



# Florida Department of Environmental Regulation

Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400

Bob Martinez, Governor

Dale Twachtmann, Secretary

John Shearer, Assistant Secretary

STATE OF FLORIDA  
DEPARTMENT OF ENVIRONMENTAL REGULATION  
NOTICE OF PERMIT

Mr. L. R. Hutker  
Director, Facilities Department  
Harris Semiconductor  
P. O. Box 883  
Melbourne, Florida 32901

October 26, 1989

Enclosed is construction permit No. AC 05-164544 for Harris Semiconductor to consolidate multiple permits previously issued for Building No. 55 at their facility in Palm Bay, Brevard County, Florida. This permit is issued pursuant to Section 403, Florida Statutes.

Any party to this permit has the right to seek judicial review of the permit pursuant to Section 120.68, Florida Statutes, by the filing of a Notice of Appeal pursuant to Rule 9.110, Florida Rules of Appellate Procedure, with the Clerk of the Department in the Office of General Counsel, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400; and by filing a copy of the Notice of Appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The Notice of Appeal must be filed within 30 days from the date this permit is filed with the Clerk of the Department.

Executed in Tallahassee, Florida.

STATE OF FLORIDA DEPARTMENT  
OF ENVIRONMENTAL REGULATION

C. H. Fancy, P.E.  
Bureau of Air Regulation

Copy furnished to:

C. Collins, Central District  
N. Baldisserotto, Harris Semiconductor

CERTIFICATE OF SERVICE

The undersigned duly designated deputy clerk hereby certifies that this NOTICE OF PERMIT and all copies were mailed before the close of business on 10/27/89.

FILING AND ACKNOWLEDGEMENT  
FILED, on this date, pursuant to  
§120.52(9), Florida Statutes, with  
the designated Department Clerk,  
receipt of which is hereby  
acknowledged.

Kim J. J. J.  
Clerk

10/27/89  
Date

Final Determination

Harris Semiconductor  
Brevard County  
Palm Bay, Florida

Construction Permit Number  
AC 05-164544

Florida Department of Environmental Regulation  
Division of Air Resources Management  
Bureau of Air Regulation

October 19, 1989

## Final Determination

The construction permit application has been reviewed by the Department. Public Notice of the Department's Intent to Issue was published in the Florida Today Newspaper on September 27, 1989. The Technical Evaluation and Preliminary Determination were available for public inspection at the DER's Central District and Division of Air Resources Management offices.

There were no comments received on the proposed action. Therefore, it is recommended that the proposed construction permit be issued as drafted.

CAPE PUBLICATIONS, INC.

The Times

Published Weekly on Wednesday

THE TRIBUNE

Published Weekly on Wednesday

RECEIVED



OCT 2 1989

Published Daily

DER-BAQM

STATE OF FLORIDA
COUNTY OF BREVARD

Before the undersigned authority personally appeared Linda L. Spicer who on oath says that he/she is Legal Advertising Clerk

of the FLORIDA TODAY, a newspaper published in Brevard County, Florida; that the attached copy of advertising being a

Legal Notice

in the matter of

issued for Building No. 55, consolidate multiple permits

in the

Court

was published in the FLORIDA TODAY NEWSPAPER

in the issues of September 27, 1989

FLORIDA TODAY NEWSPAPER

Affiant further says that the said FLORIDA TODAY NEWSPAPER is a newspaper published in said Brevard County, Florida and that the said newspaper has heretofore been continuously published in said Brevard County, Florida regularly as stated above, and has been entered as second class mail matter at the post office in COCOA, said Brevard County, Florida for a period of one year next preceeding the first publication of the attached copy of advertisement; and affiant further says that he has neither paid nor promised any person, firm or corporation any discount, rebate, commission or refund for the purpose of securing this advertisement for publication in said newspaper.

Linda L. Spicer (signature)

Sworn and subscribed to before me this

27th day of September A.D., 19 89

(signature)

Notary Public, State of Florida at Large
My Commission Expires 11-30-1990

State of Florida
Department of Environmental Regulation
Notice of Intent to Issue
The Department of Environmental Regulation hereby gives notice of its intent to issue a permit to Harris Semiconductor, Post Office Box 883, Melbourne, Florida 32901, to consolidate multiple permits previously issued for Building No. 55, which is a source involved with the collection, short term storage, and shipping of waste chemicals from the facility. The proposed project will occur at the applicant's existing facility located in Brevard County, Florida. A determination of Best Available Control Technology (BACT) was not required. The Department is issuing this intent to issue for the reasons stated in the Technical Evaluation and Preliminary Determination. A person whose substantial interests are affected by the Department's proposed permitting decision may petition for an administrative proceeding (hearing) in accordance with Section 120.57, Florida Statutes. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 2600 Blair Stone Road, Tallahassee, Florida 32319-2400, within fourteen (14) days of publication of this notice. Petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. Failure to file a petition within this time period shall constitute a waiver of any right such person may have to request an administrative determination (hearing) under Section 120.57, Florida Statutes. The petition shall contain the following information: (a) The name, address, and telephone number of each petitioner, the applicant's name and address, the Department Permit File Number and the county in which the project is proposed; (b) A statement of how and when each petitioner received notice of the Department's action or proposed action; (c) A statement of how each petitioner's substantial interests are affected by the Department's action or proposed action; (d) A statement of the material facts disputed by Petitioner, if any; (e) A statement of facts which petitioner contends warrant reversal or modification of the Department's action or proposed action; (f) A statement of which rules or statutes petitioner contends require reversal or modification of the Department's action or proposed action; and (g) A statement of the relief sought by petitioner, stating precisely the action petitioner wants the Department to take with respect to the Department's action or proposed action. If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the Department's final action may be different from the position taken by it in this Notice. Persons whose substantial interests will be affected by any decision of the Department with regard to the application have the right to petition to become a party to the proceeding. The petition must conform to the requirements specified above and be filed (received) within 14 days of publication of this notice in the Office of General Counsel at the above address of the Department. Failure to petition within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section 120.57, F.S., and to participate as a party to this proceeding. Any subsequent intervention will only be at the approval of the presiding officer upon motion filed pursuant to Rule 28-5.207, F.A.C. The application is available for public inspection during normal business hours, 8:00 a.m. to 5:00 p.m., Monday through Friday except legal holidays, at: Department of Environmental Regulation, Bureau of Air Regulation, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400. Department of Environmental Regulation, Central District, 3319 Maquie Blvd., Suite 232, Orlando, Florida 32803-3767. Any person may send written comments on the proposed action to Mr. Bill Thomas at the Department's Tallahassee address. All comments mailed within 14 days of the publication of this notice.



# Florida Department of Environmental Regulation

Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400

Bob Martinez, Governor

Dale Twachtman, Secretary

John Shearer, Assistant Secretary

**PERMITTEE:**  
Harris Semiconductor  
P. O. Box 883  
Melbourne, Florida 32901

Permit Number: AC 05-164544  
Expiration Date: April 30, 1990  
County: Brevard  
Latitude/Longitude: 28° 01' 20" N  
80° 36' 10" W  
Project: Building 55

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Florida Administrative Code (F.A.C.) Chapters 17-2 and 17-4. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawing(s), plans, and other documents attached hereto or on file with the Department and made a part hereof and specifically described as follows:

For the permitting of Building 55, which is a source with the collection, short term storage, and shipping point for waste chemicals from the facility. The scrubber control system is:

- o F55S01: a Harrison 1,000 cfm horizontal cross-flow mist eliminator using polypropylene plastic saddle packing for caustic and corrosive vapor removal; Model No. HF-10.

The building/source is located at the permittee's existing facility located on Palm Bay Road in the City of Palm Bay. The UTM coordinates are Zone 17, 538.7 km East and 3100.9 km North.

The Source Classification Codes are: Major Group 36

- o VOC/Solvent Emissions-Fugitive 4-01-888-01 Tons Product

The source shall be in accordance with the permit application and plans, documents, amendments, and drawings except as otherwise noted in the General and Specific Conditions.

Attachments to be Incorporated:

1. Application to Construct Air Pollution Sources, DER Form 17-1.202(1), and Mr. James R. Kolanek's cover letter received May 8, 1989.
2. C. H. Fancy's letter dated June 6, 1989.
3. Nancy Baldisserotto's letter with attachment received June 30, 1989.
4. Technical Evaluation and Preliminary Determination dated September 1, 1989.

**PERMITTEE:**  
Harris Semiconductor

**Permit Number:** AC 05-164544  
**Expiration Date:** April 30, 1990

**GENERAL CONDITIONS:**

1. The terms, conditions, requirements, limitations, and restrictions set forth in this permit are "Permit Conditions" and are binding and enforceable pursuant to Sections 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of these conditions.

2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.

3. As provided in Subsections 403.087(6) and 403.722(5), Florida Statutes, the issuance of this permit does not convey any vested rights or any exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations. This permit is not a waiver of or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in the permit.

4. This permit conveys no title to land or water, does not constitute State recognition or acknowledgement of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title.

5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, or plant life, or property caused by the construction or operation of this permitted source, or from penalties therefore; nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department.

PERMITTEE:  
Harris Semiconductor

Permit Number: AC 05-164544  
Expiration Date: April 30, 1990

**GENERAL CONDITIONS:**

6. The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed or used by the permittee to achieve compliance with the conditions of this permit, as required by Department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by Department rules.

7. The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, upon presentation of credentials or other documents as may be required by law and at a reasonable time, access to the premises, where the permitted activity is located or conducted to:

- a. Have access to and copy any records that must be kept under the conditions of the permit;
- b. Inspect the facility, equipment, practices, or operations regulated or required under this permit; and
- c. Sample or monitor any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules.

Reasonable time may depend on the nature of the concern being investigated.

8. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately provide the Department with the following information:

- a. a description of and cause of non-compliance; and
- b. the period of noncompliance, including dates and times; or, if not corrected, the anticipated time the non-compliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the non-compliance.



PERMITTEE:  
Harris Semiconductor

Permit Number: AC 05-164544  
Expiration Date: April 30, 1990

**GENERAL CONDITIONS:**

The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the Department for penalties or for revocation of this permit.

9. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source which are submitted to the Department may be used by the Department as evidence in any enforcement case involving the permitted source arising under the Florida Statutes or Department rules, except where such use is proscribed by Sections 403.73 and 403.111, Florida Statutes. Such evidence shall only be used to the extent it is consistent with the Florida Rules of Civil Procedure and appropriate evidentiary rules.

10. The permittee agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance, provided, however, the permittee does not waive any other rights granted by Florida Statutes or Department rules.

