Check Sheet

Company Name: NAVAL AIR STATION - JACKSONVILLE
Permit Number: AC 16-0566671, -0566672
PSD Number:
Permit Engineer:

Application:

- ☐ Initial Application
  - ☐ Incompleteness Letters
  - ☐ Responses
  - ☐ Waiver of Department Action
  - ☐ Department Response
  - ☐ Other

Cross References:
- ☐
- ☐
- ☐

Intent:

- ☐ Intent to Issue
- ☐ Notice of Intent to Issue
- ☐ Technical Evaluation
- ☒ BACT or LAER Determination
- ☐ Unsigned Permit
  - Correspondence with:
    - ☐ EPA
    - ☐ Park Services
    - ☐ Other
- ☐ Proof of Publication
  - ☐ Petitions - (Related to extensions, hearings, etc.)
  - ☐ Waiver of Department Action
  - ☐ Other

Final Determination:

- ☐ Final Determination
- ☐ Signed Permit
- ☒ BACT or LAER Determination
  - ☐ Other

Post Permit Correspondence:

- ☐ Extensions/Amendments/Modifications
- ☐ Other

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

April 30, 1990

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Captain Kevin F. Delaney
Commanding Officer
Department of the Navy
Naval Air Station
Jacksonville, Florida 32212-5000

Dear Captain Delaney:

Re: Permit No. AC 16-56672 (issued on September 29, 1982)

The Department is in receipt of your letters dated January 30, 1990, and April 10, 1990, requesting an increase in the hours of operation of the existing Chrome Plating and Cleaning Facility (Building 794). You state there will be no increase in emissions as a result of this modification.

The Department has reviewed your request and approves your proposal.

Specific Condition No. 1 of AC 16-56672 is changed as follows:

FROM:

The plating shop shall operate no more than 4160 hours per year.

TO:

The chrome plating shop shall be allowed to operate continuously, 24 hrs/day, 7 days/wk, 52 wks/yr.

Attachment to be Incorporated:

Mr. Joseph G. Wallmeyer's letters of January 30, 1990, and April 10, 1990.

Sincerely,

for STEVE SMALLWOOD, P.E.
Director
Division of Air Resources
Management

SS/TH/plm

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32301

BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

June 14, 1982

Mr. Laurens M. Pitts
Southern Division, Naval
Facilities Engineering Command
P.O. Box 10068
Charleston, SC 29411

Dear Mr. Pitts:

This is to acknowledge receipt of your application to construct a plating and cleaning facility at the Naval Air Rework Facility in Jacksonville, Florida. Your receipt for the processing fee of $20.00 is attached. The permit processing number is AC 16-56672. Please refer to this number on future correspondence.

If we may be of further assistance, please feel free to call at (904) 488-1344.

Sincerely,

Patty Adams

Patty Adams
Bureau of Air Quality
Management

PA:ras

Enclosure

cc: Captain F. M. Newcomb

P16 7682476

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED—
NOT FOR INTERNATIONAL MAIL
(See Reverse)

SENT TO
Capt. D. J. Monarch

STREET AND NO.
P.O. Box 5, N.A.S.

P.O., STATE AND ZIP CODE
Jacksonville, FL 32212

POSTAGE				$
CONSULT POSTMASTER FOR FEES	CERTIFIED FEE			¢
	OPTIONAL SERVICES	SPECIAL DELIVERY		¢
		RESTRICTED DELIVERY		¢
		RETURN RECEIPT SERVICE	SHOW TO WHOM AND DATE DELIVERED	¢
			SHOW TO WHOM, DATE, AND ADDRESS OF DELIVERY	¢
			SHOW TO WHOM AND DATE DELIVERED WITH RESTRICTED DELIVERY	¢
			SHOW TO WHOM, DATE AND ADDRESS OF DELIVERY WITH RESTRICTED DELIVERY	¢
TOTAL POSTAGE AND FEES				$

POSTMARK OR DATE

6/23/82

PS Form 3800, Apr. 1976

PS Form 3811, Jan. 1979

RETURN RECEIPT, REGISTERED, INSURED AND CERTIFIED MAIL

SENDER: Complete Items 1, 2, and 3. Add your address in the "RETURN TO" space on reverse.

