

Bruce

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32399-2400



BOB MARTINEZ
GOVERNOR

DALE TWACHTMANN
SECRETARY

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION
NOTICE OF PERMIT

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

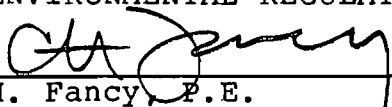
February 3, 1988

Enclosed is permit No. AC 05-138795, for Harris Semiconductor to install/construct an Industrial Grade Water System to provide water for the Deionized Water Plants in Buildings 52 and 59. A vacuum degasifier will be used to remove hydrogen sulfide and carbon dioxide from the raw well water and a flare will be used to oxidize the gasses. The project will occur at Harris Semiconductor's existing facility in Melbourne, 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.
Deputy Chief
Bureau of Air Quality Management

Copy furnished to:

T. Sawicki, CF Dist.
C. Bach, P.E.

Final Determination

Harris Semiconductor
Brevard County
Melbourne, Florida

Permit No. AC 05-138795

Florida Department of Environmental Regulation
Bureau of Air Quality Management
Central Air Permitting

January 27, 1988

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, Cocoa, Florida, on January 6, 1988. The Technical Evaluation and Preliminary Determination were available for public inspection at the DER's Central Florida District office in Orlando and the DER's Bureau of Air Quality Management office in Tallahassee.

No comments were received during the Public Notice period. Therefore, the final action of the Department will be to issue the construction permit as drafted.

The Times
Published Weekly on Wednesday

THE TRIBUNE
Published Weekly on Wednesday

STAR-ADVOCATE
Published Weekly on Wednesday

DER

JAN 08 1988



Published Daily

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 _____
Permit to Harris Semiconductor

_____ in the _____ Court

was published in the FLORIDA TODAY NEWSPAPER
in the issues of January 6, 1988

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.

Copied: Bruce Mitchell
Tom Sawicki - CF Diet } 1-12-88 (ms)

Linda L. Spicer
Sworn and subscribed to before me this

6th day of January A.D., 19 88

Wanda J. Cook
Notary Public, State of Florida at Largo
My Commission Expires July 20, 1990

State of Florida
Department of Environmental
Regulation
Notice of Intent

The Department of Environmental Regulation hereby gives notice of its intent to issue a permit to Harris Semiconductor to install/construct an industrial Grade Water System to provide water for the Deionized Water Plants in Buildings 52 and 59. The system will include a vacuum degasifier to remove hydrogen sulfide and carbon dioxide from the raw well water. The removed gases will be oxidized in a flare, which will be designed and built by the John Zink Company, Model EEF-U-2 Flare Tip with a manual/weatherproof pilot ignition panel. The pilot and enrichment fuel will be propane. The construction/installation will take place at the permittee's existing facility located in Palm Bay, Brevard County, Florida.

Persons whose substantial interests are affected by the Department's proposed permitting decision may petition for an administrative determination (hearing) in accordance with Section 120.57, Florida Statutes. The petition must conform to the requirements of Chapters 17-103 and 28-5, Florida Administrative Code, and must be filed (received) in the Department's Office of General Counsel, 2600 Blair Stone Road, Twin Towers Office Building, Tallahassee, Florida 32399-2400, within fourteen (14) days of publication of this notice. Failure to file a petition within this time period constitutes a waiver of any right such person has to request an administrative determination (hearing) under Section 120.57, Florida Statutes.

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 proposed agency action. Therefore, persons who may not wish to file a petition may wish to intervene in the proceeding. A petition for intervention must be filed pursuant to Rule 20-5.207, Florida Administrative Code, at least five (5) days before the final hearing and one has been signed at the Division of Administrative Hearings, Department of Administration, 2009 Apalachee Parkway, Tallahassee, Florida 32301. If no hearing officer has been assigned, the petition is to be filed with the Department's Office of General Counsel, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400. Failure to petition to intervene within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section 120.57, Florida Statutes.

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: Dept. of Environmental Regulation Bureau of Air Quality Management 2600 Blair Stone Road Tallahassee, Florida 32399-2400

Dept. of Environmental Regulation Central Florida District 3319 Maeuire 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. T064593-1T-1/6, 1988, Wednesday

Technical Evaluation
and
Preliminary Determination

Harris Semiconductor
Brevard County
Palm Bay, Florida

Construction Permit Numbers:
AC 05-147321
AC 05-150794

Florida Department of Environmental Regulation
Division of Air Resources Management
Bureau of Air Quality Management
Central Air Permitting

September 19, 1988

I. Application

A. Applicant

Harris Semiconductor
Post Office Box 883
Melbourne, Florida 32901

B. Project and Location

The applicant has applied for construction permits for Buildings No. 54 and No. 59, in order to consolidate multiple permits previously issued for these sources/buildings.

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 54

Building 54 is a wafer fabrication facility. The second floor of the two-story building houses two clean room modules. Both fabrication areas employ a series of manufacturing procedures referred to as layering, patterning, doping and heating processes. The frequency and sequence of these processes can vary depending on the desired nature of the final product.

