one (1) modification. The base plant modification will be permitted under CP 053-8592-00020.

The very large screen television picture tube manufacturing facilities modification consists of the following equipment:

- (a) One (1) panel wash station, equipped with an existing VLS scrubber as air pollution control, exhausting through stack (34-E33), maximum capacity: 125 glass tubes per hour.
- (b) One (1) matrix development station, equipped with a low volume, low pressure spray gun, exhausting through an existing incinerator for volatile organic compounds control and stack 9, maximum capacity: 125 glass tubes per hour.
- (c) One (1) screen development station, equipped with low volume, low pressure spray guns, maximum capacity: 125 glass tubes per hour.
- (d) One (1) spray film station, equipped with a low volume, low pressure spray gun and dipping equipment, exhausting through an existing incinerator for volatile organic compounds control and stack 9, maximum capacity: 125 glass tubes per hour.
- (e) One (1) panel seal and clean station, exhausting through stack (34-E33), maximum capacity: 125 glass tubes per hour.
- (f) One (1) bismuth oxide spray station, exhausting through stack (34-E41), maximum capacity:

125 glass tubes per hour.

- (g) One (1) acid neck wash station, equipped with an existing VLS scrubber as air pollution control, exhausting through stack (34-E31), maximum capacity: 125 glass tubes per hour.
- (h) One (1) funnel acid rim wash station, equipped with an existing VLS scrubber as air pollution control, exhausting through stack (34-E33), increased capacity: 125 glass tubes per hour.
- (i) One (1) frit application station for manual application, maximum capacity: 125 glass tubes per hour.
- (j) One (1) external coating station, equipped with roll-on applicators, exhausting through stack (27A-E19), maximum capacity: 125 glass tubes per hour.
- (k) One (1) ammonium bifluoride station, equipped with an existing VLS scrubber as air pollution control, exhausting through stack (34-E33), maximum capacity: 125 glass tubes per hour.
- (l) One (1) anti-glare, anti-static station, equipped with an existing carbon filter as air pollution control, maximum capacity: 125 glass tubes per hour.
- (m) One (1) salvage station, exhausting through stack (36-9), maximum capacity: 25 glass tubes per hour.
- (n) One (1) cleaning station, maximum capacity: 125 glass tubes per hour.

**Stack Summary**

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (°F)
34-E33	panel wash, panel seal land clean, acid neck wash, funnel acid rim wash, ammonium bifluoride	52.8	3.67	30,000	75
9	matrix development, spray film	50.0	2.33	3,500	1,000
34-E41	bismuth oxide spray	38.0	1.83	4,800	75
27A-E19	external coating	40.5	1.67	2,000	75
36-9	salvage	38.5	3.33	20,000	70

**Enforcement Issue**

There are no enforcement actions pending.

**Recommendation**

The staff recommends to the Commissioner that the construction and operation be approved. This

recommendation is based on the following facts and conditions:

Information, unless otherwise stated, used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on April 23, 1997, with additional information received on May 15, 1997, June 20, 1997, July 8, 1997, and July 16, 1997.

### Emissions Calculations

See Pages 1 and 2 of Appendix A (Emissions Calculation Spreadsheets) for detailed calculations.

### Total Potential and Allowable Emissions

Indiana Permit Allowable Emissions Definition (after compliance with applicable rules, based on 8,760 hours of operation per year at rated capacity):

Pollutant	Allowable Emissions (tons/year)	Potential Emissions (tons/year)
Particulate Matter (PM)	24.0	8.32
Particulate Matter (PM <sub>10</sub> )	14.0	8.32
Sulfur Dioxide (SO <sub>2</sub> )	0.00	0.00
Volatile Organic Compounds (VOC)	39.0	31.7
Carbon Monoxide (CO)	0.00	0.00
Nitrogen Oxides (NO <sub>x</sub> )	0.00	0.00
Single Hazardous Air Pollutant (HAP)	18.1	18.1
Combination of HAPs	24.6	24.6

- (a) Allowable emissions of VOC, PM, and PM<sub>10</sub> are based on 326 IAC 2-2, PSD. The allowable emissions of VOC, PM and PM<sub>10</sub> are the allowable for the total emissions from this modification (CP 053-8511) and from the base plant modification (CP 053-8592). The potential emissions are for this modification only.
- (b) The potential emissions before control are less than the allowable emissions, therefore, the potential emissions before control are used for the permitting determination.
- (c) Allowable emissions (as defined in the Indiana Rule) of VOCs are greater than 25 tons per year. Therefore, pursuant to 326 IAC 2-1, Sections 1 and 3, a construction permit is required.
- (d) Allowable emissions (as defined in the Indiana Rule) of a single hazardous air pollutant (HAP) are greater than 10 tons per year. Therefore, pursuant to 326 IAC 2-1, a construction permit is required.