1. The following service is requested (check one.)
   - ☒ Show to whom and date delivered.....___¢
   - ☒ Show to whom, date and address of delivery....___¢
   - ☐ RESTRICTED DELIVERY
     Show to whom and date delivered.....___¢
   - ☐ RESTRICTED DELIVERY.
     Show to whom, date, and address of delivery.$___

   (CONSULT POSTMASTER FOR FEES)

2. ARTICLE ADDRESSED TO:
   Capt. D. J. Monarch
   P. O. Box 5, N.A.S
   Jacksonville, FL 32212

3. ARTICLE DESCRIPTION:

REGISTERED NO.	CERTIFIED NO.	INSURED NO.
	7682476	

(Always obtain signature of addressee or agent)

I have received the article described above.
SIGNATURE ☐Addressee ☒Authorized agent

C Pozo

4. DATE OF DELIVERY
   6/25/82

POSTMARK
JACKSONVILLE, FL NAS
JUN 25 1982

5. ADDRESS (Complete only if requested)

6. UNABLE TO DELIVER BECAUSE:

CLERK'S INITIALS

☆GPO : 1979-300-459

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

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

BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

June 22, 1982

Captain D. J. Monarch
Public Works Office
P.O. Box 5
Naval Air Station
Jacksonville, FL 32212

Subject: Construction application No. AC 16-56671 and AC 16-56672. Ref: Code 18E7000 and 1142.

Dear Captain Monarch:

The application to construct an Asbestos Ventilation System (AC 16-56671) and a Chrome Plating System (AC 16-56672) will be processed by FDER, Bureau of Air Quality Management, in Tallahassee. The Department has reviewed the applications and found them to be incomplete. Please address the following issues and respond as soon as possible.

Application No. AC 16-56671 (asbestos):

1) What is the amount (grams) of asbestos dust generated per sleeve?

2) What is the estimated concentration of asbestos dust in the exhaust per sleeve installation (PPM or ug/m^3)?

3) What will be the maximum number of sleeves installed in any twenty-four hour period?

4) A copy of Subpart B, 40 CFR 61, National Emission Standard for Asbestos is attached. Please provide the information as requested in Subsection 61.24.

5) The start and completion of the project

is shown as 8-82. Is this a typographical error?

6) The sketch of the asbestos firesleeve installation facility shows a make-up air fan discharging into the hood. If the filter should plug or the exhaust fan stops, what will prevent asbestos dust from blowing out of the enclosure?

7) Please give exhaust parameters as requested in Section III-H of the application.

Application AC 16-56672 (chrome):

1) Please explain how the emission factors of 45%, 15%, and 40% were obtained.

2) What will be the approximate emission concentration of chromic acid, sulfuric acid and cyanide from each scrubber exhaust (ug/m^3)?

3) What basis was used to determine a scrubber efficiency of 75% to be worst case?

4) Will the scrubber systems operate continuously or just during plating operations?

Please reply to: Department of Environmental Regulation
Bureau of Air Quality Management
2600 Blair Stone Road
Tallahassee, FL 32301

If you have any questions please call Edward Palagyi

at (904) 488-1344.

Sincerely,

for Steve Smallwood, Chief
Bureau of Air Quality
Management

SS:EP:ras

Enclosure

cc: (without enclosure)
Mr. Jerry E. Woosley - Jacksonville
Mr. Stan Garrison (NARF)
Mr. Mike Goldston (Naval Facilities Engineering Command, Charleston, S.C.)
Mr. Doug Dutton - DER

Subpart B—National Emission Standard for Asbestos

§ 61.20 Applicability.

The provisions of this subpart are applicable to those sources specified in § 61.22.

§ 61.21 Definitions.

Terms used in this subpart are defined in the act, in subpart A of this part, or in this section as follows:

(a) "Asbestos" means actinolite, amosite, anthophyllite, chrysotile, crocidolite, tremolite.