Wet stations that house vats containing a variety of acid and caustic compounds are located throughout the clean rooms. Storage cabinets safely hold virgin chemicals until they are ready for use. The first floor of the building contains exhausted gas cabinets that supply process gases to the 'fab' operations.

The exhaust system for the building is divided into two sections. The west half exhaust is fed into a common duct that is divided into two wet scrubber systems, F54S01 and F54S02, at ground level. The east portion of the building exhaust is ducted to a common line that divides into two wet scrubbers (F54S03 and F54S04) on the east side of building. Also on the east side of Building 54 is a non-scrubbed exhaust fan F54E17 that handles air flow from several alligners, furnace source cabinets, and gas cabinets.

2. Building 59

Building 59 houses a wafer fabrication facility on the second floor. The fabrication area employs a series of manufacturing procedures referred to as layering, patterning,

doping and heating processes. The frequency and sequence of these processes can vary depending on the desired nature of the final product.

Thirteen exhausted wet stations that house vats containing a variety of acid and caustic compounds are in the fabrication facility. Five of these stations contain solvents, one of which is heated.

The ground floor of the two-story manufacturing area houses a process equipment support room that contains gas cabinets, chemical storage cabinets, vacuum pumps and drains. These exhausted units service the process equipment which resides above it in the fabrication area. Storage cabinets safely hold virgin chemicals until they are ready for use. Gas cabinets house cylinders that supply process gases to the 'fab' operations. In addition, several waste collection areas are exhausted. The ground floor also houses the site's distilled water plant and a mechanical equipment storage area.

The exhaust system for the building is divided between two scrubbers. Acid vapors are vented to scrubber number F59S01, while solvent exhaust streams are ducted to scrubber number F59S03. Both systems reside on the site grounds directly outside the west wall of the building.

3. General

In the controlled environment of the fabrication clean room, wafer surfaces first undergo acid and/or solvent cleaning followed by thermal oxidation in furnaces to form a layer of silicon dioxide on the wafer surface.

During the patterning process the wafers are initially baked and primed. Coaters then spin a thin layer of "photoresist" on the wafer, after which the wafers are soft baked. Next, the circuit pattern is projected onto the wafers via "aligners" or "steppers." Developers are then applied to remove unpolymerized areas of photoresist. This is followed by a solvent rinse.

Next, the wafers are hard-baked, inspected to determine accuracy, and etched by wet (acid bath) or dry (plasma vapor) mechanisms. Once etching is complete, the photoresist is stripped off the wafer using chemical baths or plasma techniques.

In another step of the fabrication process, "dopant" atoms are either diffused into the wafer in diffusion furnaces, or accelerated into the wafer using "ion implantation." Fumes from the vapor deposition furnaces are oxidized in burn boxes. The oxidized gases are then exhausted to scrubber systems. Additional material may be layered on the wafer surface in vapor and

crystal (epitaxial) deposition furnaces. Metallization to interconnect uppermost circuit layers is performed by deposition (using "sputtering" systems) or evaporation.

A material balance scheme will be used to account for the annual VOC/solvent emissions released into the atmosphere by the facility. A program of sampling and analysis will be used to assess the VOC/solvent emissions from each building.

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:

- o Major Group 36: Organic Solvent Evaporation
- o Building 54 4-01-003-99 Tons VOC/solvent consumed
- o Building 59 4-01-003-99 Tons VOC/solvent consumed

II. Rule Applicability

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

The application packages were deemed complete on July 1, 1988.

The existing facility is located in an area designated attainment for all pollutants. Therefore, review of emissions shall be in accordance with FAC Rule 17-2.500, Prevention of Significant Deterioration (PSD).

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

The following table presents the projected potential VOC/solvent emissions:

Table 1

Source	Potential VOC/solvent Emissions (TPY)
Building 54	
o F54S01	15.24
o F54S02	15.24
o F54S03	32.59
o F54S04	32.59
Building 59	
o F59S03	0.50
Total:	<u>96.16</u>

Note: 1. Annual hours of operation at 8760.

The following table presents the projected potential VOC/solvent emissions from the facility:

Table 2

Building	Potential VOC/solvent Emissions (TPY)
4	10.96
51	33.29
54	95.65
57	1.66
58	3.24
59	0.50
60	min.
61	0.25
62	0.83
63	6.14
Total:	<u>152.50</u>

Since the potential emissions are less than 250 TPY for the facility, the potential emissions projected from Buildings 54 and 59 will be reviewed pursuant to FAC Rule 17-2.520, Sources Not Subject to PSD or Nonattainment Requirements.

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

In FAC 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 FAC 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 FAC Rule 17-2.100(132).

The buildings operations/sources are subject to the provisions of FAC Rules 17-2.240: Circumvention; 17-2.250: Excess Emissions; 17-4.130: Plant Operation-Problems; and, 17-4.140: Reports.

III. Summary of Emissions

A. Emission Limitations

The regulated pollutant emissions from these buildings/sources are VOC/solvents in accordance with FAC Rule 17-2.620.

Specific acid solutions are also being used during the manufacturing operations. There are no specific emission limiting standards for these specific acids. However, the acid vapors will be scrubbed to reduce emissions.