11. This permit is transferable only upon Department approval in accordance with Florida Administrative Code Rules 17-4.120 and 17-30.300, F.A.C., as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the Department.

12. This permit or a copy thereof shall be kept at the work site of the permitted activity.

13. The permittee shall comply with the following:

a. Upon request, the permittee shall furnish all records and plans required under Department rules. During enforcement actions, the retention period for all records will be extended automatically unless otherwise stipulated by the Department.

b. The permittee shall hold at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation) required by the permit, copies of all reports required by this permit, and records of all data used to complete the application for this permit. These materials shall be retained at least three years from the date of the sample, measurement, report, or application unless otherwise specified by Department rule.

PERMITTEE:  
Harris Semiconductor

Permit Number: AC 05-164544  
Expiration Date: April 30, 1990

**GENERAL CONDITIONS:**

c. Records of monitoring information shall include:

- the date, exact place, and time of sampling or measurements;
- the person responsible for performing the sampling or measurements;
- the dates analyses were performed;
- the person responsible for performing the analyses;
- the analytical techniques or methods used; and
- the results of such analyses.

14. When requested by the Department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware that relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be corrected promptly.

**SPECIFIC CONDITIONS:**

1. The maximum allowable VOC/solvent emissions (fugitive) from Building No. 55 shall be 0.3 tons per year.
2. Permitted hours of operation are 8760.
3. Objectionable odors shall not be allowed off plant property.
4. An inspection and maintenance plan shall be submitted to the DER's Central District office as part of the operating permit application. The plan shall include provisions for the prevention and correction of VOC/solvent losses from processing storage containers.
5. By March 31 of each calendar year, an annual operating report shall be submitted to the DER's Central District office demonstrating compliance with the VOC/solvent emissions limit for Building No. 55. The emissions shall be determined by a material balance scheme, verifiable on a monthly basis, and shall include the following where applicable:
  - a) a beginning inventory of full containers, cylinders and storage tanks at the beginning of each calendar year;
  - b) plus all purchased deliveries after the beginning inventory (verifiable by invoices);
  - c) minus all quantities picked-up and shipped-off the premise after the beginning inventory (verifiable by invoices);

PERMITTEE:  
Harris Semiconductor

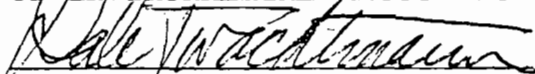
Permit Number: AC 05-164544  
Expiration Date: April 30, 1990

SPECIFIC CONDITIONS:

- d) minus all quantities deep well injected during the calendar year, justified by assumptions and established scrubber efficiencies; and,
  - e) minus an ending inventory of full containers, cylinders, and storage tanks.
6. This permit will supercede all other permits previously issued on this source/Building No. 55.
  7. The source/Building No. 55 is subject to all applicable provisions of F.A.C. Chapters 17-2 and 17-4.
  8. Projected potential acid emissions are 0.05 TPY.
  9. The vapor exhaust scrubber must be operating during chemical processing.
  10. Building No. 55 is subject to the provisions of F.A.C. Rules 17-2.240: Circumvention; 17-2.250: Excess Emissions; and, 17-4.130: Plant Operation - Problems.
  11. Any modification pursuant to F.A.C. Rule 17-2.100(119), Modification, shall be submitted to the DER's Central District office and the Bureau of Air Regulation (BAR) office for approval.
  12. The permittee, for good cause, may request that this construction permit be extended. Such a request shall be submitted to the BAR prior to 60 days before the expiration of the permit (F.A.C. Rule 17-4.090).
  13. An application for an operation permit must be submitted to the DER's Central District office at least 90 days prior to the expiration date of this construction permit or within 45 days after completion of compliance testing, whichever occurs first. To properly apply for an operation permit, the applicant shall submit the appropriate application form, fee, certification that construction was completed noting any deviations from the conditions in the construction permit, and compliance test reports as required by this permit (F.A.C. Rule 17-4.220).

Issued this 19 day  
of October, 1989

STATE OF FLORIDA DEPARTMENT  
OF ENVIRONMENTAL REGULATION

  
Dale Twachtmann, Secretary



Bureau's Copy

# Florida Department of Environmental Regulation

Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400

Bob Martinez, Governor

Dale Twachtmann, Secretary

John Shearer, Assistant Secretary

September 5, 1989

CERTIFIED MAIL-RETURN RECEIPT REQUESTED.

Mr. L. R. Hutker  
Director, Facilities Department  
Harris Semiconductor  
Post Office Box 883  
Melbourne, Florida 32901

Dear Mr. Hutker:

Attached is one copy of the Technical Evaluation and Preliminary Determination and proposed permit for Harris Semiconductor to consolidate multiple permits previously issued for Building No. 55, which is a source involved with the collection, short term storage, and shipping of waste chemicals from the facility.

Please submit any written comments you wish to have considered concerning the Department's proposed action to Mr. Bill Thomas of the Bureau of Air Regulation.

Sincerely,

C. H. Fancy, P.E.  
Bureau of Air Regulation

CHF/BM/kt

Attachments

cc: C. Collins, C District  
N. Baldisserotto, HS

BEFORE THE STATE OF FLORIDA  
DEPARTMENT OF ENVIRONMENTAL REGULATION

In the Matter of  
Application for Permit by:

Harris Semiconductor  
Post Office Box 883  
Melbourne, Florida 32901

DER File No. AC 05-164544

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INTENT TO ISSUE

The Department of Environmental Regulation hereby gives notice of its intent to issue a permit (copy attached) for the proposed project as detailed in the application specified above. The Department is issuing this Intent to Issue for the reasons stated in the attached Technical Evaluation and Preliminary Determination.

The applicant, Harris Semiconductor, applied on May 8, 1989, to the Department of Environmental Regulation for a permit to consolidate multiple permits previously issued for Building No. 55, which is a source involved with the collection, short term storage, and shipping of waste chemicals from the facility. The proposed project will occur at the applicant's existing facility located in Palm Bay, Brevard County, Florida.

The Department has permitting jurisdiction under Chapter 403, Florida Statutes, and Florida Administrative Code Rules 17-2 and 17-4. The project is not exempt from permitting procedures. The Department has determined that an air construction permit is required for the proposed work.

Pursuant to Section 403.815, F.S. and DER Rule 17-103.150, F.A.C., you (the applicant) are required to publish at your own expense the enclosed Notice of Intent to Issue Permit. The notice shall be published one time only within 30 days, in the legal ad section of a newspaper of general circulation in the area affected. For the purpose of this rule, "publication in a newspaper of general circulation in the area affected" means publication in a newspaper meeting the requirements of Sections 50.011 and 50.031, F.S., in the county where the activity is to take place. The applicant shall provide proof of publication to the Department, at the address specified within seven days of publication. Failure to publish the notice and provide proof of publication within the allotted time may result in the denial of the permit.

The Department will issue the permit with the attached conditions unless a petition for an administrative proceeding (hearing) is filed pursuant to the provisions of Section 120.57, F.S.

A person whose substantial interests are affected by the Department's proposed permitting decision may petition for an administrative proceeding (hearing) in accordance with Section 120.57, Florida Statutes. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 2600 Blair Stone Road, Tallahassee, Florida 32399-2400. Petitions filed by the permit applicant and the parties listed below must be filed within 14 days of receipt of this intent. Petitions filed by other persons must be filed within 14 days of publication of the public notice or within 14 days of receipt of this intent, whichever first occurs. Petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. Failure to file a petition within this time period shall constitute a waiver of any right such person may have to request an administrative determination (hearing) under Section 120.57, Florida Statutes.

The Petition shall contain the following information:

(a) The name, address, and telephone number of each petitioner, the applicant's name and address, the Department Permit File Number and the county in which the project is proposed;

(b) A statement of how and when each petitioner received notice of the Department's action or proposed action;

(c) A statement of how each petitioner's substantial interests are affected by the Department's action or proposed action;

(d) A statement of the material facts disputed by Petitioner, if any;

(e) A statement of facts which petitioner contends warrant reversal or modification of the Department's action or proposed action;

(f) A statement of which rules or statutes petitioner contends require reversal or modification of the Department's action or proposed action; and

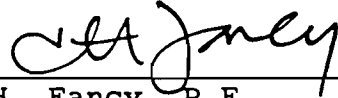
(g) A statement of the relief sought by petitioner, stating precisely the action petitioner wants the Department to take with respect to the Department's action or proposed action.

If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the Department's final action may be different from the position taken by it in this notice. Persons whose substantial interests will be affected by any decision of the Department with regard to the application have the right to petition to become a party to the proceeding. The petition must conform to the requirements specified above and be filed (received) within 14 days of publication of this notice in the Office in General Counsel at the above address of the Department. Failure to petition within the allowed time frame constitutes a waiver of any right such

person has to request a hearing under Section 120.57, F.S., and to participate as a party to this proceeding. Any subsequent intervention will only be at the approval of the presiding officer upon motion filed pursuant to Rule 28-5.207, F.A.C.

Executed in Tallahassee, Florida.

STATE OF FLORIDA DEPARTMENT  
OF ENVIRONMENTAL REGULATION



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C. H. Fancy, P.E.  
Bureau of Air Regulation

Copies furnished to:

C. Collins, C District  
N. Baldisserotto, HS





State of Florida  
Department of Environmental Regulation  
Notice of Intent to Issue

The Department of Environmental Regulation hereby gives notice of its intent to issue a permit to Harris Semiconductor, Post Office Box 883, Melbourne, Florida 32901, to consolidate multiple permits previously issued for Building No. 55, which is a source involved with the collection, short term storage, and shipping of waste chemicals from the facility. The proposed project will occur at the applicant's existing facility located in Brevard County, Florida. A determination of Best Available Control Technology (BACT) was not required. The Department is issuing this Intent to Issue for the reasons stated in the Technical Evaluation and Preliminary Determination.

A person whose substantial interests are affected by the Department's proposed permitting decision may petition for an administrative proceeding (hearing) in accordance with Section 120.57, Florida Statutes. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 2600 Blair Stone Road, Tallahassee, Florida 32399-2400, within fourteen (14) days of publication of this notice. Petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. Failure to file a petition within this time period shall constitute a waiver of any right such person may have to request an administrative determination (hearing) under Section 120.57, Florida Statutes.