(b) "Asbestos material" means asbestos or any material containing asbestos.

(c) "Particulate asbestos material" means finely divided particles of asbestos material.

(d) "Asbestos tailings" means any solid waste product of asbestos mining or milling operations which contains asbestos.

(e) "Outside air" means the air outside buildings and structures.

(f) "Visible emissions" means any emissions which are visually detectable without the aid of instruments and which contain particulate asbestos material.

(g) "Asbestos mill" means any facility engaged in the conversion or any intermediate step in the conversion of asbestos ore into commercial asbestos. Outside storage of asbestos materials is not considered a part of such facility.[2]

(h) "Commercial asbestos" means any variety of asbestos which is produced by extracting asbestos from asbestos ore.[2]

(i) "Manufacturing" means the combining of commercial asbestos, or in the case of woven friction products the combining of textiles containing commercial asbestos, with any other material(s), including commercial asbestos, and the processing of this combination into a product as specified in § 61.22(c).[2]

(j) "Demolition" means the wrecking or taking out of any load-supporting structural member and any related removing or stripping of friable asbestos materials.[2,7]

(k) "Friable asbestos material" means any material that contains more than 1 percent asbestos by weight and that can be crumbled, pulverized, or reduced to powder, when dry, by hand pressure.[7]

(l) "Control device asbestos waste" means any asbestos-containing waste material that is collected in a pollution control device.[7]

(m) "Renovation" means the removing or stripping of friable asbestos materials used on any pipe, duct, boiler, tank, reactor, turbine, furnace, or structural member. Operations in which load-supporting structural members are wrecked or taken out are excluded.[7,49]

(n) "Planned renovation" means a renovation operation, or a number of such operations, in which the amount of friable asbestos material that will be removed or stripped within a given period of time can be predicted. Operations that are individually non-scheduled are included, provided a number of such operations can be predicted to occur during a given period of time based on operating experience.[7]

(o) "Emergency renovation" means a renovation operation that results from a sudden, unexpected event, and is not a planned renovation. Operations necessitated by non-routine failures of equipment are included.[7]

(p) "Adequately wetted" means sufficiently mixed or coated with water or an aqueous solution to prevent dust emissions.[7]

(q) "Removing" means taking out friable asbestos materials used on any pipe, duct, boiler, tank, reactor, turbine, furnace, or structural member from any building, structure, facility, or installation.[7,49]

(r) "Stripping" means taking off friable asbestos materials from any pipe, duct, boiler, tank, reactor, turbine, furnace, or structural member.[7,49]

(s) "Fabricating" means any processing of a manufactured product containing commercial asbestos, with the exception of processing at temporary sites for the construction or restoration of buildings, structures, facilities or installations.[7]

(t) "Inactive waste disposal site" means any disposal site or portion thereof where additional asbestos-containing waste material will not be deposited and where the surface is not disturbed by vehicular traffic.[7]

(u) "Active waste disposal site" means any disposal site other than an inactive site.[7]

(v) "Roadways" means surfaces on which motor vehicles travel including, but not limited to, highways, roads, streets, parking areas, and driveways.[7]

(w) "Asbestos-containing waste material" means any waste which contains commercial asbestos and is generated by a source subject to the provisions of this subpart, including asbestos mill tailings, control device asbestos waste, friable asbestos waste material, and bags or containers that previously contained commercial asbestos.[7]

(x) "Structural member" means any load-supporting member, such as beams and load-supporting walls; or any non-load-supporting member, such as ceilings and non-load-supporting walls.[36]

§ 61.22 Emission standard.

(a) Asbestos mills: There shall be no visible emissions to the outside air from any asbestos mill except as provided in paragraph (f) of this section.[2]

(b) Roadways: The surfacing of roadways with asbestos tailings or with asbestos-containing waste that is generated by any source subject to paragraphs (c), (d), (e) or (h) of this section is prohibited, except for temporary roadways on an area of asbestos ore deposits. The deposition of asbestos tailings or asbestos-containing waste on roadways covered with snow or ice is considered "surfacing."[7]

(c) Manufacturing: There shall be no visible emissions to the outside air, except as provided in paragraph (f) of this section, from any of the following operations if they use commercial asbestos or from any building or structure in which such operations are conducted.[7]

(1) The manufacture of cloth, cord, wicks, tubing, tape, twine, rope, thread, yarn, roving, lap, or other textile materials.