The following table presents the allowable VOC/solvent emissions and the potential acid vapor emissions from Buildings 54 and 59 in TPY:

Table 3

Building	Maximum Allowable VOC/Solvent Emissions	Potential Acid Vapor Emissions
54	95.7	
59	0.5	0.1

Note: Hours of operation are 8760.

The permitted emissions are in compliance with all requirements of FAC Rules 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.

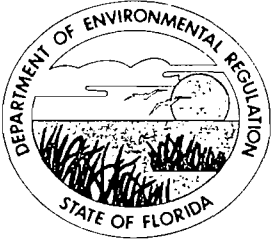
V. Conclusion

The maximum allowable VOC/solvent emissions from Buildings 54 and 59 are in compliance with FAC Rules 17-2 and 17-4. Even though there are no emission standards for acid vapors, the

applicant has installed scrubber systems to control their emissions.

A system of material balance and sampling/analysis will be used to account for and verify pollutant emissions from each building and their scrubber systems.

The General and Specific Conditions listed in the proposed permits (attached) will ensure compliance with all applicable requirements of FAC Rules 17-2 and 17-4.



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 05-147321
Expiration Date: April 30, 1990
County: Brevard
Latitude/Longitude: 28° 01' 20" N
80° 36' 10" W

Project: Building 54
Manufacturing Lab

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Florida Administrative Code (FAC) Rules 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 hood type work stations for the manufacture of semiconductors in Building 54. Two 20,000 cfm and two 23,000 cfm horizontal cross-flow plastic saddle packed wet scrubbers, manufactured by Harrison, are installed to control VOC/solvent vapors. 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 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 March 3, 1988.
2. Mr. James R. Kolanek's letter with a processing fee received March 24, 1988.
3. Mr. C. H. Fancy's letter dated April 20, 1988.
4. Mr. James R. Kolanek's letter with attachments received May 20, 1988.
5. Mr. C. H. Fancy's letter dated June 6, 1988.
6. Mr. James R. Kolanek's letter and attachments received July 1, 1988.
7. Mr. James R. Kolanek's letter and addendum received September 12, 1988.

PERMITTEE:
Harris Semiconductor

Permit Number: AC 05-147321
Expiration Date: April 30, 1990

GENERAL CONDITIONS:

1. The terms, conditions, requirements, limitations, and restrictions set forth herein are "Permit Conditions" and as such are binding upon the permittee and enforceable pursuant to the authority of Sections 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is hereby placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of the "Permit Conditions" by the permittee, its agents, employees, servants or representatives.

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. Nor 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 does not constitute 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, plant or aquatic life or property and penalties therefore caused by the construction or operation of this permitted source, 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 05-147321
Expiration Date: April 30, 1990

GENERAL CONDITIONS:

6. The permittee shall at all times 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, access to the premises, at reasonable times, where the permitted activity is located or conducted for the purpose of:

- a. Having access to and copying any records that must be kept under the conditions of the permit;
- b. Inspecting the facility, equipment, practices, or operations regulated or required under this permit; and
- c. Sampling or monitoring 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 notify and provide the Department with the following information:

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

PERMITTEE:
Harris Semiconductor

Permit Number: AC 05-147321
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 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 arising under the Florida Statutes or Department rules, except where such use is proscribed by Sections 403.73 and 403.111, Florida Statutes.

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 17-4.12 and 17- 30.30, as applicable. The permittee shall be liable for any noncompliance of the permitted activity until the transfer is approved by the Department.

12. This permit is required to be kept at the work site of the permitted activity during the entire period of construction or operation.

13. This permit also constitutes:

- () Determination of Best Available Control Technology (BACT)
- () Determination of Prevention of Significant Deterioration (PSD).
- () Compliance with New Source Performance Standards.

14. The permittee shall comply with the following monitoring and record keeping requirements:

- a. Upon request, the permittee shall furnish all records and plans required under department rules. The retention period for all records will be extended automatically, unless otherwise stipulated by the Department, during the course of any unresolved enforcement action.

PERMITTEE:
Harris Semiconductor

Permit Number: AC 05-147321
Expiration Date: April 30, 1990

GENERAL CONDITIONS:

- b. The permittee shall retain 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), copies of all reports required by this permit, and records of all data used to complete the application for this permit. The time period of retention shall be at least three years from the date of the sample, measurement, report or application unless otherwise specified by Department rule.
- 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 date(s) analyses were performed;
 - the person responsible for performing the analyses;
 - the analytical techniques or methods used; and
 - the results of such analyses.

15. 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 submitted or corrected promptly.

SPECIFIC CONDITIONS:

1. The maximum allowable VOC/solvent emissions from Building 54 shall be 95.7 tons per year.
2. The VOC/solvent vapor exhaust scrubber must be on during the working hours.
3. Annual operation shall be 8760 hours per year.
4. Objectionable odors shall not be allowed off plant property.

PERMITTEE:
Harris Semiconductor

Permit Number: AC 05-147321
Expiration Date: April 30, 1990

SPECIFIC CONDITIONS:

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 leaks and equipment malfunctions.

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 54 and shall be determined by a material balance scheme, which includes the following:

- 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);
- 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; and, should occur at the beginning of the following calendar year.