The Petition shall contain the following information:

- (a) The name, address, and telephone number of each petitioner, the applicant's name and address, the Department Permit File Number and the county in which the project is proposed;
- (b) A statement of how and when each petitioner received notice of the Department's action or proposed action;
- (c) A statement of how each petitioner's substantial interests are affected by the Department's action or proposed action;
- (d) A statement of the material facts disputed by Petitioner, if any;
- (e) A statement of facts which petitioner contends warrant reversal or modification of the Department's action or proposed action;
- (f) A statement of which rules or statutes petitioner contends require reversal or modification of the Department's action or proposed action; and
- (g) A statement of the relief sought by petitioner, stating precisely the action petitioner wants the Department to take with respect to the Department's action or proposed action.

If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the

Department's final action may be different from the position taken by it in this Notice. Persons whose substantial interests will be affected by any decision of the Department with regard to the application have the right to petition to become a party to the proceeding. The petition must conform to the requirements specified above and be filed (received) within 14 days of publication of this notice in the Office of General Counsel at the above address of the Department. Failure to petition within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section 120.57, F.S., and to participate as a party to this proceeding. Any subsequent intervention will only be at the approval of the presiding officer upon motion filed pursuant to Rule 28-5.207, F.A.C.

The application is available for public inspection during normal business hours, 8:00 a.m. to 5:00 p.m., Monday through Friday, except legal holidays, at:

Department of Environmental Regulation  
Bureau of Air Regulation  
2600 Blair Stone Road  
Tallahassee, Florida 32399-2400

Department of Environmental Regulation  
Central District  
3319 Maguire Blvd., Suite 232  
Orlando, Florida 32803-3767

Any person may send written comments on the proposed action to Mr. Bill Thomas at the Department's Tallahassee address. All comments mailed within 14 days of the publication of this notice will be considered in the Department's final determination.

Technical Evaluation  
and  
Preliminary Determination

Harris Semiconductor  
Brevard County  
Palm Bay, Florida

Construction Permit Number: AC 05-164544

Florida Department of Environmental Regulation  
Division of Air Resources Management  
Bureau of Air Regulation

September 5, 1989

## I. Application

### A. Applicant

Harris Semiconductor  
Post Office Box 883  
Melbourne, Florida 32901

### B. Project and Location

The applicant has applied for a construction permit for Building No. 55 in order to consolidate multiple permits previously issued for this source/building.

The existing facility is located on Palm Bay Road, City of Palm Bay, Florida. The UTM coordinates are Zone 17, 538.7 km East and 3100.9 km North.

### C. Process and Controls

#### 1. Building 55

Building 55 is used for the collection, short term storage, and shipping point for waste chemicals from the facility. The building houses three exhausted wet stations; two are acid bottle wash stations, and the third station is used to control the release of chemicals from broken, deteriorated, or damaged 'bubbler' containers which cannot be safely returned to the vendor. These 'bubblers' supply reactive gases to the chemical vapor deposition process in the wafer fabrication areas (these areas are located in other buildings at the facility).

The above mentioned wet stations are exhausted to acid scrubber number F55S01, which is located on the roof of the building.

In order to provide ventilation to the hazardous waste handling area, two ventilation fans are located on the roof of the building.

#### 2. General

A material balance scheme will be used to account for the annual VOC/solvent emissions released into the atmosphere by the building/source and facility.

The Standard Industrial Classification Codes are:

- o Major Group 36: Electrical and Electronic Machinery, Equipment, and Supplies
- o Industry Group No. 367: Electronic Components and Accessories
- o Industry No. 3674: Semiconductors and Related Devices

The Source Classification Codes are: Major Group 36

o Cold Solvent Cleaning/Stripping

o Building 55 4-01-888-01 Tons Product (fugitive)

## II. Rule Applicability

The proposed project is subject to preconstruction review under the provisions of Chapter 403, Florida Statutes, and Florida Administrative Code (F.A.C.) Chapters 17-2 and 17-4.

The application package was deemed complete on June 30, 1989.

The existing facility is located in an area designated attainment for all pollutants.

Since the facility is not one of those contained in Table 500-1, F.A.C. Chapter 17-2, the VOC/solvent threshold for triggering new source review pursuant to F.A.C. Rule 17-2.500(5) is 250 TPY.

The following table presents the projected potential acid emissions from Building No. 55:

Table 1

Source	Potential Acid Emissions (TPY)
Building 55	
o F55S01	0.05

Note: Annual hours of operation at 8760.

The following table presents the projected potential VOC/solvent emissions from Building 55 and the entire facility:

Table 2

Building	Potential VOC/solvent Emissions (TPY)
4	10.96
51	33.29
54	95.65
55	0.28 (fugitive)
57	1.66
58	3.24
59	0.50
60	trace
61	0.25
62	0.83
63	6.14
Total:	152.78

Note: Annual hours of operation at 8760.

Since the potential emissions are less than 250 TPY for the facility, the potential emissions projected from Building 55 will be reviewed pursuant to F.A.C. Rule 17-2.520, Sources Not Subject to Prevention of Significant Deterioration or Nonattainment Requirements.

Since there is no specific emission limiting standard contained in F.A.C. Rule 17-2.600 nor is there any standards of performance for new stationary sources contained in F.A.C. Rule 17-2.660, the source/Building 55 will be permitted in accordance with F.A.C. Rule 17-2.620, General Pollutant Emission Limiting Standards.

In F.A.C. Rule 17-2.620(1)(a), no person shall store, pump, handle, process, load, unload or use in any process or installation volatile organic compounds or organic solvents without applying known and existing vapor emission control devices or systems deemed necessary and ordered by the Department. Pursuant to F.A.C. Rule 17-2.620(2), no person shall cause, suffer, allow or permit the discharge of air pollutants which cause or contribute to an objectionable odor. Objectionable odor is defined as any odor present in the outdoor atmosphere which, by itself or in combination with other odors, is or may be harmful or injurious to human health or welfare, which unreasonably interferes with the comfortable use and enjoyment of life or property, or which creates a nuisance according to F.A.C. Rule 17-2.100(132).

The building operations/source is subject to the provisions of F.A.C. Rules 17-2.240: Circumvention; 17-2.250: Excess Emissions; and, 17-4.130: Plant Operation - Problems.

### III. Summary of Emissions

#### A. Emission Limitations

The regulated pollutant emissions from this building/source are VOC/solvents in accordance with F.A.C. Rule 17-2.620.

Specific acid solutions and other chemicals are also being processed at the building. There are no specific emission limiting standards for these specific acids and chemicals. However, the vapors will be scrubbed to reduce emissions.

The following table presents the maximum allowable VOC/solvent emissions from Building 55 in TPY:

Table 3

<u>Building</u>	<u>Maximum Allowable VOC/Solvent Emissions (TPY)</u>
<u>55</u>	<u>0.3</u>

Note: Annual hours of operation at 8760.

The permitted emissions are in compliance with all requirements of F.A.C. Chapters 17-2 and 17-4.

B. Air Quality Impacts

From the technical review of the application packages and supplementary material, an air quality analysis was not required.

V. Conclusion

A system of material balance will be used to account for and verify pollutant emissions from the facility and each building/source.

Based on the information provided by Harris Semiconductor, the Department has reasonable assurance that the consolidation of multiple permits previously issued for this source/building, as described in this evaluation, and subject to the conditions proposed herein, will not cause or contribute to a violation of any air quality standard, PSD increment, or any other technical provision of Chapter 17-2 of the Florida Administrative Code.

*J. H. Thomas*  
9/5/89



# Florida Department of Environmental Regulation

Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400

Bob Martinez, Governor

Dale Twachtmann, Secretary

John Shearer, Assistant Secretary

**PERMITTEE:**  
Harris Semiconductor  
P. O. Box 883  
Melbourne, Florida 32901

**Permit Number:** AC 05-164544  
**Expiration Date:** April 30, 1990  
**County:** Brevard  
**Latitude/Longitude:** 28° 01' 20" N  
80° 36' 10" W  
**Project:** Building 55

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Florida Administrative Code (F.A.C.) Chapters 17-2 and 17-4. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawing(s), plans, and other documents attached hereto or on file with the Department and made a part hereof and specifically described as follows:

For the permitting of Building 55, which is a source with the collection, short term storage, and shipping point for waste chemicals from the facility. The scrubber control system is:

- o F55S01: a Harrison 1,000 cfm horizontal cross-flow mist eliminator using polypropylene plastic saddle packing for caustic and corrosive vapor removal; Model No. HF-10.

The building/source is located at the permittee's existing facility located on Palm Bay Road in the City of Palm Bay. The UTM coordinates are Zone 17, 538.7 km East and 3100.9 km North.

The Source Classification Codes are: Major Group 36

- o VOC/Solvent Emissions-Fugitive 4-01-888-01 Tons Product

The source shall be in accordance with the permit application and plans, documents, amendments, and drawings except as otherwise noted in the General and Specific Conditions.

Attachments to be Incorporated:

1. Application to Construct Air Pollution Sources, DER Form 17-1.202(1), and Mr. James R. Kolanek's cover letter received May 8, 1989.
2. C. H. Fancy's letter dated June 6, 1989.
3. Nancy Baldisserotto's letter with attachment received June 30, 1989.
4. Technical Evaluation and Preliminary Determination dated September 1, 1989.



**PERMITTEE:**  
Harris Semiconductor

**Permit Number:** AC 05-164544  
**Expiration Date:** April 30, 1990

**GENERAL CONDITIONS:**

1. The terms, conditions, requirements, limitations, and restrictions set forth in this permit are "Permit Conditions" and are binding and enforceable pursuant to Sections 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of these conditions.

2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.

3. As provided in Subsections 403.087(6) and 403.722(5), Florida Statutes, the issuance of this permit does not convey any vested rights or any exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations. This permit is not a waiver of or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in the permit.

4. This permit conveys no title to land or water, does not constitute State recognition or acknowledgement of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title.

5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, or plant life, or property caused by the construction or operation of this permitted source, or from penalties therefore; nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department.

PERMITTEE:  
Harris Semiconductor

Permit Number: AC 05-164544  
Expiration Date: April 30, 1990

**GENERAL CONDITIONS:**

6. The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed or used by the permittee to achieve compliance with the conditions of this permit, as required by Department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by Department rules.

7. The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, upon presentation of credentials or other documents as may be required by law and at a reasonable time, access to the premises, where the permitted activity is located or conducted to:

- a. Have access to and copy any records that must be kept under the conditions of the permit;
- b. Inspect the facility, equipment, practices, or operations regulated or required under this permit; and
- c. Sample or monitor any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules.

Reasonable time may depend on the nature of the concern being investigated.

8. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately provide the Department with the following information:

- a. a description of and cause of non-compliance; and
- b. the period of noncompliance, including dates and times; or, if not corrected, the anticipated time the non-compliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the non-compliance.