(2) The manufacture of cement products.

(3) The manufacture of fireproofing and insulating materials.

(4) The manufacture of friction products.

(5) The manufacture of paper, millboard, and felt.

(6) The manufacture of floor tile.

(7) The manufacture of paints, coatings, caulks, adhesives, sealants.

(8) The manufacture of plastics and rubber materials.

(9) The manufacture of chlorine.

(10) The manufacture of shotgun shells.[7]

(11) The manufacture of asphalt concrete.[7]

(d) *Demolition and renovation.* The requirements of this paragraph shall apply to any owner or operator of a demolition or renovation operation who intends to demolish any institutional, commercial, or industrial building (including apartment buildings having more than four dwelling units), structure, facility, installation, or portion thereof which contains any pipe, duct, boiler, tank, reactor, turbine, furnace, or structural member that is covered or coated with friable asbestos materials, except as provided in paragraph (d)(1) of this section; or who intends to renovate any institutional, commercial, or industrial building, structure, facility, installation, or portion thereof where more than 80 meters (ca. 260 feet) of pipe covered or coated with friable asbestos materials are stripped or removed, or more than 15 square meters, (ca. 160 square feet) of friable asbestos materials used to cover or coat any duct, boiler, tank, reactor, turbine, furnace, or structural member are stripped or removed.[7,49]

(1) (i) The owner or operator of a demolition operation is exempted from the requirements of this paragraph: *Provided,* (A) The amount of friable asbestos materials in the building or portion thereof to be demolished is less than 80 meters (ca. 260 feet) used on pipes, and less than 15 square meters (ca. 160 square feet) used on any duct, boiler, tank, reactor, turbine, furnace, or structural member, and (B) the notification requirements of paragraph (d)(1)(ii) are met.[2,7,49]

(ii) Written notification shall be postmarked or delivered to the Administrator at least 20 days prior to commencement of demolition and shall include the information required by paragraph (d)(2) of this section, with

the exception of the information required by paragraphs (d)(2) (iii), (vi), (vii), (viii), and (ix) of this section, and shall state the measured or estimated amount of friable asbestos materials which is present. Techniques of estimation shall be explained.[2,7,49]

(2) Written notice of intention to demolish or renovate shall be provided to the Administrator by the owner or operator of the demolition or renovation operation. Such notice shall be postmarked or delivered to the Administrator at least 10 days prior to commencement of demolition, or as early as possible prior to commencement of emergency demolition subject to paragraph (d)(6) of this section, and as early as possible prior to commencement of renovation. Such notice shall include the following information:

(i) Name of owner or operator.

(ii) Address of owner or operator.

(iii) Description of the building, structure, facility, or installation to be demolished or renovated, including the size, age, and prior use of the structure, and the approximate amount of friable asbestos materials present.[49]

(iv) Address or location of the building, structure, facility, or installation.

(v) Scheduled starting and completion dates of demolition or renovation.

(vi) Nature of planned demolition or renovation and method(s) to be employed.

(vii) Procedures to be employed to meet the requirements of this paragraph and paragraph (j) of this section.

(viii) The name and address or location of the waste disposal site where the friable asbestos waste will be deposited.

(ix) Name, title, and authority of the State or local governmental representative who has ordered a demolition which is subject to paragraph (d)(6) of this section.

(3)(i) For purposes of determining whether a planned renovating operation constitutes a renovation within the meaning of this paragraph, the amount of friable asbestos material to be removed or stripped shall be:

(A) For planned renovating operations involving individually non-scheduled operations, the additive amount of friable asbestos material that can be predicted will be removed or stripped at a source over the maximum period of time for which a prediction can be made. The period shall be not less than 30 days and not longer than one year.