6. Each scrubber system's efficiency and potential VOC/solvent emissions shall be established by a sampling and analysis program, which includes:

- a) a sample shall be taken annually from each scrubber stack and analyzed using EPA Reference Method 25A;
- b) the DER's Central Florida District office shall receive 15 days notice in writing prior to sampling; and,
- c) the report, summarizing the sampling results, shall be submitted to the DER's Central District office within 45 days after the last test run is completed.

7. A meter to measure the pressure drop shall be installed on each scrubber system.

8. To obtain a permit to operate, the permittee must demonstrate compliance with the conditions of the construction permit and submit an application for an operating permit, including the application fee, along with the material balance results, compliance test results and Certificate of Completion, to the DER's Central District office 90 days prior to the expiration date of the construction permit. The permittee may continue to

PERMITEE:
Harris Semiconductor

Permit Number: AC 05-147321
Expiration Number: April 30, 1990

SPECIFIC CONDITIONS:

operate in compliance with all terms of the construction permit until its expiration date in accordance with FAC Rules 17-2 and 17-4.

If the construction permit expires prior to the permittee filing an application for a permit to operate, then all activities at the project must cease pursuant to FAC Rule 17-4.

9. Building 54 is subject to the provisions of FAC Rules 17-2.240: Circumvention; 17-2.250: Excess Emissions; 17-4.130: Plant Operation-Problems; and, 17-4.140: Reports.

10. Any modification pursuant to FAC Rule 17-2.100(119) shall be submitted to the DER's Central District office and the Bureau of Air Quality Management office for approval.

Issued this ____ day of _____,
19__.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION

Dale Twachtman, Secretary



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 05-150794
Expiration Date: April 30, 1990
County: Brevard
Latitude/Longitude: 28° 01' 20" N
80° 36' 10" W

Project: Building 59
Manufacturing Lab

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Florida Administrative Code (FAC) Rules 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 hood type work stations for the manufacture of semiconductors in Building 59. A 24,000 cfm vertical counter-current flow wet scrubber, using polypropylene packing, and with a mist eliminator, manufactured by Beverly Pacific, is installed to control VOC/solvent vapors. A 40,000 cfm horizontal cross-flow wet scrubber, using polypropylene packing, and with a mist eliminator, manufactured by Beverly Pacific, is installed to control acid vapors. 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 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), along with the processing fee, and Mr. James R. Kolanek's cover letter received June 10, 1988.
2. Mr. James R. Kolanek's letter and attachments received July 1, 1988.
3. Mr. James R. Kolanek's letter and addendum received September 12, 1988.

PERMITTEE:
Harris Semiconductor

Permit Number: AC 05-150794
Expiration Date: April 30, 1990

GENERAL CONDITIONS:

1. The terms, conditions, requirements, limitations, and restrictions set forth herein are "Permit Conditions" and as such are binding upon the permittee and enforceable pursuant to the authority of Sections 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is hereby placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of the "Permit Conditions" by the permittee, its agents, employees, servants or representatives.

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. Nor 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 does not constitute 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, plant or aquatic life or property and penalties therefore caused by the construction or operation of this permitted source, 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 05-150794
Expiration Date: April 30, 1990

GENERAL CONDITIONS:

6. The permittee shall at all times 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, access to the premises, at reasonable times, where the permitted activity is located or conducted for the purpose of:

- a. Having access to and copying any records that must be kept under the conditions of the permit;
- b. Inspecting the facility, equipment, practices, or operations regulated or required under this permit; and
- c. Sampling or monitoring 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 notify and provide the Department with the following information:

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

PERMITTEE:
Harris Semiconductor

Permit Number: AC 05-150794
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 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 arising under the Florida Statutes or Department rules, except where such use is proscribed by Sections 403.73 and 403.111, Florida Statutes.

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 17-4.12 and 17- 30.30, as applicable. The permittee shall be liable for any noncompliance of the permitted activity until the transfer is approved by the Department.

12. This permit is required to be kept at the work site of the permitted activity during the entire period of construction or operation.

13. This permit also constitutes:

- () Determination of Best Available Control Technology (BACT)
- () Determination of Prevention of Significant Deterioration (PSD).
- () Compliance with New Source Performance Standards.

14. The permittee shall comply with the following monitoring and record keeping requirements:

- a. Upon request, the permittee shall furnish all records and plans required under department rules. The retention period for all records will be extended automatically, unless otherwise stipulated by the Department, during the course of any unresolved enforcement action.

PERMITTEE:
Harris Semiconductor

Permit Number: AC 05-150794
Expiration Date: April 30, 1990

GENERAL CONDITIONS:

- b. The permittee shall retain 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), copies of all reports required by this permit, and records of all data used to complete the application for this permit. The time period of retention shall be at least three years from the date of the sample, measurement, report or application unless otherwise specified by Department rule.
- 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 date(s) analyses were performed;
 - the person responsible for performing the analyses;
 - the analytical techniques or methods used; and
 - the results of such analyses.

15. 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 submitted or corrected promptly.

SPECIFIC CONDITIONS:

1. The maximum allowable VOC/solvent emissions from Building 59 shall be 0.50 tons per year. The projected potential acid vapor emissions are 0.1 tons per year.
2. The VOC/solvent and acid vapor exhaust scrubbers must be on during the working hours.
3. Annual operation shall be 8760 hours per year.
4. Objectionable odors shall not be allowed off plant property.