**PERMITTEE:**  
Harris Semiconductor

**Permit Number:** AC 05-164544  
**Expiration Date:** April 30, 1990

**GENERAL CONDITIONS:**

The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the Department for penalties or for revocation of this permit.

9. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source which are submitted to the Department may be used by the Department as evidence in any enforcement case involving the permitted source arising under the Florida Statutes or Department rules, except where such use is proscribed by Sections 403.73 and 403.111, Florida Statutes. Such evidence shall only be used to the extent it is consistent with the Florida Rules of Civil Procedure and appropriate evidentiary rules.

10. The permittee agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance, provided, however, the permittee does not waive any other rights granted by Florida Statutes or Department rules.

11. This permit is transferable only upon Department approval in accordance with Florida Administrative Code Rules 17-4.120 and 17-30.300, F.A.C., as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the Department.

12. This permit or a copy thereof shall be kept at the work site of the permitted activity.

13. The permittee shall comply with the following:

- a. Upon request, the permittee shall furnish all records and plans required under Department rules. During enforcement actions, the retention period for all records will be extended automatically unless otherwise stipulated by the Department.
- b. The permittee shall hold at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation) required by the permit, copies of all reports required by this permit, and records of all data used to complete the application for this permit. These materials shall be retained at least three years from the date of the sample, measurement, report, or application unless otherwise specified by Department rule.

**PERMITTEE:**  
Harris Semiconductor

**Permit Number:** AC 05-164544  
**Expiration Date:** April 30, 1990

**GENERAL CONDITIONS:**

c. Records of monitoring information shall include:

- the date, exact place, and time of sampling or measurements;
- the person responsible for performing the sampling or measurements;
- the dates analyses were performed;
- the person responsible for performing the analyses;
- the analytical techniques or methods used; and
- the results of such analyses.

14. When requested by the Department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware that relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be corrected promptly.

**SPECIFIC CONDITIONS:**

1. The maximum allowable VOC/solvent emissions (fugitive) from Building No. 55 shall be 0.3 tons per year.
2. Permitted hours of operation are 8760.
3. Objectionable odors shall not be allowed off plant property.
4. An inspection and maintenance plan shall be submitted to the DER's Central Florida District office as part of the operating permit application. The plan shall include provisions for the prevention and correction of VOC/solvent losses from processing storage containers.
5. By March 31 of each calendar year, an annual operating report shall be submitted to the DER's Central Florida District office demonstrating compliance with the VOC/solvent emissions limit for Building No. 55. The emissions shall be determined by a material balance scheme, verifiable on a monthly basis, and shall include the following where applicable:
  - a) a beginning inventory of full containers, cylinders and storage tanks at the beginning of each calendar year;
  - b) plus all purchased deliveries after the beginning inventory (verifiable by invoices);
  - c) minus all quantities picked-up and shipped-off the premise after the beginning inventory (verifiable by invoices);

PERMITTEE:  
Harris Semiconductor

Permit Number: AC 05-164544  
Expiration Date: April 30, 1990

**SPECIFIC CONDITIONS:**

- d) minus all quantities deep well injected during the calendar year, justified by assumptions and established scrubber efficiencies; and,
  - e) minus an ending inventory of full containers, cylinders, and storage tanks.
6. This permit will supercede all other permits previously issued on this source/Building No. 55.
  7. The source/Building No. 55 is subject to all applicable provisions of F.A.C. Chapters 17-2 and 17-4.
  8. Projected potential acid emissions are 0.05 TPY.
  9. The vapor exhaust scrubber must be operating during chemical processing.
  10. Building No. 55 is subject to the provisions of F.A.C. Rules 17-2.240: Circumvention; 17-2.250: Excess Emissions; and, 17-4.130: Plant Operation - Problems.
  11. Any modification pursuant to F.A.C. Rule 17-2.100(119), Modification, shall be submitted to the DER's Central Florida District office and the Bureau of Air Regulation office for approval.
  12. The permittee, for good cause, may request that this construction permit be extended. Such a request shall be submitted to the BAQM prior to 60 days before the expiration of the permit (F.A.C. Rule 17-4.090).
  13. An application for an operation permit must be submitted to the Central Florida District office at least 90 days prior to the expiration date of this construction permit or within 45 days after completion of compliance testing, whichever occurs first. To properly apply for an operation permit, the applicant shall submit the appropriate application form, fee, certification that construction was completed noting any deviations from the conditions in the construction permit, and compliance test reports as required by this permit (F.A.C. Rule 17-4.220).

Issued this \_\_\_\_\_ day  
of \_\_\_\_\_, 1989

STATE OF FLORIDA DEPARTMENT  
OF ENVIRONMENTAL REGULATION

\_\_\_\_\_  
Dale Twachtmann, Secretary

Attachment 1  
Available Upon Request

Attachment 2



# Florida Department of Environmental Regulation

Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400

Bob Martinez, Governor

Dale Twachtmann, Secretary

John Shearer, Assistant Secretary

June 6, 1989

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. James R. Kolanek  
Manager, Environmental Services  
Harris Semiconductor  
Post Office Box 883  
Melbourne, Florida 32901

Dear Mr. Kolanek:

Re: Application for Construction Permit - Building 55  
AC 05-164544

The Department received the above referenced application package and fee on May 8, 1989. Based on a review of the material, the application is deemed incomplete. Please submit the following information, including all assumptions, calculations and reference material, and the status will, again, be ascertained:

1. Are the potential emissions of  $\text{BBr}_3$  and  $\text{POCl}_3$  the same as that projected and contained in the construction permit No. AC 05-104523? If not, please explain.
2. Please describe and project the potential emissions (i.e., lbs/hr and TPY) for the "waste solvents" contained in Attachment C, List of Chemicals.

If there are any questions, please call Bruce Mitchell at (904)488-1344 or write to me at the above address.

Sincerely,

C. H. Fancy, P.E.  
Deputy Chief  
Bureau of Air Quality  
Management

CHF/BM/s

cc: C. Collins, CF District  
L. Hutker, P.E., HS



Attachment 3



RECEIVED

JUN 30 1989

June 26, 1989

DER-BAQM

Mr. Claire Fancy  
Deputy Chief  
Bureau of Air Quality Management  
Florida Department of Environmental Regulation  
Twin Towers Office Building  
2600 Blair Stone Road  
Tallahassee, FL 32399-2400

SUBJECT: Completeness Review of AC 05-164544  
Building 55 - Permit Consolidation

Dear Mr. Fancy:

This letter is written on behalf of Harris Semiconductor, in reply to your letter of June 6, 1989. Your letter requested additional information on two items.

1. The maximum potential emissions of boron tribromide and phosphorus oxychloride are the same as were projected and contained in construction permit no. AC 05-104523.
2. The "waste solvents" in the chemical list for building 55 are spent solvents from our manufacturing processes. The solvents are brought to building 55 in closed bottles and containers strictly for storage prior to lab-packing and disposal off-site. No processing or utilization of solvents occurs in building 55, and because the chemicals are in closed containers, emissions are assumed to be minuscule.

One potential source of solvent emissions identified are fugitive emissions resulting from the building's bottle crushing operation. Empty, capped glass and plastic solvent bottles are brought to the building in bins or 'gondolas', and are flattened in bottle crushers. Assuming that all of the bottles are saturated with gaseous solvent vapors, approximately 554.04 lbs/yr (0.277 TPY) of emissions may occur. Attachment A demonstrates the methodology and calculations utilized to derive this fugitive emission figure. Please note that this emission value assumes 'worst case' conditions. In fact, not all bottles are likely to be saturated with solvent vapors, hence actual fugitive emissions from this source may be less.

If you should have any questions about the enclosed information,  
please feel free to contact me at (407) 729-4061.

Sincerely,

*Nancy Baldisserotto*

Nancy Baldisserotto  
Environmental Engineer  
Environmental Services Dept.

attachment

cc: A. T. Sawicki, Orlando DER  
Bruce Mitchell, Tallahassee DER

ATTACHMENT A.

POTENTIAL SOLVENT EMISSIONS RESULTING FROM  
BOTTLE CRUSHING OPERATION --- BLDG. 55

waste solvent components	percent %	volume of air (cu ft)	volume of air (liters)	VAPOR PRESS. (Torr)	# OF MOLES (n)	MW	EMISSN (lb/yr)
ACETONE	33.0	7341.8	207920.9	200.0	2236.3	58	285.94
METHANOL	21.0	4672.1	132313.3	120.0	853.9	32	60.24
IPA	13.0	2892.2	81908.2	17.0	74.9	60	9.90
PGMEA	2.5	556.2	15751.6	3.8	3.2	132	0.94
CELLOSOLVE ACETATE	0.3	55.6	1575.2	10.0	0.8	132	0.25
ETHANOL	0.8	178.0	5040.5	54.2	14.7	46	1.49
FREON TF	3.2	711.9	20162.0	334.0	362.1	188	150.09
MISC. SOLVENTS	4.0	889.9	25202.5	100.0	135.5	100	29.88
N-BUTYL ACETATE	3.0	667.4	18901.9	8.7	8.8	115	2.24
TOLUENE	5.0	1112.4	31503.2	29.0	49.1	92	9.96
TCE	0.6	133.5	3780.4	18.0	3.7	132	1.06
TCA	0.1	22.2	630.1	120.0	4.1	134	1.20
XYLENE	1.5	333.7	9451.0	7.0	3.6	106	0.83
WATER	12.0	2669.8	75607.6	N/A	N/A	N/A	N/A
TOTAL							554.04

- Records from January 1st through May 30th, 1989, indicate an average of 32 gondolas/week of one gallon solvent bottles are crushed in building 55.

$$(32 \text{ gondolas/week})(52 \text{ weeks/year}) = 1664 \text{ gondolas/year}$$

$$(1664 \text{ gondolas/yr})(\sim 100 \text{ bottles/gondola}) = 166400 \text{ bottles/year}$$

$$(166400 \text{ gallons})(0.1337 \text{ cu. ft./gal}) = 22248 \text{ cu. ft. of air}$$

- Waste components are based on solvent waste profile information.