(B) For each planned renovating operation not covered by paragraph (d)(3)(i)(A), the total amount of friable asbestos material that can be predicted will be removed or stripped at a source.

(ii) For purposes of determining whether an emergency renovating operation constitutes a renovation within the meaning of this paragraph, the amount of friable asbestos material to be removed or stripped shall be the total amount of friable asbestos material that will be removed or stripped as a result of the sudden, unexpected event that necessitated the renovation.

(4) The following procedures shall be used to prevent emissions of particulate asbestos material to outside air:

(i) Friable asbestos materials, used on any pipe, duct, boiler, tank, reactor, turbine, furnace, or structural member, shall be removed from any building, structure, facility or installation subject to this paragraph. Such removal shall occur before wrecking or dismantling of any portion of such building, structure, facility, or installation that would break up the friable asbestos materials and before wrecking or dismantling of any other portion of such building, structure, facility, or installation, that would preclude access to such materials for subsequent removal. Removal of friable asbestos materials used on any pipe, duct, or structural member which are encased in concrete or other similar structural material is not required prior to demolition, but such materials shall be adequately wetted whenever exposed during demolition.[49]

(ii) Friable asbestos materials used on pipes, ducts, boilers, tanks, reactors, turbines, furnaces, or structural members shall be adequately wetted during stripping, except as provided in paragraphs (d)(4)(iv), (d)(4)(vi), or (d)(vii) of this section.[49]

(iii) Pipes, ducts, boilers, tanks, reactors, turbines, furnaces, or structural members that are covered or coated with friable asbestos materials may be taken out of any building, structure, facility, or installation subject to this paragraph as units or in sections provided the friable asbestos materials exposed during cutting or disjoining are adequately wetted during the cutting or disjoining operation. Such units shall not be dropped or thrown to the ground, but shall be carefully lowered to ground level.[49]

(iv) The stripping of friable asbestos materials used on any pipe, duct, boiler, tank, reactor, turbine, furnace, or structural member that has been removed as a unit or in sections as provided in paragraph (d)(4)(iii) of this section shall be performed in accordance with paragraph (d)(4)(ii) of this section. Rather than comply with the wetting requirement, a local exhaust ventilation and collection system may be used to prevent emissions to the outside air. Such local exhaust ventilation systems shall be designed and operated to capture the asbestos particulate matter produced by the stripping of friable asbestos materials. There shall be no visible emissions to the outside air from such local exhaust ventilation and collection systems except as provided in paragraph (f) of this section.[49]

(v) All friable asbestos materials that have been removed or stripped shall be adequately wetted to ensure that such materials remain wet during all remaining stages of demolition or renovation and related handling operations. Such materials shall not be dropped or thrown to the ground or a lower floor. Such materials that have been removed or stripped more than 50 feet above ground level, except those materials removed as units or in sections, shall be transported to the ground via dust-tight chutes or containers.

(vi) Except as specified below, the wetting requirements of this paragraph are suspended when the temperature at the point of wetting is below 0°C (32°F). When friable asbestos materials are not wetted due to freezing temperatures, such materials on pipes, ducts, boilers, tanks, reactors, turbines, furnaces, or structural members shall, to the maximum extent possible, be removed as units or in sections prior to wrecking. In no case shall the requirements of paragraphs (d)(4)(iv) or (d)(4)(v) be suspended due to freezing temperatures.

(vii) For renovation operations, local exhaust ventilation and collection systems may be used, instead of wetting as specified in paragraph (d)(4)(ii), to prevent emissions of particulate asbestos material to outside air when damage to equipment resulting from the wetting would be unavoidable. Upon request and supply of adequate information, the Administrator will determine whether damage to equipment resulting from wetting to comply with the provisions of this paragraph would be unavoidable. Such local exhaust ventilation systems shall be designed and operated to capture the asbestos particulate matter produced by the stripping and removal of friable asbestos material. There shall be no visible emissions to the outside air from such local exhaust ventilation and collection systems, except as provided in paragraph (f) of this section.[2,7]

(5) Sources subject to this paragraph are exempt from the requirements of §§ 61.05(a), 61.07, and 61.09.