PERMITTEE:
Harris Semiconductor

Permit Number: AC 05-150794
Expiration Date: April 30, 1990

SPECIFIC CONDITIONS:

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 leaks and equipment malfunctions.

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 59 and shall be determined by a material balance scheme, which includes the following:

- 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);
- 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; and, should occur at the beginning of the following calendar year.

6. Each scrubber system's efficiency and potential VOC/solvent and acid emissions shall be established by a sampling and analysis program, which includes:

- a) a sample shall be taken annually from each scrubber stack and analyzed using EPA Reference Method 25A;
- b) the DER's Central Florida District office shall receive 15 days notice in writing prior to sampling; and,
- c) the report, summarizing the sampling results, shall be submitted to the DER's Central District office within 45 days after the last test run is completed.

7. A meter to measure the pressure drop shall be installed on each scrubber system.

8. To obtain a permit to operate, the permittee must demonstrate compliance with the conditions of the construction permit and submit an application for an operating permit, including the application fee, along with the material balance results, compliance test results and Certificate of Completion, to the DER's Central District office 90 days prior to the expiration date of the construction permit. The permittee may continue to

PERMITEE:
Harris Semiconductor

Permit Number: AC 05-150794
Expiration Number: April 30, 1990

SPECIFIC CONDITIONS:

operate in compliance with all terms of the construction permit until its expiration date in accordance with FAC Rules 17-2 and 17-4.

If the construction permit expires prior to the permittee filing an application for a permit to operate, then all activities at the project must cease pursuant to FAC Rule 17-4.

9. Building 59 is subject to the provisions of FAC Rules 17-2.24: Circumvention; 17-2.250: Excess Emissions; 17-4.130: Plant Operation Problems; and, 17-4.140: Reports.

10. Any modification pursuant to FAC Rule 17-2.100(119) shall be submitted to the DER's Central District office and the Bureau of Environmental Quality Management office for approval.

Issued this ____ day of _____,
19__.

**STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION**

Dale Twachtman, Secretary

Technical Evaluation
and
Preliminary Determination

Harris Semiconductor
Brevard County
Palm Bay, Florida

Construction Permit Numbers:
AC 05-147321
AC 05-150794

Florida Department of Environmental Regulation
Division of Air Resources Management
Bureau of Air Quality Management
Central Air Permitting

September 19, 1988

I. Application

A. Applicant

Harris Semiconductor
Post Office Box 883
Melbourne, Florida 32901

B. Project and Location

The applicant has applied for construction permits for Buildings No. 54 and No. 59, in order to consolidate multiple permits previously issued for these sources/buildings.

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 54

Building 54 is a wafer fabrication facility. The second floor of the two-story building houses two clean room modules. Both fabrication areas employ a series of manufacturing procedures referred to as layering, patterning, doping and heating processes. The frequency and sequence of these processes can vary depending on the desired nature of the final product.

Wet stations that house vats containing a variety of acid and caustic compounds are located throughout the clean rooms. Storage cabinets safely hold virgin chemicals until they are ready for use. The first floor of the building contains exhausted gas cabinets that supply process gases to the 'fab' operations.

The exhaust system for the building is divided into two sections. The west half exhaust is fed into a common duct that is divided into two wet scrubber systems, F54S01 and F54S02, at ground level. The east portion of the building exhaust is ducted to a common line that divides into two wet scrubbers (F54S03 and F54S04) on the east side of building. Also on the east side of Building 54 is a non-scrubbed exhaust fan F54E17 that handles air flow from several alligners, furnace source cabinets, and gas cabinets.

2. Building 59

Building 59 houses a wafer fabrication facility on the second floor. The fabrication area employs a series of manufacturing procedures referred to as layering, patterning,

doping and heating processes. The frequency and sequence of these processes can vary depending on the desired nature of the final product.

Thirteen exhausted wet stations that house vats containing a variety of acid and caustic compounds are in the fabrication facility. Five of these stations contain solvents, one of which is heated.

The ground floor of the two-story manufacturing area houses a process equipment support room that contains gas cabinets, chemical storage cabinets, vacuum pumps and drains. These exhausted units service the process equipment which resides above it in the fabrication area. Storage cabinets safely hold virgin chemicals until they are ready for use. Gas cabinets house cylinders that supply process gases to the 'fab' operations. In addition, several waste collection areas are exhausted. The ground floor also houses the site's distilled water plant and a mechanical equipment storage area.

The exhaust system for the building is divided between two scrubbers. Acid vapors are vented to scrubber number F59S01, while solvent exhaust streams are ducted to scrubber number F59S03. Both systems reside on the site grounds directly outside the west wall of the building.

3. General

In the controlled environment of the fabrication clean room, wafer surfaces first undergo acid and/or solvent cleaning followed by thermal oxidation in furnaces to form a layer of silicon dioxide on the wafer surface.