### County Attainment Status

- (a) Volatile organic compounds (VOC) and oxides of nitrogen are precursors for the formation

of ozone. Therefore, VOC and NO<sub>x</sub> emissions are considered when evaluating the rule applicability relating to the ozone standards. Grant County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NO<sub>x</sub> emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

- (b) Grant County has been classified as attainment or unclassifiable for all remaining criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.
- (c) Fugitive Emissions  
Since this type of operation is not one of the 28 listed source categories under 326 IAC 2-2 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive PM emissions are not counted toward determination of PSD and Emission Offset applicability.

**Source Status**

Existing Source PSD, Part 70 or FESOP Definition (emissions after controls, based on 8,760 hours of operation per year at rated capacity or as otherwise limited):

<b>Pollutant</b>	<b>Emissions (tons/yr)</b>
PM	0.00
PM <sub>10</sub>	0.00
SO <sub>2</sub>	312
VOC	306
CO	0.00
NO <sub>x</sub>	207

- (a) This existing source is a major stationary source because at least one attainment regulated pollutant is emitted at a rate of 250 tons per year.
- (b) These emissions were based on the AIRS Facility Quick Look Report, dated September 18, 1996.

**Proposed Modification**

PTE from the proposed modification (based on 8,760 hours of operation per year at rated capacity including enforceable emission control):

Pollutant	PM (tons/yr)	PM <sub>10</sub> (tons/yr)	SO <sub>2</sub> (tons/yr)	VOC (tons/yr)	CO (tons/yr)	NO <sub>x</sub> (tons/yr)
Proposed Modification	8.32	8.32	0.00	12.3	0.00	0.00
Contemporaneous Increases	0.00	0.00	0.00	0.00	0.00	0.00
Contemporaneous Decreases	0.00	0.00	0.00	0.00	0.00	0.00
Net Emissions	8.32	8.32	0.00	12.3	0.00	0.00
PSD Significant Level	25	15	40	40	100	40

- (a) This modification to an existing major stationary source is not major because the emissions increase after controls is less than the PSD significant levels (See page 1 of TSD Appendix A). Therefore, pursuant to 326 IAC 2-2, and 40 CFR 52.21, the PSD requirements do not apply. The above table applies to only this modification.
- (b) The source is also modifying the existing base plant operations, as indicated in their construction permit application received on May 15, 1997 (CP 053-8592-00020). The two (2) modifications are being permitted separately. The total emissions increase after controls of the two (2) modifications combined are 36.6 tons per year of VOC and 9.41 tons per year of PM and PM<sub>10</sub>. Therefore, the combined applications would result in emissions less than the PSD significant levels, and pursuant to 326 IAC 2-2, and 40 CFR 52.21, the PSD requirements do not apply.

Pollutant	PM (tons/yr)	PM <sub>10</sub> (tons/yr)	VOC (tons/yr)
CP 053-8511-00020	8.32	8.32	12.3
CP 053-8592-00020	1.09	1.09	24.3
Total for Both Modifications	9.41	9.41	36.6
PSD Significant Level	25	15	40

**Part 70 Permit Determination**

326 IAC 2-7 (Part 70 Permit Program)

This existing source has submitted their Part 70 (T-053-7202-00020) application on November 18, 1996. The equipment being reviewed under this permit shall be incorporated in the submitted Part 70 application.

**Federal Rule Applicability**

There are no New Source Performance Standards (326 IAC 12) and 40 CFR Part 63 applicable to this facility.

### State Rule Applicability

#### 326 IAC 6-3-2 (Particulate Emission Limitations)

The spray operations shall comply with 326 IAC 6-3-2(c). The 326 IAC 6-3-2 equations are as follows:  $E = 4.10 P^{0.67}$ , where P equals process weight in tons per hour for process weights up to and including sixty thousand (60,000) pounds per hour and E equals the allowable emission rate in pounds per hour. For process weights in excess of sixty thousand (60,000) pounds per hour,  $E = 55.0 P^{0.11} - 40$ .