(6) The demolition of a building, structure, facility, or installation, pursuant to an order of an authorized representative of a State or local governmental agency, issued because that building is structurally unsound and in danger of imminent collapse is exempt from all but the following requirements of paragraph (d) of this section:

(i) The notification requirements specified by paragraph (d)(2) of this section;

(ii) The requirements on stripping of friable asbestos materials from previously removed units or sections as specified in paragraph (d)(4)(iv) of this section;

(iii) The wetting, as specified by paragraph (d)(4)(v) of this section, of fri- removed or stripped;

(iv) The portion of the structure being demolished that contains friable asbestos materials shall be adequately wetted during the wrecking operation.[7]

(e) *Spraying.* There shall be no visible emissions to the outside air from the spray-on application of materials containing more than 1 percent asbestos, on a dry weight basis, used on equipment and machinery, except as provided in paragraph (f) of this section. Materials sprayed on buildings, structures, structural members, pipes, and conduits shall contain less than 1 percent asbestos on a dry weight basis.[49]

(1) Sources subject to this paragraph are exempt from the requirements of § 61.05(a), § 61.07, and § 61.09.

(2) Any owner or operator who intends to spray asbestos materials which contain more than 1 percent asbestos on a dry weight basis on equipment and machinery shall report such intention to the Administrator at least 20 days prior to the commencement of the spraying operation. Such report shall include the following information:[7,49]

(i) Name of owner or operator.

(ii) Address of owner or operator.

(iii) Location of spraying operation.

(iv) Procedures to be followed to meet the requirements of this paragraph.

(3) The spray-on application of materials in which the asbestos fibers are encapsulated with a bituminous or resinous binder during spraying and which are not friable after drying is exempted from the requirements of paragraphs (e) and (e)(2) of this section.[49]

(f) Rather than meet the no-visible-emission requirements as specified by paragraphs (a), (c), (d), (e), (h), (j), and (k) of this section, an owner or operator may elect to use the methods specified by § 61.23 to clean emissions containing particulate asbestos material before such emissions escape to, or are vented to, the outside air.

(g) Where the presence of uncombined water is the sole reason for failure to meet the no-visible-emission requirement of paragraphs (a), (c), (d), (e), (h), (j), or (k) of this section, such failure shall not be a violation of such emission requirements.[2,7]

(h) Fabricating: There shall be no visible emissions to the outside air, except as provided in paragraph (f) of this section, from any of the following operations if they use commercial asbestos or from any building or structure in which such operations are conducted.

(1) The fabrication of cement building products.

(2) The fabrication of friction products, except those operations that primarily install asbestos friction materials on motor vehicles.

(3) The fabrication of cement or silicate board for ventilation hoods; ovens; electrical panels; laboratory furniture; bulkheads, partitions and ceilings for marine construction; and flow control devices for the molten metal industry.

(i) Insulating: Molded insulating materials which are friable and wet-applied insulating materials which are friable after drying, installed after the effective date of these regulations, shall contain no commercial asbestos. The provisions of this paragraph do not apply to insulating materials which are spray applied; such materials are regulated under § 61.22(e).

(j) Waste disposal for manufacturing, fabricating, demolition, renovation and spraying operations: The owner or operator of any source covered under the provisions of paragraphs (c), (d), (e), or (h) of this section shall meet the following standards:

(1) There shall be no visible emissions to the outside air, except as provided in paragraph (j)(3) of this section, during the collection; processing, including incineration; packaging; transporting; or deposition of any asbestos-containing waste material which is generated by such source.

(2) All asbestos-containing waste material shall be deposited at waste disposal sites which are operated in accordance with the provisions of § 61.25.

(3) Rather than meet the requirement of paragraph (j)(1) of this section, an owner or operator may elect to use either of the disposal methods specified under (j)(3)(i) and (ii) of this section, or an alternative disposal method which has received prior approval by the Administrator:

(i) Treatment of asbestos-containing waste material with water:

(A) Control device asbestos waste shall be thoroughly mixed with water into a slurry and other asbestos-containing waste material shall be adequately wetted. There shall be no visible emissions to the outside air from the collection, mixing and wetting operations, except as provided in paragraph (f) of this section.