During the patterning process the wafers are initially baked and primed. Coaters then spin a thin layer of "photoresist" on the wafer, after which the wafers are soft baked. Next, the circuit pattern is projected onto the wafers via "aligners" or "steppers." Developers are then applied to remove unpolymerized areas of photoresist. This is followed by a solvent rinse.

Next, the wafers are hard-baked, inspected to determine accuracy, and etched by wet (acid bath) or dry (plasma vapor) mechanisms. Once etching is complete, the photoresist is stripped off the wafer using chemical baths or plasma techniques.

In another step of the fabrication process, "dopant" atoms are either diffused into the wafer in diffusion furnaces, or accelerated into the wafer using "ion implantation." Fumes from the vapor deposition furnaces are oxidized in burn boxes. The oxidized gases are then exhausted to scrubber systems. Additional material may be layered on the wafer surface in vapor and

crystal (epitaxial) deposition furnaces. Metallization to interconnect uppermost circuit layers is performed by deposition (using "sputtering" systems) or evaporation.

A material balance scheme will be used to account for the annual VOC/solvent emissions released into the atmosphere by the facility. A program of sampling and analysis will be used to assess the VOC/solvent emissions from each building.

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:

- o Major Group 36: Organic Solvent Evaporation
- o Building 54 4-01-003-99 Tons VOC/solvent consumed
- o Building 59 4-01-003-99 Tons VOC/solvent consumed

II. Rule Applicability

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

The application packages were deemed complete on July 1, 1988.

The existing facility is located in an area designated attainment for all pollutants. Therefore, review of emissions shall be in accordance with FAC Rule 17-2.500, Prevention of Significant Deterioration (PSD).

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

The following table presents the projected potential VOC/solvent emissions:

Table 1

Source	Potential VOC/solvent Emissions (TPY)
Building 54	
o F54S01	15.24
o F54S02	15.24
o F54S03	32.59
o F54S04	32.59
Building 59	
o F59S03	0.50
Total:	<u>96.16</u>

Note: 1. Annual hours of operation at 8760.

The following table presents the projected potential VOC/solvent emissions from the facility:

Table 2

Building	Potential VOC/solvent Emissions (TPY)
4	10.96
51	33.29
54	95.65
57	1.66
58	3.24
59	0.50
60	min.
61	0.25
62	0.83
63	6.14
Total:	<u>152.50</u>

Since the potential emissions are less than 250 TPY for the facility, the potential emissions projected from Buildings 54 and 59 will be reviewed pursuant to FAC Rule 17-2.520, Sources Not Subject to PSD or Nonattainment Requirements.

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

In FAC 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 FAC 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 FAC Rule 17-2.100(132).

The buildings operations/sources are subject to the provisions of FAC Rules 17-2.240: Circumvention; 17-2.250: Excess Emissions; 17-4.130: Plant Operation-Problems; and, 17-4.140: Reports.

III. Summary of Emissions

A. Emission Limitations

The regulated pollutant emissions from these buildings/sources are VOC/solvents in accordance with FAC Rule 17-2.620.

Specific acid solutions are also being used during the manufacturing operations. There are no specific emission limiting standards for these specific acids. However, the acid vapors will be scrubbed to reduce emissions.

The following table presents the allowable VOC/solvent emissions and the potential acid vapor emissions from Buildings 54 and 59 in TPY:

Table 3

Building	Maximum Allowable VOC/Solvent Emissions	Potential Acid Vapor Emissions
54	95.7	
59	0.5	0.1

Note: Hours of operation are 8760.

The permitted emissions are in compliance with all requirements of FAC Rules 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.

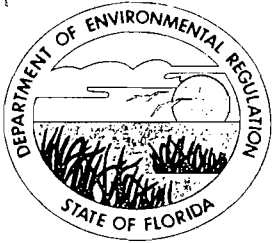
V. Conclusion

The maximum allowable VOC/solvent emissions from Buildings 54 and 59 are in compliance with FAC Rules 17-2 and 17-4. Even though there are no emission standards for acid vapors, the

applicant has installed scrubber systems to control their emissions.

A system of material balance and sampling/analysis will be used to account for and verify pollutant emissions from each building and their scrubber systems.

The General and Specific Conditions listed in the proposed permits (attached) will ensure compliance with all applicable requirements of FAC Rules 17-2 and 17-4.



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 05-147321
Expiration Date: April 30, 1990
County: Brevard
Latitude/Longitude: 28° 01' 20" N
80° 36' 10" W

Project: Building 54
Manufacturing Lab

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Florida Administrative Code (FAC) Rules 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 hood type work stations for the manufacture of semiconductors in Building 54. Two 20,000 cfm and two 23,000 cfm horizontal cross-flow plastic saddle packed wet scrubbers, manufactured by Harrison, are installed to control VOC/solvent vapors. 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 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 March 3, 1988.
2. Mr. James R. Kolanek's letter with a processing fee received March 24, 1988.
3. Mr. C. H. Fancy's letter dated April 20, 1988.
4. Mr. James R. Kolanek's letter with attachments received May 20, 1988.
5. Mr. C. H. Fancy's letter dated June 6, 1988.
6. Mr. James R. Kolanek's letter and attachments received July 1, 1988.
7. Mr. James R. Kolanek's letter and addendum received September 12, 1988.