#### 326 IAC 8-1-6 (Best Available Control Technology)

Since this glass television picture tube manufacturing modification has potential emissions greater than 25 tons per year, 326 IAC 8-1-6, Best Available Control Technology (BACT) is applicable. BACT for the matrix development and spray film stations has been previously determined to be the permitted incinerator for VOC control. The incinerator shall operate at all times that the matrix development and spray film stations are operated. When operating, the thermal incinerator shall maintain a minimum operating temperature of 1,400 degrees Fahrenheit or a temperature determined in the compliance tests.

### Air Toxic Emissions

Indiana presently requests applicants to provide information on emissions of the 187 hazardous air pollutants set out in the Clean Air Act Amendments of 1990. These pollutants are either carcinogenic or otherwise considered toxic and are commonly used by industries. They are listed as air toxics on the Office of Air Management (OAM) Construction Permit Application Form Y.

- (a) This modification will emit levels of air toxics less than those which constitute a major source according to Section 112 of the 1990 Amendments to Clean Air Act. The hazardous air pollutant emissions are controlled by a previously permitted incinerator.
- (b) See attached spreadsheets (Page 2 of TSD Appendix A) for detailed air toxic calculations.
- (c) 326 IAC 2-1-3.4 (New Source Toxic Control) does not apply to these facilities because the facilities are a modification to an existing permitted source. This modification does not involve the addition of any new equipment and is only increasing the capacity of existing equipment and therefore is not subject to this rule.

### Conclusion

The construction of these very large screen television picture tube manufacturing facilities will be subject to the conditions of the attached proposed **Construction Permit No. CP 053 - 8511 - 00020**.



**HAP Emission Calculations**

**Company Name:** Thomson Consumer Electronics  
**Address City IN Zip:** 3301 South Adams Street, Marion, IN 46952  
**CP:** 053-8511  
**Pft ID:** 053-00020  
**Reviewer:** Mark L. Kramer  
**Date:** April 23, 1997

Material	Density (lb/gal)	Gal of Mat (gal/unit)	Maximum (unit/hour)	Weight % Toluene	Weight % Methanol	Weight % MEK	Weight % MIBK	Weight % DEHP	Weight % Xylenes	Weight % Glycol Ethers	Toluene Emissions (tons/yr)	Methanol Emissions (tons/yr)	MEK Emissions (tons/yr)	MIBK Emissions (tons/yr)	DEHP Emissions (tons/yr)	Xylenes Emissions (tons/yr)	Glycol Ethers Emissions (tons/yr)
Matrix development - isopropyl alcohol	6.55	0.00070	35.00								0.00	0.00	0.00	0.00	0.00	0.00	0.00
Screen development - isopropyl alcohol	6.55	0.000900	35.00								0.00	0.00	0.00	0.00	0.00	0.00	0.00
Screen development - methanol	6.60	0.002000	35.00		100.00%						0.00	2.02	0.00	0.00	0.00	0.00	0.00
Spray film - lacquer	7.20	0.051000	35.00		75.00%	10.00%	5.00%	1.00%			42.2	0.00	5.63	2.81	0.56	0.00	0.00
Spray film - toluene	7.23	0.006900	35.00	100.00%							7.65	0.00	0.00	0.00	0.00	0.00	0.00
Frit application - amyl acetate	7.30	0.003000	35.00								0.00	0.00	0.00	0.00	0.00	0.00	0.00
External coating - Electrodag 188 (graphite)	9.84	0.004500	35.00								0.00	0.00	0.00	0.00	0.00	0.00	0.00
External Coating - Lacquer DX-1504-D	7.26	0.000740	35.00	88.60%							0.73	0.00	0.00	0.00	0.00	0.00	0.00
Cleaning - Windex	8.26	0.004800	35.00							3.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.18
Cleaning - Xylene	7.30	0.001600	35.00						100.00%		0.00	0.00	0.00	0.00	0.00	1.79	0.00
Cleaning - Isopropyl alcohol	6.55	0.001500	35.00								0.00	0.00	0.00	0.00	0.00	0.00	0.00