- Remaining calculations are based on the Ideal Gas Law,  $PV = nRT$ , where;

P = Vapor pressure of gas (Torr)

V = Volume (Liters)

n = number of moles

R = 62.4 (Liters)(Torr)/(moles)(degrees K)

T = temperature (degrees K)

- Additional equations:

1.) (cubic feet)(28.32) = liters

2.) (# of moles)(grams/mole or MW)(1 lb./453.59 gm) = lbs. of emission



RECEIVED  
DER-MAIL ROOM  
1989 MAY -8 AM 11:19  
1989 MAY

May 2, 1989

RECEIVED

Mr. C. H. Fancy  
Deputy Bureau Chief  
Department of Environmental Regulation  
Bureau of Air Quality Management  
2600 Blair Stone Road  
Tallahassee, Florida 32301

MAY 8 1989

DER-BAQM

Reference: HARRIS SEMICONDUCTOR  
B-55 Consolidated Air Permit

1031

Dear Mr. Fancy:

On February 17, 1988, representatives from Harris and the Florida DER met in Orlando to discuss the status of air permits at Harris Semiconductor's facility in Palm Bay. At that meeting it was agreed that Harris would submit modified air permits. The purpose of the permit modifications was as follows:

1. Consolidate permits on a by building basis to reduce the existing number of permits.
2. To accurately quantify the current air emissions.

Enclosed is the modified permit application for Semiconductor's Building 55.

If you should have any questions about the enclosed information, please feel free to contact me at (407) 724-7467, or L. R. Hutker at (407) 724-7229.

Sincerely,

J. R. Kolanek, Manager  
Environmental Services

/nab

- cc: A. T. Sawicki  
L. R. Hutker  
D. R. Erdley  
R. R. Sands

DEPARTMENT OF ENVIRONMENTAL REGULATION

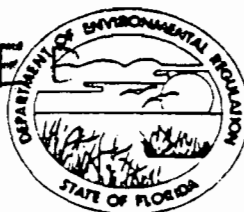
1200 p.d.  
5-8-89  
Dept # 1176

RECEIVED

AC 05-164544

WIN TOWERS OFFICE BUILDING  
2600 BLAIR STONE ROAD  
TALLAHASSEE, FLORIDA 32301-8241

MAY 8 1989



BOB GRAHAM  
GOVERNOR

VICTORIA J. TSCHINKEL  
SECRETARY

DER-BAOM  
APPLICATION TO OPERATE/CONSTRUCT AIR POLLUTION SOURCES

SOURCE TYPE: Stationary [ ] New<sup>1</sup> [X] Existing<sup>1</sup>

APPLICATION TYPE: [ ] Construction [ ] Operation [X] Modification

COMPANY NAME: Harris Semiconductor COUNTY: Brevard

Identify the specific emission point source(s) addressed in this application (i.e. Lime Kiln No. 4 with Venturi Scrubber; Peaking Unit No. 2, Gas Fired)

SOURCE LOCATION: Street Palm Bay Road City Palm Bay

UTM: East 17-538700 North 17-3100900

Latitude 28° 01' 20" N Longitude 80° 36' 10" W

APPLICANT NAME AND TITLE: J. R. Kolanek; Manager Environmental Services

APPLICANT ADDRESS: P.O. Box 883, Melbourne, FL 32901

SECTION I: STATEMENTS BY APPLICANT AND ENGINEER

A. APPLICANT

I am the undersigned owner or authorized representative\* of Harris Semiconductor

I certify that the statements made in this application for a modified permit are true, correct and complete to the best of my knowledge and belief. Further, I agree to maintain and operate the pollution control source and pollution control facilities in such a manner as to comply with the provision of Chapter 403, Florida Statutes, and all the rules and regulations of the department and revisions thereof. I also understand that a permit, if granted by the department, will be non-transferable and I will promptly notify the department upon sale or legal transfer of the permit establishment.

\*Attach letter of authorization

Signed: James R. Kolanek  
J. R. Kolanek, Manager, Environmental Sv  
Name and Title (Please Type)

Date: 4/28/89 Telephone No. (407) 724-7467

B. PROFESSIONAL ENGINEER REGISTERED IN FLORIDA (where required by Chapter 471, F.S.)

This is to certify that the engineering features of this pollution control project have been designed/examined by me and found to be in conformity with modern engineering principles applicable to the treatment and disposal of pollutants characterized in the permit application. There is reasonable assurance, in my professional judgment, that

<sup>1</sup> See Florida Administrative Code Rule 17-2.100(57) and (104)

the pollution control facilities, when properly maintained and operated, will discharge an effluent that complies with all applicable statutes of the State of Florida and the rules and regulations of the department. It is also agreed that the undersigned will furnish, if authorized by the owner, the applicant a set of instructions for the proper maintenance and operation of the pollution control facilities and, if applicable, pollution sources.

Signed Lawrence R. Hutker

Lawrence R. Hutker

Name (Please Type)

Harris Semiconductor

Company Name (Please Type)

P.O. Box 883, Melbourne, Florida 32901

Mailing Address (Please Type)

Florida Registration No. 35972 Date: \_\_\_\_\_ Telephone No. (407) 729-4655

**SECTION II: GENERAL PROJECT INFORMATION**

- Describe the nature and extent of the project. Refer to pollution control equipment, and expected improvements in source performance as a result of installation. State whether the project will result in full compliance. Attach additional sheet if necessary.

This is a modification and consolidation of existing air permits.

- 1. Schedule of project covered in this application (Construction Permit Application Only)

Start of Construction N/A Completion of Construction \_\_\_\_\_

- 2. Costs of pollution control system(s): (Note: Show breakdown of estimated costs only for individual components/units of the project serving pollution control purposes. Information on actual costs shall be furnished with the application for operation permit.)

N/A

- Indicate any previous DER permits, orders and notices associated with the emission point, including permit issuance and expiration dates.

AC 05-104523 issued 1/14/86; expires 6/30/86.

E. Requested permitted equipment operating time: hrs/day 24 ; days/wk 7 ; wks/yr 52  
 if power plant, hrs/yr \_\_\_\_\_; if seasonal, describe: \_\_\_\_\_

F. If this is a new source or major modification, answer the following questions.  
 (Yes or No)

1. Is this source in a non-attainment area for a particular pollutant? No  
 a. If yes, has "offset" been applied? \_\_\_\_\_  
 b. If yes, has "Lowest Achievable Emission Rate" been applied? \_\_\_\_\_  
 c. If yes, list non-attainment pollutants. \_\_\_\_\_

2. Does best available control technology (BACT) apply to this source?  
 If yes, see Section VI. No

3. Does the State "Prevention of Significant Deterioration" (PSD)  
 requirement apply to this source? If yes, see Sections VI and VII. No

4. Do "Standards of Performance for New Stationary Sources" (NSPS)  
 apply to this source? No

5. Do "National Emission Standards for Hazardous Air Pollutants"  
 (NESHAP) apply to this source? No

H. Do "Reasonably Available Control Technology" (RACT) requirements apply  
 to this source? No

a. If yes, for what pollutants? \_\_\_\_\_

b. If yes, in addition to the information required in this form,  
 any information requested in Rule 17-2.650 must be submitted.

Attach all supportive information related to any answer of "Yes". Attach any justifi-  
 cation for any answer of "No" that might be considered questionable.



SECTION III: AIR POLLUTION SOURCES & CONTROL DEVICES (Other than Incinerators)

A. Raw Materials and Chemicals Used in your Process, if applicable:

Description	Contaminants		Utilization Rate - lbs/hr	Relate to Flow Diagram
	Type	% wt		
---SEE ATTACHMENT C ----				

B. Process Rate, if applicable: (See Section V, Item 1)

1. Total Process Input Rate (lbs/hr): not applicable

2. Product Weight (lbs/hr): not applicable

C. Airborne Contaminants Emitted: (Information in this table must be submitted for each emission point, use additional sheets as necessary)

Name of Contaminant	Emission <sup>1</sup>		Allowed Emission Rate per Rule 17-2	Allowable <sup>3</sup> Emission lbs/hr	Potential <sup>4</sup> Emission		Relate to Flow Diagram
	Maximum lbs/hr	Actual T/yr			lbs/yr	T/yr	
---SEE ATTACHMENT B ----							

<sup>1</sup>See Section V, Item 2.

<sup>2</sup>Reference applicable emission standards and units (e.g. Rule 17-2.600(5)(b)2. Table II, E. (1) - 0.1 pounds per million BTU heat input)

<sup>3</sup>Calculated from operating rate and applicable standard.

<sup>4</sup>Emission, if source operated without control (See Section V, Item 3).

J. Control Devices: (See Section V, Item 4)

Name and Type (Model & Serial No.)	Contaminant	Efficiency	Range of Particles Size Collected (in microns) (If applicable)	Basis for Efficiency (Section V Item 5)
---SEE ATTACHMENT D ---				

E. Fuels

Type (Be Specific)	Consumption*		Maximum Heat Input (MMBTU/hr)
	avg/hr	max./hr	

\*Units: Natural Gas--MMCF/hr; Fuel Oils--gallons/hr; Coal, wood, refuse, other--lbs/hr.

Fuel Analysis:

Percent Sulfur: \_\_\_\_\_ Percent Ash: \_\_\_\_\_

Density: \_\_\_\_\_ lbs/gal Typical Percent Nitrogen: \_\_\_\_\_

Heat Capacity: \_\_\_\_\_ BTU/lb \_\_\_\_\_ BTU/gal

Other Fuel Contaminants (which may cause air pollution): \_\_\_\_\_

F. If applicable, indicate the percent of fuel used for space heating.

Annual Average \_\_\_\_\_ Maximum \_\_\_\_\_

G. Indicate liquid or solid waste generated and method of disposal.

Waste water from air scrubbers is discharged to on-site Waste Water Treatment

Plant--discharge to deepwell under UIC - Permit #UC05-126519.

**BEST AVAILABLE COPY**

-----SEE ATTACHMENT D-----

H. Emission Stack Geometry and Flow Characteristics (Provide data for each stack):

Stack Height: \_\_\_\_\_ ft. Stack Diameter: \_\_\_\_\_ ft.  
 Gas Flow Rate: \_\_\_\_\_ ACFM \_\_\_\_\_ DSCFM Gas Exit Temperature: \_\_\_\_\_ °F.  
 Water Vapor Content: \_\_\_\_\_ % Velocity: \_\_\_\_\_ FPS

**SECTION IV: INCINERATOR INFORMATION**

not applicable

Type of Waste	Type 0 (Plastics)	Type I (Rubbish)	Type II (Refuse)	Type III (Garbage)	Type IV (Pathological)	Type V (Liq. & Gas By-prod.)	Type VI (Solid By-prod.)
Actual lb/hr Incinerated							
Uncontrolled (lbs/hr)							

Description of Waste \_\_\_\_\_

Total Weight Incinerated (lbs/hr) \_\_\_\_\_ Design Capacity (lbs/hr) \_\_\_\_\_

Approximate Number of Hours of Operation per day \_\_\_\_\_ day/wk \_\_\_\_\_ wks/yr. \_\_\_\_\_

Manufacturer \_\_\_\_\_

Date Constructed \_\_\_\_\_ Model No. \_\_\_\_\_

	Volume (ft) <sup>3</sup>	Heat Release (BTU/hr)	Fuel		Temperature (°F)
			Type	BTU/hr	
Primary Chamber					
Secondary Chamber					

Stack Height: \_\_\_\_\_ ft. Stack Diameter: \_\_\_\_\_ Stack Temp. \_\_\_\_\_

Gas Flow Rate: \_\_\_\_\_ ACFM \_\_\_\_\_ DSCFM<sup>o</sup> Velocity: \_\_\_\_\_ FPS

<sup>o</sup>If 50 or more tons per day design capacity, submit the emissions rate in grains per standard cubic foot dry gas corrected to 50% excess air.