PERMITTEE:
Harris Semiconductor

Permit Number: AC 05-147321
Expiration Date: April 30, 1990

GENERAL CONDITIONS:

1. The terms, conditions, requirements, limitations, and restrictions set forth herein are "Permit Conditions" and as such are binding upon the permittee and enforceable pursuant to the authority of Sections 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is hereby placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of the "Permit Conditions" by the permittee, its agents, employees, servants or representatives.

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. Nor 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 does not constitute 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, plant or aquatic life or property and penalties therefore caused by the construction or operation of this permitted source, 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 05-147321
Expiration Date: April 30, 1990

GENERAL CONDITIONS:

6. The permittee shall at all times 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, access to the premises, at reasonable times, where the permitted activity is located or conducted for the purpose of:

- a. Having access to and copying any records that must be kept under the conditions of the permit;
- b. Inspecting the facility, equipment, practices, or operations regulated or required under this permit; and
- c. Sampling or monitoring 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 notify and provide the Department with the following information:

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

PERMITTEE:
Harris Semiconductor

Permit Number: AC 05-147321
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 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 arising under the Florida Statutes or Department rules, except where such use is proscribed by Sections 403.73 and 403.111, Florida Statutes.

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 17-4.12 and 17-30.30, as applicable. The permittee shall be liable for any noncompliance of the permitted activity until the transfer is approved by the Department.

12. This permit is required to be kept at the work site of the permitted activity during the entire period of construction or operation.

13. This permit also constitutes:

- () Determination of Best Available Control Technology (BACT)
- () Determination of Prevention of Significant Deterioration (PSD).
- () Compliance with New Source Performance Standards.

14. The permittee shall comply with the following monitoring and record keeping requirements:

- a. Upon request, the permittee shall furnish all records and plans required under department rules. The retention period for all records will be extended automatically, unless otherwise stipulated by the Department, during the course of any unresolved enforcement action.

PERMITTEE:
Harris Semiconductor

Permit Number: AC 05-147321
Expiration Date: April 30, 1990

GENERAL CONDITIONS:

- b. The permittee shall retain 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), copies of all reports required by this permit, and records of all data used to complete the application for this permit. The time period of retention shall be at least three years from the date of the sample, measurement, report or application unless otherwise specified by Department rule.
- 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 date(s) analyses were performed;
 - the person responsible for performing the analyses;
 - the analytical techniques or methods used; and
 - the results of such analyses.

15. 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 submitted or corrected promptly.

SPECIFIC CONDITIONS:

1. The maximum allowable VOC/solvent emissions from Building 54 shall be 95.7 tons per year.
2. The VOC/solvent vapor exhaust scrubber must be on during the working hours.
3. Annual operation shall be 8760 hours per year.
4. Objectionable odors shall not be allowed off plant property.

PERMITTEE:
Harris Semiconductor

Permit Number: AC 05-147321
Expiration Date: April 30, 1990

SPECIFIC CONDITIONS:

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 leaks and equipment malfunctions.

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 54 and shall be determined by a material balance scheme, which includes the following:

- 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);
- 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; and, should occur at the beginning of the following calendar year.

6. Each scrubber system's efficiency and potential VOC/solvent emissions shall be established by a sampling and analysis program, which includes:

- a) a sample shall be taken annually from each scrubber stack and analyzed using EPA Reference Method 25A;
- b) the DER's Central Florida District office shall receive 15 days notice in writing prior to sampling; and,
- c) the report, summarizing the sampling results, shall be submitted to the DER's Central District office within 45 days after the last test run is completed.

7. A meter to measure the pressure drop shall be installed on each scrubber system.

8. To obtain a permit to operate, the permittee must demonstrate compliance with the conditions of the construction permit and submit an application for an operating permit, including the application fee, along with the material balance results, compliance test results and Certificate of Completion, to the DER's Central District office 90 days prior to the expiration date of the construction permit. The permittee may continue to

PERMITEE:
Harris Semiconductor

Permit Number: AC 05-147321
Expiration Number: April 30, 1990

SPECIFIC CONDITIONS:

operate in compliance with all terms of the construction permit until its expiration date in accordance with FAC Rules 17-2 and 17-4.

If the construction permit expires prior to the permittee filing an application for a permit to operate, then all activities at the project must cease pursuant to FAC Rule 17-4.

9. Building 54 is subject to the provisions of FAC Rules 17-2.240: Circumvention; 17-2.250: Excess Emissions; 17-4.130: Plant Operation-Problems; and, 17-4.140: Reports.

10. Any modification pursuant to FAC Rule 17-2.100(119) shall be submitted to the DER's Central District office and the Bureau of Air Quality Management office for approval.

Issued this _____ day of _____,
19____.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION

Dale Twachtman, Secretary



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 05-150794
Expiration Date: April 30, 1990
County: Brevard
Latitude/Longitude: 28° 01' 20" N
80° 36' 10" W

Project: Building 59
Manufacturing Lab

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Florida Administrative Code (FAC) Rules 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 hood type work stations for the manufacture of semiconductors in Building 59. A 24,000 cfm vertical counter-current flow wet scrubber, using polypropylene packing, and with a mist eliminator, manufactured by Beverly Pacific, is installed to control VOC/solvent vapors. A 40,000 cfm horizontal cross-flow wet scrubber, using polypropylene packing, and with a mist eliminator, manufactured by Beverly Pacific, is installed to control acid vapors. 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 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), along with the processing fee, and Mr. James R. Kolanek's cover letter received June 10, 1988.
2. Mr. James R. Kolanek's letter and attachments received July 1, 1988.
3. Mr. James R. Kolanek's letter and addendum received September 12, 1988.