Total State Potential Emissions

<b>TOTALS:</b>	<b>(tons/yr):</b>	<b>50.6</b>	<b>2.02</b>	<b>5.63</b>	<b>2.81</b>	<b>0.563</b>	<b>1.79</b>	<b>0.182</b>
	<b>(lb/hr):</b>	<b>11.6</b>	<b>0.462</b>	<b>1.29</b>	<b>0.643</b>	<b>0.129</b>	<b>0.409</b>	<b>0.042</b>
	<b>(g/sec):</b>	<b>1.46</b>	<b>0.058</b>	<b>0.162</b>	<b>0.081</b>	<b>0.016</b>	<b>0.052</b>	<b>0.005</b>
	<b>(tons/yr):</b>	<b>32.5</b>	<b>0.000</b>	<b>4.33</b>	<b>2.17</b>	<b>0.433</b>	<b>0.000</b>	<b>0.000</b>
	<b>(tons/yr):</b>	<b>18.1</b>	<b>2.02</b>	<b>1.29</b>	<b>0.647</b>	<b>0.129</b>	<b>1.79</b>	<b>0.182</b>
	<b>(lb/hr):</b>	<b>4.13</b>	<b>0.462</b>	<b>0.296</b>	<b>0.148</b>	<b>0.030</b>	<b>0.409</b>	<b>0.042</b>
	<b>(g/sec):</b>	<b>0.521</b>	<b>0.058</b>	<b>0.037</b>	<b>0.019</b>	<b>0.004</b>	<b>0.052</b>	<b>0.005</b>

77% OF THE SPRAY FILM - LAQUER IS RECOVERED BEFORE EMISSIONS:  
**POTENTIAL EMISSIONS:**

**Emissions After Controls:**

Material	VOC Control Efficiency	Toluene (tons/yr)	Methanol (tons/yr)	MEK (tons/yr)	MIBK (tons/yr)	DEHP (tons/yr)	Xylenes (tons/yr)	Glycol Ethers (tons/yr)
Matrix development - isopropyl alcohol	0.95	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Screen development - isopropyl alcohol	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Screen development - methanol	0.00	0.00	2.02	0.00	0.00	0.00	0.00	0.00
Spray film - lacquer	0.95	0.49	0.00	0.06	0.03	0.01	0.00	0.00
Spray film - toluene	0.95	0.38	0.00	0.00	0.00	0.00	0.00	0.00
Frit application - amyl acetate	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
External coating - Electrodag 188 (graphite)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
External Coating - Lacquer DX-1504-D	0.00	0.73	0.00	0.00	0.00	0.00	0.00	0.00
Cleaning - Windex	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.18
Cleaning - Xylene	0.00	0.00	0.00	0.00	0.00	0.00	1.79	0.00
Cleaning - Isopropyl alcohol	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>TOTALS:</b>	<b>(tons/yr):</b>	<b>1.60</b>	<b>2.02</b>	<b>0.065</b>	<b>0.032</b>	<b>0.006</b>	<b>1.79</b>	<b>0.182</b>
	<b>(lb/hr):</b>	<b>0.365</b>	<b>0.462</b>	<b>0.015</b>	<b>0.007</b>	<b>0.001</b>	<b>0.409</b>	<b>0.042</b>
	<b>(g/sec):</b>	<b>0.046</b>	<b>0.058</b>	<b>0.002</b>	<b>0.001</b>	<b>0.000</b>	<b>0.052</b>	<b>0.005</b>

**Additional HAP Emissions (as provided by the source):**

Process	Hydrogen Fluoride Emissions (tons/yr)
Panel Wash	0.263
Panel Seal Land Clean	0.000
Acid Neck Wash	0.015
Funnel Acid Rim Wash	0.044
Salvage	0.088
<b>Totals:</b>	<b>(tons/yr):</b> <b>0.409</b>
	<b>(lb/hr):</b> <b>0.093</b>
	<b>(g/sec):</b> <b>0.012</b>

**Grand Total HAP Emissions before Controls:** (tons/yr): **24.6**  
**Grand Total HAP Emissions after Controls:** (tons/yr): **6.11**

**METHODOLOGY**

HAPS emission rate (tons/yr) = Density (lb/gal) \* Gal of Material (gal/unit) \* Maximum (unit/hr) \* Weight % HAP \* 8760 hrs/yr \* 1 ton/2000 lbs

## Indiana Department of Environmental Management Office of Air Management

### Addendum to the Technical Support Document for New Construction and Operation

Source Name: Thomson Consumer Electronics  
Source Location: 3301 South Adams Street, Marion, Indiana 46952  
County: Grant  
Construction Permit No.: CP 053-8511-00020  
SIC Code: 3761  
Permit Reviewer: Mark L. Kramer

On August 28, 1997, the Office of Air Management (OAM) had a notice published in the Marion Chronicle Tribune, Marion, Indiana, stating that Thomson Consumer Electronics had applied for a construction permit to construct and operate very large screen television picture tube manufacturing facilities with a previously permitted incinerator, scrubber, and carbon filter as air pollution controls. The notice also stated that OAM proposed to issue a permit for this installation and provided information on how the public could review the proposed permit and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this permit should be issued as proposed.