(B) After wetting, all asbestos-containing waste material shall be sealed into leak-tight containers while wet, and such containers shall be deposited at waste disposal sites which are operated in accordance with the provisions of § 61.25.

(C) The containers specified under paragraph (j)(3)(i)(B) of this section shall be labeled with a warning label that states:

CAUTION

Contains Asbestos
Avoid Opening or Breaking Container
Breathing Asbestos is Hazardous
to Your Health

Alternatively, warning labels specified by Occupational Safety and Health Standards of the Department of Labor, Occupational Safety and Health Administration (OSHA) under 29 CFR 1910.-93a(g)(2)(ii) may be used.

(ii) Processing of asbestos-containing waste material into non-friable forms:

(A) All asbestos-containing waste material shall be formed into non-friable pellets or other shapes and deposited at waste disposal sites which are operated in accordance with the provisions of § 61.25.

(B) There shall be no visible emissions to the outside air from the collection and processing of asbestos-containing waste material, except as specified in paragraph (f) of this section.

(4) For the purposes of this paragraph (j), the term all asbestos-containing waste material as applied to demolition and renovation operations covered by paragraph (d) of this section includes only friable asbestos waste and control device asbestos waste.

(k) Waste disposal for asbestos mills: The owner or operator of any source covered under the provisions of paragraph (a) of this section shall meet the following standard:

(1) There shall be no visible emissions to the outside air, except as provided in paragraph (k)(3) of this section, during the collection, processing, packaging, transporting or deposition of any asbestos-containing waste material which is generated by such source.

(2) All asbestos-containing waste material shall be deposited at waste disposal sites which are operated in accordance with the provisions of § 61.25.

(3) Rather than meet the requirement of paragraph (k)(1) of this section, an owner or operator may elect to meet the following requirements in paragraphs (k)(3)(i) and (ii), or use an alternative disposal method which has received prior approval by the Administrator:

(i) There shall be no visible emissions to the outside air from the transfer of control device asbestos waste to the tailings conveyor, except as provided in paragraph (f) of this section. Such waste shall be subsequently processed either as specified in paragraph (k)(3)(ii) of this section or as specified in paragraph (j)(3) of this section.

(ii) All asbestos-containing waste material shall be adequately mixed, with a wetting agent recommended by the manufacturer of the agent to effectively wet dust and tailings, prior to deposition at a waste disposal site. Such agent shall be used as recommended for the particular dust by the manufacturer of the agent. There shall be no discharge of visible emissions to the outside air from the wetting operation except as specified in paragraph (f) of this section. Wetting may be suspended when the ambient temperature at the waste disposal site is less than −9.5°C (ca. 15°F). The ambient air temperature shall be determined by an appropriate measurement method with an accuracy of ±1°C (±2°F) and recorded at least at hourly intervals during the period that the operation of the wetting system is suspended. Records of such temperature measurements shall be retained at the source for a minimum of two years and made available for inspection by the Administrator.

(l) The owner of any inactive waste disposal site, which was operated by sources covered under § 61.22 (a), (c) or (h) and where asbestos-containing waste material produced by such sources was deposited, shall meet the following standards:

(1) There shall be no visible emissions to the outside air from an inactive waste disposal site subject to this paragraph, except as provided in paragraph (l)(5) of this section.

(2) Warning signs shall be displayed at all entrances, and along the property line of the site or along the perimeter of the sections of the site where asbestos-containing waste material was deposited, at intervals of 100 m (ca. 330 ft) or less, except as specified in paragraph (l)(4)

of this section. Signs shall be posted in such a manner and location that a person may easily read the legend. The warning signs required by this paragraph shall conform to the requirements of 20" x 14" upright format signs specified in 29 CFR 1910.145(d)(4) and this paragraph. The signs shall display the following legend in the lower panel, with letter sizes and styles of a visibility at least equal to those specified in this paragraph.