PERMITTEE:
Harris Semiconductor

Permit Number: AC 05-150794
Expiration Date: April 30, 1990

GENERAL CONDITIONS:

1. The terms, conditions, requirements, limitations, and restrictions set forth herein are "Permit Conditions" and as such are binding upon the permittee and enforceable pursuant to the authority of Sections 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is hereby placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of the "Permit Conditions" by the permittee, its agents, employees, servants or representatives.

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. Nor 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 does not constitute 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, plant or aquatic life or property and penalties therefore caused by the construction or operation of this permitted source, 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 05-150794
Expiration Date: April 30, 1990

GENERAL CONDITIONS:

6. The permittee shall at all times 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, access to the premises, at reasonable times, where the permitted activity is located or conducted for the purpose of:

- a. Having access to and copying any records that must be kept under the conditions of the permit;
- b. Inspecting the facility, equipment, practices, or operations regulated or required under this permit; and
- c. Sampling or monitoring 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 notify and provide the Department with the following information:

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

PERMITTEE:
Harris Semiconductor

Permit Number: AC 05-150794
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 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 arising under the Florida Statutes or Department rules, except where such use is proscribed by Sections 403.73 and 403.111, Florida Statutes.

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 17-4.12 and 17- 30.30, as applicable. The permittee shall be liable for any noncompliance of the permitted activity until the transfer is approved by the Department.

12. This permit is required to be kept at the work site of the permitted activity during the entire period of construction or operation.

13. This permit also constitutes:

- () Determination of Best Available Control Technology (BACT)
- () Determination of Prevention of Significant Deterioration (PSD).
- () Compliance with New Source Performance Standards.

14. The permittee shall comply with the following monitoring and record keeping requirements:

- a. Upon request, the permittee shall furnish all records and plans required under department rules. The retention period for all records will be extended automatically, unless otherwise stipulated by the Department, during the course of any unresolved enforcement action.

PERMITTEE:
Harris Semiconductor

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GENERAL CONDITIONS:

- b. The permittee shall retain 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), copies of all reports required by this permit, and records of all data used to complete the application for this permit. The time period of retention shall be at least three years from the date of the sample, measurement, report or application unless otherwise specified by Department rule.
- 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 date(s) analyses were performed;
 - the person responsible for performing the analyses;
 - the analytical techniques or methods used; and
 - the results of such analyses.

15. 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 submitted or corrected promptly.

SPECIFIC CONDITIONS:

1. The maximum allowable VOC/solvent emissions from Building 59 shall be 0.50 tons per year. The projected potential acid vapor emissions are 0.1 tons per year.
2. The VOC/solvent and acid vapor exhaust scrubbers must be on during the working hours.
3. Annual operation shall be 8760 hours per year.
4. Objectionable odors shall not be allowed off plant property.

PERMITTEE:
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SPECIFIC CONDITIONS:

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 leaks and equipment malfunctions.

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 59 and shall be determined by a material balance scheme, which includes the following:

- 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);
- 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; and, should occur at the beginning of the following calendar year.

6. Each scrubber system's efficiency and potential VOC/solvent and acid emissions shall be established by a sampling and analysis program, which includes:

- a) a sample shall be taken annually from each scrubber stack and analyzed using EPA Reference Method 25A;
- b) the DER's Central Florida District office shall receive 15 days notice in writing prior to sampling; and,
- c) the report, summarizing the sampling results, shall be submitted to the DER's Central District office within 45 days after the last test run is completed.

7. A meter to measure the pressure drop shall be installed on each scrubber system.

8. To obtain a permit to operate, the permittee must demonstrate compliance with the conditions of the construction permit and submit an application for an operating permit, including the application fee, along with the material balance results, compliance test results and Certificate of Completion, to the DER's Central District office 90 days prior to the expiration date of the construction permit. The permittee may continue to

PERMITEE:
Harris Semiconductor

Permit Number: AC 05-150794
Expiration Number: April 30, 1990

SPECIFIC CONDITIONS:

operate in compliance with all terms of the construction permit until its expiration date in accordance with FAC Rules 17-2 and 17-4.

If the construction permit expires prior to the permittee filing an application for a permit to operate, then all activities at the project must cease pursuant to FAC Rule 17-4.

9. Building 59 is subject to the provisions of FAC Rules 17-2.240: Circumvention; 17-2.250: Excess Emissions; 17-4.130: Plant Operation-Problems; and, 17-4.140: Reports.

10. Any modification pursuant to FAC Rule 17-2.100(119) shall be submitted to the DER's Central District office and the Bureau of Air Quality Management office for approval.

Issued this _____ day of _____,
19____.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION

Dale Twachtmann, Secretary