Type of pollution control device:  Cyclone  Wet Scrubber  Afterburner  
 Other (specify) \_\_\_\_\_

Brief description of operating characteristics of control devices: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Ultimate disposal of any effluent other than that emitted from the stack (scrubber water, ash, etc.):

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

NOTE: Items 2, 3, 4, 6, 7, 8, and 10 in Section V must be included where applicable.

#### SECTION V: SUPPLEMENTAL REQUIREMENTS

Please provide the following supplements where required for this application.

1. Total process input rate and product weight -- show derivation [Rule 17-2.100(127)]
2. To a construction application, attach basis of emission estimate (e.g., design calculations, design drawings, pertinent manufacturer's test data, etc.) and attach proposed methods (e.g., FR Part 60 Methods 1, 2, 3, 4, 5) to show proof of compliance with applicable standards. To an operation application, attach test results or methods used to show proof of compliance. Information provided when applying for an operation permit from a construction permit shall be indicative of the time at which the test was made.
3. Attach basis of potential discharge (e.g., emission factor, that is, AP42 test).
4. With construction permit application, include design details for all air pollution control systems (e.g., for baghouse include cloth to air ratio; for scrubber include cross-section sketch, design pressure drop, etc.)
5. With construction permit application, attach derivation of control device(s) efficiency. Include test or design data. Items 2, 3 and 5 should be consistent: actual emissions = potential (1-efficiency).
6. An 8 1/2" x 11" flow diagram which will, without revealing trade secrets, identify the individual operations and/or processes. Indicate where raw materials enter, where solid and liquid waste exit, where gaseous emissions and/or airborne particles are evolved and where finished products are obtained.
7. An 8 1/2" x 11" plot plan showing the location of the establishment, and points of airborne emissions, in relation to the surrounding area, residences and other permanent structures and roadways (Example: Copy of relevant portion of USGS topographic map).
8. An 8 1/2" x 11" plot plan of facility showing the location of manufacturing processes and outlets for airborne emissions. Relate all flows to the flow diagram.

- 9. The appropriate application fee in accordance with Rule 17-4.05. The check should be made payable to the Department of Environmental Regulation.
- 10. With an application for operation permit, attach a Certificate of Completion of Construction indicating that the source was constructed as shown in the construction permit.

SECTION VI: BEST AVAILABLE CONTROL TECHNOLOGY

A. Are standards of performance for new stationary sources pursuant to 40 C.F.R. Part 60 applicable to the source?

[ ] Yes [ ] No

Contaminant

Rate or Concentration

Contaminant	Rate or Concentration

B. Has EPA declared the best available control technology for this class of sources (if yes, attach copy)

[ ] Yes [ ] No

Contaminant

Rate or Concentration

Contaminant	Rate or Concentration

C. What emission levels do you propose as best available control technology?

Contaminant

Rate or Concentration

Contaminant	Rate or Concentration

D. Describe the existing control and treatment technology (if any).

1. Control Device/System:

2. Operating Principles:

3. Efficiency:

4. Capital Costs:

Explain method of determining

- 5. Useful Life:
- 7. Energy:
- 9. Emissions:

- 6. Operating Costs:
- 8. Maintenance Cost:

Contaminant	Rate or Concentration

10. Stack Parameters

- a. Height: ft.      b. Diameter: ft.
- c. Flow Rate: ACFM      d. Temperature: °F
- e. Velocity: FPS

E. Describe the control and treatment technology available (As many types as applicab. use additional pages if necessary).

1.

- a. Control Device: b. Operating Principles:
- c. Efficiency:<sup>1</sup> d. Capital Cost:
- e. Useful Life: f. Operating Cost:
- g. Energy:<sup>2</sup> h. Maintenance Cost:
- i. Availability of construction materials and process chemicals:
- j. Applicability to manufacturing processes:
- k. Ability to construct with control device, install in available space, and operate within proposed levels:

2.

- a. Control Device: b. Operating Principles:
- c. Efficiency:<sup>1</sup> d. Capital Cost:
- e. Useful Life: f. Operating Cost:
- g. Energy:<sup>2</sup> h. Maintenance Cost:
- i. Availability of construction materials and process chemicals:

<sup>1</sup>Explain method of determining efficiency.  
<sup>2</sup>Energy to be reported in units of electrical power - KWH design rate.

- j. Applicability to manufacturing processes:
- k. Ability to construct with control device, install in available space, and operate within proposed levels:

3.

- a. Control Device:
- b. Operating Principles:
- c. Efficiency:<sup>1</sup>
- d. Capital Cost:
- e. Useful Life:
- f. Operating Cost:
- g. Energy:<sup>2</sup>
- h. Maintenance Cost:
- i. Availability of construction materials and process chemicals:
- j. Applicability to manufacturing processes:
- k. Ability to construct with control device, install in available space, and operate within proposed levels:

4.

- a. Control Device:
- b. Operating Principles:
- c. Efficiency:<sup>1</sup>
- d. Capital Costs:
- e. Useful Life:
- f. Operating Cost:
- g. Energy:<sup>2</sup>
- h. Maintenance Cost:
- i. Availability of construction materials and process chemicals:
- j. Applicability to manufacturing processes:
- k. Ability to construct with control device, install in available space, and operate within proposed levels:

F. Describe the control technology selected:

- 1. Control Device:
- 2. Efficiency:<sup>1</sup>
- 3. Capital Cost:
- 4. Useful Life:
- 5. Operating Cost:
- 6. Energy:<sup>2</sup>
- 7. Maintenance Cost:
- 8. Manufacturer:
- 9. Other locations where employed on similar processes:
  - a. (1) Company:
  - (2) Mailing Address:
  - (3) City:
  - (4) State:

Explain method of determining efficiency.  
Energy to be reported in units of electrical power - KWH design rate.

(5) Environmental Manager:

(6) Telephone No.:

(7) Emissions:<sup>1</sup>

Contaminant

Rate or Concentration


(8) Process Rate:<sup>1</sup>

b. (1) Company:

(2) Mailing Address:

(3) City:

(4) State:

(5) Environmental Manager:

(6) Telephone No.:

(7) Emissions:<sup>1</sup>

Contaminant

Rate or Concentration


(8) Process Rate:<sup>1</sup>

10. Reason for selection and description of systems:

<sup>1</sup>Applicant must provide this information when available. Should this information not be available, applicant must state the reason(s) why.

**SECTION VII - PREVENTION OF SIGNIFICANT DETERIORATION**

**A. Company Monitored Data**

1. \_\_\_\_\_ no. sites \_\_\_\_\_ TSP \_\_\_\_\_ ( ) SO<sub>2</sub> \_\_\_\_\_ Wind spd/dir

Period of Monitoring \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_ to \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_  
month day year month day year

Other data recorded \_\_\_\_\_

Attach all data or statistical summaries to this application.

Specify bubbler (B) or continuous (C).



2. Instrumentation, Field and Laboratory

- a. Was instrumentation EPA referenced or its equivalent?  Yes  No
- b. Was instrumentation calibrated in accordance with Department procedures?  
 Yes  No  Unknown

B. Meteorological Data Used for Air Quality Modeling

1. \_\_\_\_\_ Year(s) of data from \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_ to \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_  
month day year month day year
2. Surface data obtained from (location) \_\_\_\_\_
3. Upper air (mixing height) data obtained from (location) \_\_\_\_\_
4. Stability wind rose (STAR) data obtained from (location) \_\_\_\_\_

C. Computer Models Used

1. \_\_\_\_\_ Modified? If yes, attach description.
2. \_\_\_\_\_ Modified? If yes, attach description.
3. \_\_\_\_\_ Modified? If yes, attach description.
4. \_\_\_\_\_ Modified? If yes, attach description.

Attach copies of all final model runs showing input data, receptor locations, and principle output tables.

D. Applicants Maximum Allowable Emission Data

Pollutant	Emission Rate
TSP	_____ grams/sec
SO <sup>2</sup>	_____ grams/sec

E. Emission Data Used in Modeling

Attach list of emission sources. Emission data required is source name, description of point source (on NEDS point number), UTM coordinates, stack data, allowable emissions, and normal operating time.

F. Attach all other information supportive to the PSD review.

G. Discuss the social and economic impact of the selected technology versus other applicable technologies (i.e., jobs, payroll, production, taxes, energy, etc.). Include assessment of the environmental impact of the sources.

H. Attach scientific, engineering, and technical material, reports, publications, journals, and other competent relevant information describing the theory and application of the requested best available control technology.

*HARRIS SEMICONDUCTOR*  
*AIR PERMIT -- BUILDING 55*  
*ATTACHMENT A*  
*PROCESS DESCRIPTION*

## ATTACHMENT A.

### PROCESS DESCRIPTION

Building 55 is the collection, short term storage, and shipping point for waste chemicals from the facility. The building houses three exhausted wet stations; two are acid bottle wash stations, and the third station is used to control the release of chemicals from broken, deteriorated, or damaged 'bubbler' containers which cannot be safely returned to the vendor. These 'bubblers' supply reactive gases to the chemical vapor deposition process in the wafer fabrication areas (these areas are located in other buildings on the site.)

The above mentioned wet stations are exhausted to acid scrubber number F55S01, which is located on the roof of the building (see attached control equipment information and scrubber location maps.)

The fume scrubber is utilized on an 'as needed' basis, namely when there is chemical activity under the hooded wet stations.

In order to provide ventilation to the hazardous waste handling area, two ventilation fans are located on the roof of the building.

*HARRIS SEMICONDUCTOR*

*AIR PERMIT - BUILDING 55*

*ATTACHMENT B*

*AIR EMISSIONS*

## ACID MONITORING--BUILDING 55

Monitoring was performed on the building 55 scrubber F55S01 in December of 1988. Samples were collected using modified EPA method 8 sampling train. The impinger medium consisted of a 0.1 N sodium hydroxide solution. The analytical methodology utilized to determine the ions of highest concentration is as follows:

Chloride ion--EPA Method 325.3

Fluoride ion--EPA Method 340.2

Nitrate, phosphite, and sulfate ions--ion chromatography

All results were in pounds per hour as "X", where "X" represents the acid compound present in highest concentration.