Upon further review, the OAM has decided to make the following changes to the Construction Permit:

Operation Condition #14 has been added to the permit to require stack testing for the existing incinerator since the last stack test was performed in 1992, approximately five (5) years ago. The condition is as follows:

#### Performance Testing

14. That pursuant to 326 IAC 2-1-3 (Construction and Operating Permit Requirements) compliance stack tests shall be performed for the incinerator for the minimum temperature required to obtain the 95% control efficiency for volatile organic compounds destruction within 60 days after achieving maximum production rate, but no later than 180 days after initial start-up. These tests shall be performed according to 326 IAC 3-2.1 (Source Sampling Procedures) using the methods specified in the rule or as approved by the Commissioner.
- (a) A test protocol shall be submitted to the OAM, Compliance Data Section, 35 days in advance of the test.
  - (b) The Compliance Data Section shall be notified of the actual test date at least two (2) weeks prior to the date.
  - (c) All test reports must be received by the Compliance Data Section within 45 days of completion of the testing.
  - (d) Whenever the results of the stack test performed exceed the level specified in this permit, appropriate corrective actions shall be implemented within thirty (30) days of receipt of the test results. These actions shall be implemented immediately unless notified by OAM that they are acceptable. The Permittee shall minimize emissions while the corrective actions are being implemented.

- (e) Whenever the results of the stack test performed exceed the level specified in this permit, a second test to demonstrate compliance shall be performed within 120 days. Failure of the second test to demonstrate compliance may be grounds for immediate revocation of this permit to operate the affected facility.

Operation Condition #15 has been added to the permit to require record keeping. The condition is as follows:

15. Record Keeping

The Permittee shall record the temperature of the incinerator once per day when the incinerator is operating. These records shall be maintained for a minimum period of 36 months and made available upon request of the Office of Air Management (OAM).

On September 24, 1997, Ms. June R. Furnish, resident, of 3425 S. Meridian Street, Marion, Indiana 46953, made the following comment:

**COMMENT 1:**

Concerning Thomson Consumer Electronics, 34th & So. Adams in Marion, Indiana, a paper was sent to Bueford Shaffer, 34th & So. Meridian Street, Marion, Indiana, on how much more pollution they want to add to this area. Indiana is already considered the worst state for allowing pollution from our factories.

None of us close to this factory can even have a decent garden anymore and trees are dying. Mr. Shaffer had English walnut and pecan trees, peach, cherry, apple and they have all died. He gave up on even trying to have a garden. He placed a pin oak in his front yard and one side of it is dying already. Jack Hensky just lost one of his silver maples and my silver maple has dead limbs after dead limbs on them and I'm on a fixed income so I can't even afford to cut them.

Mr. Shaffer and my husband built our homes on this street thinking it would be a nice area to live in. Wish we would have built somewhere else.

My husband died of cancer and in December I was operated on for cancer and August Gineen Stocker, 3500 So. Meridian had a very serious cancer operation. The stuff that Thomsons blow out isn't good for anyone to breathe.

Be nice if Thomson's would buy this row of houses on Meridian and let us go somewhere else to live. Most wind comes from the west so we get everything they blow out. Isn't fair!

Please send us the list of different things that comes out of the factory and how many tons of each. What has happened to the Clean Air Act?