The test results revealed that the total accumulative monitored acid emissions for the building were 0.053 tons/year expressed as hydrochloric, hydrofluoric, nitric, phosphoric and sulfuric acids. This figure is based on a hypothetical production schedule of 8760 hours a year. The monitoring was performed over an 8 hour time interval when the full production was occurring.

When a resulting acid concentration was expressed as a "less than 'y' " value, where 'y' represents the lowest detectable limit possible using the analytical methodology employed, acid emissions were taken to be equal to this 'y' limit value.

RESULTS OF ACID MONITORING--BUILDING 55  
 PERFORMED IN DECEMBER OF 1988  
 ON THE OUTLET OF SCRUBBER NO. F55S01

Scrub #		HCl	HF	Nitric Acid	Phosphoric Acid	Sulfuric Acid	TOTAL (TON/YR)
F55S01	(lb/hr)	0.0080	0.0010	0.0010	0.0010	0.0010	
	(ton/yr)	0.0350	0.0044	0.0044	0.0044	0.0044	0.053

TOTAL ACID EMISSIONS FROM SCRUBBER OUTLET = 0.053 TONS/YEAR

*HARRIS SEMICONDUCTOR*  
*AIR PERMIT - - BUILDING 55*  
*ATTACHMENT C*  
*RAW MATERIALS AND CHEMICALS*

BUILDING 55 CONSOLIDATED AIR PERMIT

LIST OF CHEMICALS

ACETIC ACID  
AMMONIUM FLUORIDE  
AMMONIUM HYDROXIDE  
BORON TRIBROMIDE  
HYDROCHLORIC ACID  
HYDROFLUORIC ACID  
NITRIC ACID  
NITROGEN  
OXYGEN  
PHOSPHORIC ACID  
PHOSPHOROUS OXYCHLORIDE  
SULFURIC ACID  
WASTE ACIDS  
WASTE SOLVENTS  
WASTE SULFURIC ACID



*HARRIS SEMICONDUCTOR*  
*AIR PERMIT - - BUILDING 55*  
*ATTACHMENT D*  
*CONTROL EQUIPMENT*

HARRIS SEMICONDUCTOR -- AIR PERMIT INFORMATION

CURRENT PERMIT  
-----

BUILDING: 55	DATE ISSUED : 01/15/86
PERMIT NUMBER: AC 05-104523	RENEWAL DATE:
PERMIT TYPE : CONSTRUCTION	DATE EXPIRES: 06/30/86

AREA SERVED:  
PROCESS DESCRIPTION: CHEMICAL VAPOR SCRUBBER

PERMIT LIMITS  
-----

VOL. RATE (SCFM): 1,000  
ACID MIST (LB/HR): 0.0248  
SOLVENTS (LB/HR): --  
VOCS (LB/HR): --  
OPER. (HRS/YEAR):

SPECIFIC CONDITIONS  
-----

ANNUAL OPERATING REPORT :  
NOTIFICATION OF VE TEST :  
ANNUAL VIS EMISSION TEST:

EQUIPMENT INFORMATION  
-----

MANUFACTURER : HARRISON	MODEL NUMBER : HF-10
HARRIS ID NUMBER : F55S01	STACK HEIGHT (FT): 12
VOLUME FLOW RATE (CFM): 1,000	STACK DIAMETER (IN): 14
RECIRCULATION RATE (GPM): 19	STACK VELOCITY (FPM): 935
MAKEUP WATER RATE (GPM): 2.0	DUCT MATERIAL : polypro

PERMIT HISTORY  
-----

PERMIT NUMBER: AC 05-104523  
DATE EXPIRED : 06/30/86

PERMIT NUMBER:  
DATE EXPIRED :

PERMIT NUMBER:  
DATE EXPIRED :

SCRUBBER INFORMATION

-----  
HARRIS ID # : F55S01  
MANUFACTURER : HARRISON  
SERIAL NUMBER:  
DESCRIPTION : HORIZONTAL CROSS-FLOW, PLASTIC SADDLE PACKING, LIQUID  
DISTRIBUTION THROUGH MAIN HEADER, NO SPRAY NOZZLES  
MODEL NUMBER : HF-10  
MATERIAL : POLYPRO

DESIGN DATA

VOLUME FLOW RATE (CFM): 1,000 PRESSURE DROP (IN):  
RECIRCULATION RATE (GPM): 19 MAKE UP RATE (GPM): 2.0

ACTUAL DATA

VOLUME FLOW RATE (CFM): PRESSURE DROP (IN): NE DATE: 06/08  
RECIRCULATION RATE (GPM): 34 MAKE UP RATE (GPM): 2.5 DATE: "

RECIRCULATION PUMP INFORMATION

-----  
MANUFACTURER : LELAND FARADAY  
SERIAL NUMBER: N/A  
BRKR LOCATION:  
MODEL NUMBER : 92J305A  
HP : 0.5 RPM : 3450  
FED FROM MCC :

FAN INFORMATION

-----  
HARRIS ID # : F55E04  
MANUFACTURER : CRECO  
SERIAL NUMBER: N/A  
DESCRIPTION : CENTRIFUGAL BLOWER  
MODEL NUMBER: 122  
MATERIAL : PVC

DESIGN DATA

VOLUME FLOW RATE (CFM): 1,000 STATIC PRESS (IN): 3.0

ACTUAL DATA

VOLUME FLOW RATE (CFM): SPEED (RPM): DATE:  
STATIC PRESS (IN): DATE:

FAN MOTOR INFORMATION

-----  
MANUFACTURER :  
SERIAL NUMBER:  
BRKR LOCATION:  
MODEL NUMBER :  
HP : 1.5 RPM : 1750  
FED FROM MCC :

## THE HARRISON SYSTEM

Harrison is a prime designer and producer of complete plastic exhaust systems, custom engineered scrubbing systems, as well as duct and fittings, tanks, and hoods. As a result of this capability and experience, design and manufacture of standard, pre-engineered fume scrubbers is a natural extension.

### MATERIALS

Self-supporting or fiberglass armored PVC and Polypropylene, fiberglass armored Kynar, and solid fiberglass construction offers a wide range of resistance to acids, alkalis, solvents, and other corrosives at operating temperatures to approximately 250°F. Harrison systems do not use any metal in contact with the process stream.

### PRE-ENGINEERING

Pre-engineered design reduces cost by eliminating the necessity to re-invent each item ordered. It results in more reliable service thru improved workmanship achieved by repetitive production control, and speeds quotations and approval drawings because costs and designs are immediately available. In addition to significant savings in approval and order time, Harrison reduces delivery time by stocking scrubber components including packing, support grids, distributor plates, nozzles, duct reducers, and sheet stock.

### SCRUBBER CONFIGURATION

Most fume removal applications can be served by the two scrubber designs shown in this catalog. Vertical Counter Current style directs liquid down vertically, and unwanted fumes upward in the opposite direction. Horizontal Cross Flow unit directs liquid down vertically, but unwanted fumes are driven horizontally at 90° to the liquid. In both designs, liquid and fumes are inter-mixed in the packed bed section of the scrubber where fumes are removed by chemical reaction or water solubility. Scrubber shape does not affect performance. Horizontal design presents a low profile and is suitable where head room is limited. Verticals require more head room, but use only minimum floor space.

### SCRUBBER DESIGN AND OPERATION

Highest scrubber efficiency (volumetric % of contaminate removed) is obtained by having the proper amount of contact surface area (packing) wetted by sufficient liquid (recirculated liquid rate) for an optimum residence time (packing depth) to allow unwanted fumes to take a treacherous path thru the wetted packing to permit their maximum removal from the carrier air stream by chemical reaction or water solubility.

Air stream resistance encountered in the packing (static pressure loss) is a function of air velocity, cross-sectional packing area, and packing depth. Harrison scrubbers utilize proven packing depth to achieve efficiencies approaching 99+%, when operated within recommendations.

### LIQUID DISTRIBUTION AND MIST ELIMINATION

Simple liquid distribution is achieved thru a main header pipe feeding perforated laterals, without use of troublesome spray nozzles. Nozzles are subject to plugging, and produce a difficult-to-remove atomized mist carryover. In the Harrison design, any large droplets of liquid caught in the upward moving air stream are easily and efficiently removed by a short bed of dry packing located above the liquid distributor.

### STATIC PRESSURE LOSS

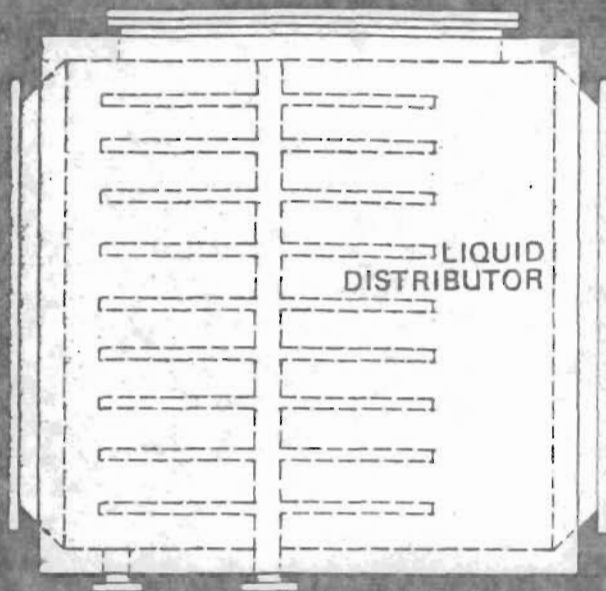
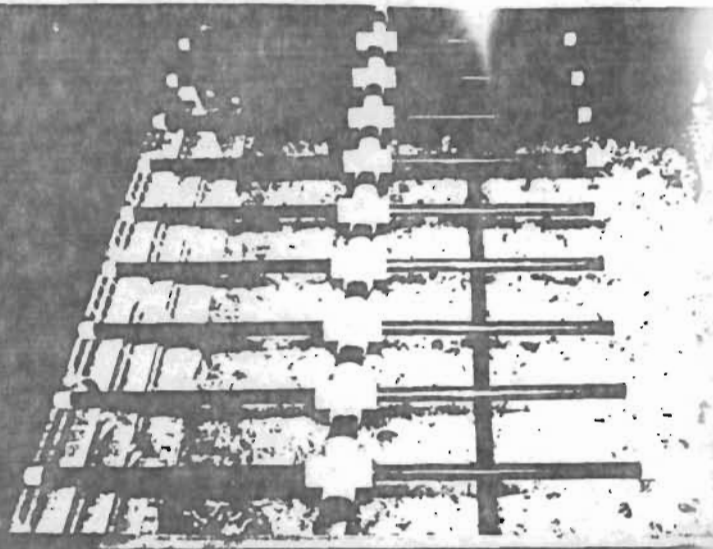
Use of high-surface-area, low-pressure-drop plastic saddles in a balanced design result in low static pressure loss of only 0.4 inches H<sub>2</sub>O (w.g.) per foot of packed depth in Vertical Counter Current scrubbers, and 0.33 in Horizontal Cross Flow units. At the same time, sufficient irrigating rates constantly keep saddles clear of potential sludge buildup. Thereby, continuous, non-clogging operation at a proper rate of intermixing turbulence between liquid and fumes is achieved for 99+% efficiency.