**RESPONSE 1:**

The OAM thanks Ms. Furnish for her concerns regarding the proposed modification of Thomson Consumer Electronics. The Technical Support Document details the emissions from the proposed modification and have been reiterated. Potential emissions after controls means the emissions after controls assuming that the modification operates 24 hours per day, three-hundred and sixty-five

(365) days per year. The potential emissions after controls for the proposed modification are as follows:

**Proposed Modification**

Potential to emit from the proposed modification (based on 8,760 hours of operation per year at rated capacity including enforceable emission control):

<b>Pollutant</b>	<b>PM</b> (tons/yr)	<b>PM<sub>10</sub></b> (tons/yr)	<b>SO<sub>2</sub></b> (tons/yr)	<b>VOC</b> (tons/yr)	<b>CO</b> (tons/yr)	<b>NO<sub>x</sub></b> (tons/yr)
Proposed Modification	8.32	8.32	0.00	12.3	0.00	0.00
Net Emissions	8.32	8.32	0.00	12.3	0.00	0.00
PSD Significant Level	25	15	40	40	100	40

As shown in the above table, the potential emissions from the proposed modification are all below the Prevention of Significant Deterioration (PSD) significant levels. Therefore, according to the federal PSD rules the proposed modification is a minor modification to an existing major source. The proposed potential emissions comply with all of the existing State and Federal rules.

This proposed modification will emit levels of air toxics less than those which constitute a major source according to Section 112 of the 1990 Amendments to Clean Air Act. The hazardous air pollutant (HAPs) emissions are controlled by a previously permitted incinerator. The 1990 Amendments to the Clean Air Act states that facilities that have the potential to emit single HAPs at the rate of less than 10 tons per year and the combination of HAPs at less than 25 tons per day are considered minor sources under Section 112 of the amendments. Therefore, this proposed modification is considered a minor source of HAPs since the proposed controlled potential HAPs emissions are less than the above 10 and 25 ton per year limits. The concentrations of the air toxics were modeled and found to be (in worst case possible) as indicated in the following table:

Pollutant	Rate (lbs/hr)	Rate @ 8,760 hr/yr (tons/yr)	Rate @ 7,200 hr/yr (tons/yr)	Modeled Concentration ( $\mu\text{g}/\text{m}^3$ )	OSHA PEL ( $\mu\text{g}/\text{m}^3$ )	% OSHA PEL
Toluene	0.365	1.60	1.32	4.2	375,000	0.001
Methanol	0.462	2.02	1.66	5.3	260,000	0.002
MEK	0.015	0.065	0.053	0.2	590,000	0.000
MIBK	0.007	0.032	0.026	0.1	205,000	0.000
DEHP	0.001	0.006	0.005	0.000	-	-
Xylenes	0.409	1.79	1.47	4.7	435,000	0.001
Glycol ethers	0.042	0.182	0.150	0.5	-	-
Hydrogen Flouride	0.093	0.409	0.336	1.1	2,500	0.044
<b>TOTAL</b>		6.11	5.02			

The modeled concentration assuming the modification operates every hour of the year and the worst case meteorological conditions calculated by an U.S. EPA-approved dispersion screening model are all less than one tenth (1/10) of one (1) percent of the OSHA PEL.

The latest emissions inventory maintained by IDEM indicates that the actual emissions from the entire Thomson Consumer Electronics source for 1996 were as follows:

Pollutant	Actual Emissions (tons/year)
Particulate Matter (PM)	0.705
Particulate Matter (PM <sub>10</sub> )	0.704
Sulfur Dioxide (SO <sub>2</sub> )	0.410
Volatile Organic Compounds (VOC)	90.6
Carbon Monoxide (CO)	8.11
Nitrogen Oxides (NO <sub>x</sub> )	62.8
Lead	0.0000042

As part of the 1990 Amendments to the Clean Air Act, all sources, including Thomson Consumer Electronics that have potential emissions that exceed the Part 70 major source emission thresholds for regulated pollutants, are required to obtain either a Federally Enforceable State Operating Permit (FESOP), if the source elects to limit its emissions to under the major source thresholds, or a Part 70 Operating Permit. This source has elected to obtain a Part 70 Operating Permit. The emissions from the proposed modification comply with all applicable State and Federal rules.

Particulate matter, sulfur dioxide, ozone, and nitrogen oxides are regulated by the National Ambient Air Quality Standards (NAAQS). Particulate matter is defined as Total Suspended Particulates (TSP) and Particulate Matter with size diameters less than or equal to 10 microns ( $PM_{10}$ ). Volatile organic compounds (VOC) and oxides of nitrogen are precursors for the formation of ozone. Therefore, VOC and  $NO_x$  emissions are considered when evaluating the rule applicability relating to the ozone standards. Grant County is in attainment with the TSP and  $PM_{10}$  as well as the ozone, nitrogen oxides and sulfur dioxide NAAQS which are health-based standards. A margin of safety is incorporated into the NAAQS levels.