### LIQUID SUMP OPERATION

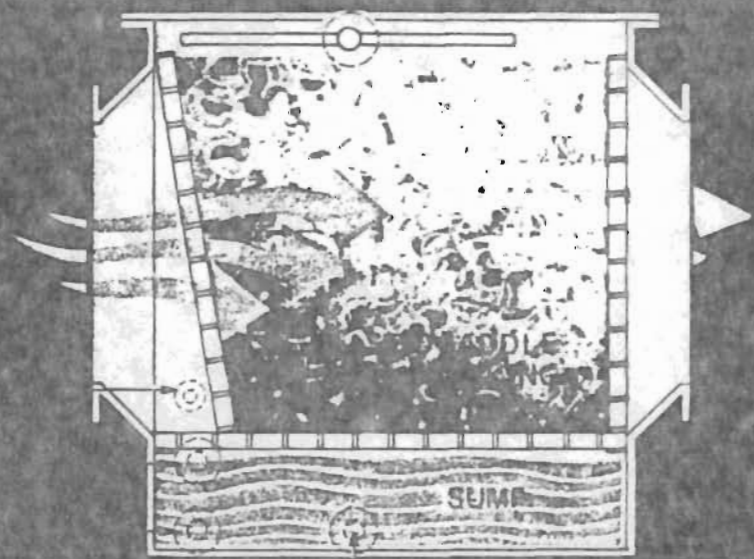
Harrison scrubbers employ an integral liquid recirculating sump which reduces amount of liquid consumption required by 90 to 95% in most applications. Therefore, considerably less effluent must be handled and treated. The sump reservoir is contained within the scrubber itself. Harrison recommends optimum rate of effluent removal. When effluent is acidic only, additional liquid conservation can be obtained with either scrubber design with the simple optional recovery system shown with the vertical scrubber drawing on page 4. If central treating facilities exist, no sump, recirculation, or independent recovery is needed. In this case, treated liquid would be directed over the packing in a single pass, then treated, then returned to the scrubber etc. In both instances where effluent is treated, liquid consumption would be reduced to only that amount lost by evaporation.

# Harrison

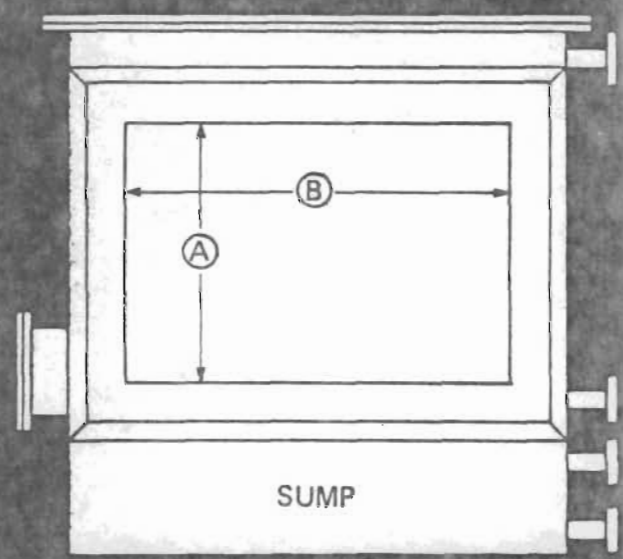
Box 184 Aurora Ohio 44202/216-562-9545



TOP VIEW



SIDE VIEW (CUT-A-WAY)



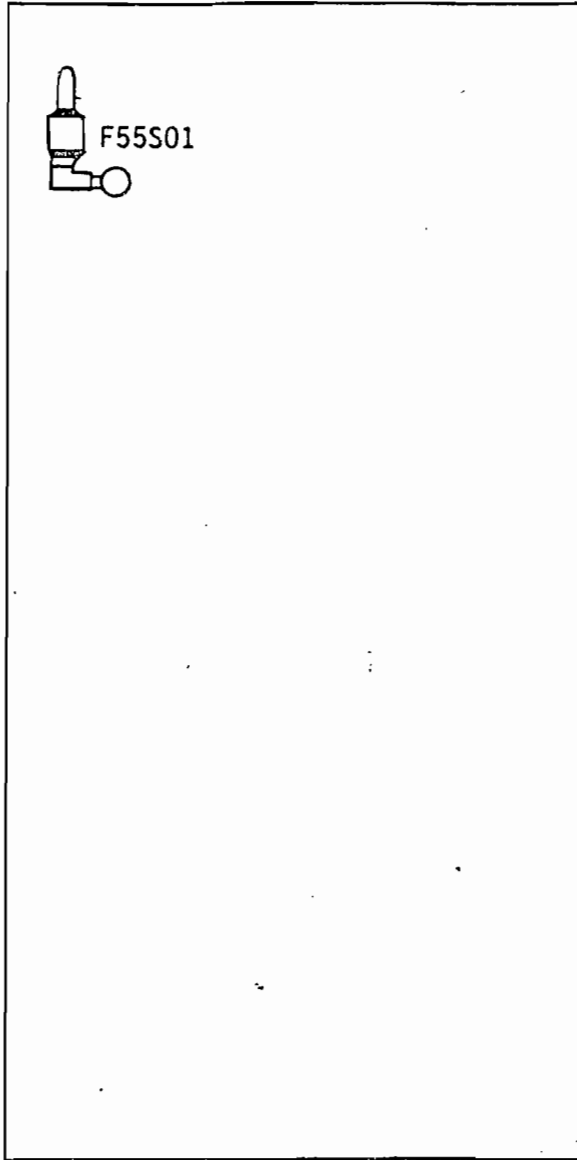
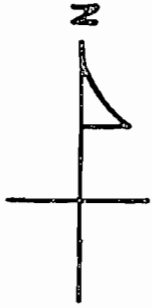
INLET SIDE VIEW

# HORIZONTAL CROSS-FLOW




Model	CFM	Inlet Outlet A x B In. x In.	Length L Ft.	Height W Ft.	Wingspan C In.	D In.	E In.	F In.	G In.	Number of Cells	Flow Rate GPM	Area Sq. Ft.	Ship Wt. Lbs.	Oper. Wt. Lbs.
HF-8	800	11x11	6	17	1	1	1	1	1	58	17	10	162	64
HF-10	1,200	14x14	6	20	2	1	1	1	1	69	21	12	224	78
HF-12	1,200	14x14	6	20	2	1	1	1	1	69	21	12	224	78
HF-17	1,700	18x18	8	24	2	1	1	1	1	82	24	15	275	92
HF-21	2,400	21x21	10	27	4	1	1	1	1	92	28	18	316	102
HF-25	2,800	24x24	8	30	4	1	1	1	1	107	32	20	357	116
HF-31	3,700	27x27	10	33	4	1	1	1	1	122	35	22	418	131
HF-37	4,500	30x30	10	36	4	1	1	1	1	138	38	24	481	144
HF-45	4,500	33x33	6	39	4	1 1/2	1 1/2	1 1/2	1 1/2	134	42	27	563	166
HF-50	6,000	36x36	8	42	4	1 1/2	1 1/2	1 1/2	1 1/2	144	45	30.0	615	173
HF-67	6,700	36x36	6	43	1	2	2	1 1/2	3 1/2	165	51	35.5	680	198
HF-85	8,500	42x42	6	54	1	2	2	2	1 1/2	186	56	40.0	824	227
HF-105	10,000	48x48	6	60	2	2	2	2	2 1/2	206	60	46.5	1035	263
HF-126	12,000	54x54	8	66	2	2	2	2	2 1/2	228	68	53.0	1242	299
HF-150	15,000	60x60	8	72	2	2	2	2	2 1/2	247	74	60.0	1545	346
HF-175	17,000	66x66	10	78	2	2	2	2	2 1/2	268	80	68.0	1751	380
HF-194	18,000	66x66	10	78	2	2	2	2	2 1/2	280	86	76.0	1957	416
HF-220	22,000	72x72	10	84	2	2	2	2	2 1/2	330	98	87.0	2266	477
HF-245	24,000	78x78	10	90	2	2	2	2	2 1/2	371	112	97.0	2624	532
HF-273	27,000	84x84	10	96	2	2	2	2	2 1/2	412	123	108.0	2836	598
HF-300	30,000	90x90	10	102	2	2	2	2	2 1/2	454	136	120.0	3189	668
HF-327	32,700	96x96	10	108	2	2	2	2	2 1/2	495	147	132.0	3491	739

*HARRIS SEMICONDUCTOR*  
*AIR PERMIT -- BUILDING 55*  
*ATTACHMENT E*  
*SITE LOCATION MAPS*

HARRIS SEMICONDUCTOR  
SCRUBBER LOCATIONS  
BUILDING 55



LEGEND

-  - Horizontal Scrubber
-  - Vertical Scrubber
-  - Exhaust Stack



APOLLO BLVD

# Harris Semiconductor Complex

SCRUBBER LOCATIONS

POND

F62S02  
F62S01

62B

62A

PARKING LOT

F58S02  
F58S01

58

PARKING LOT

POND

F57S01

PARKING LOT

59

F59S01  
F59S03

63

F63S02  
F63S01  
F63S03

WATER TOWER

F54S03

F54S04

F54S01

F54S02

F60S01

F55S01

54

PARKING LOT

53

F04S05  
F04S06  
F04S01

PARKING LOT

6

BORROW PIT

60

56

LN2

52

55

51

51

51

51

51

51

51

51

51

51

F51S01  
F51S02  
F51S03  
F51S04  
F51S05

F04S08  
F04S04  
F04S03  
F04S02

PARKING LOT

F61S02  
F61S01

61

N

PALM BAY BLVD

TROUTMAN

LIPSCOMB ST