LEGEND

ASBESTOS WASTE DISPOSAL SITE

Do Not Create Dust

Breathing Asbestos is Hazardous to Your Health

Notation

1" Sans Serif, Gothic or Block

¾" Sans Serif, Gothic or Block

14 Point Gothic

Spacing between lines shall be at least equal to the height of the upper of the two lines.

(3) The perimeter of the site shall be fenced in a manner adequate to deter access by the general public, except as specified in paragraph (1)(4) of this section.

(4) Warning signs and fencing are not required where the requirements of paragraphs (1)(5) (i) or (ii) of this section are met, or where a natural barrier adequately deters access by the general public. Upon request and supply of appropriate information, the Administrator will determine whether a fence or a natural barrier adequately deters access to the general public.

(5) Rather than meet the requirement of paragraph (1)(1) of this section, an owner may elect to meet the requirements of this paragraph or may use an alternative control method for emissions from inactive waste disposal sites which has received prior approval by the Administrator.

(i) The asbestos-containing waste material shall be covered with at least 15 centimeters (ca. 6 inches) of compacted non-asbestos-containing material, and a cover of vegetation shall be grown and maintained on the area adequate to prevent exposure of the asbestos-containing waste material; or

(ii) The asbestos-containing waste material shall be covered with at least 60 centimeters (ca. 2 feet) of compacted non-asbestos-containing material and maintained to prevent exposure of the asbestos-containing waste; or

(iii) For inactive waste disposal sites for asbestos tailings, a resinous or petroleum-based dust suppression agent which effectively binds dust and controls wind erosion shall be applied. Such agent shall be used as recommended for the particular asbestos tailings by the dust suppression agent manufacturer. Other equally effective dust suppression agents may be used upon prior approval by the Administrator. For purposes of this paragraph, waste crankcase oil is not considered a dust suppression agent.[7]

§ 61.23 Air-cleaning.

If air-cleaning is elected, as permitted by §§ 61.22(f) and 61.22(d)(4)(iv), the requirements of this section must be met.[7]

(a) Fabric filter collection devices must be used, except as noted in paragraphs (b) and (c) of this section. Such devices must be operated at a pressure drop of no more than 4 inches water gage, as measured across the filter fabric. The airflow permeability, as determined by ASTM method D737-69, must not exceed 30 $ft^3/min/ft^2$ for woven fabrics or 35 $ft^3/min/ft^2$ for felted fabrics, except that 40 $ft^3/min/ft^2$ for woven and 45 $ft^3/min/ft^2$ for felted fabrics is allowed for filtering air from asbestos ore dryers. Each square yard of felted fabric must weigh at least 14 ounces and be at least one-sixteenth inch thick throughout. Synthetic fabrics must not contain fill yarn other than that which is spun.

(b) If the use of fabric filters creates a fire or explosion hazard, the administrator may authorize the use of wet collectors designed to operate with a unit contacting energy of at least 40 inches water gage pressure.

(c) The administrator may authorize the use of filtering equipment other than that described in paragraphs (a) and (b) of this section if the owner or operator demonstrates to the satisfaction of the administrator that the filtering of particulate asbestos material is equivalent to that of the described equipment.

(d) All air-cleaning equipment authorized by this section must be properly installed, used, operated, and maintained. Bypass devices may be used only during upset or emergency conditions and then only for so long as it takes to shut down the operation generating the particulate asbestos material.

§ 61.24 Reporting.

The owner or operator of any existing source to which this subpart is applicable shall, within 90 days after the effective date, provide the following information to the administrator:

(a) A description of the emission control equipment used for each process;

(b) If a fabric filter device is used to control emissions, the pressure drop across the fabric filter in inches water gage.

(1) If the fabric filter device utilizes a woven fabric, the airflow permeability in $ft^3/min/ft^2$; and, if the fabric is synthetic, indicate whether the fill yarn is spun or not spun.

(2) If the fabric filter device utilizes a felted fabric, the density in oz/yd^2, the minimum thickness in inches, and the airflow permeability in $ft^3/min/ft^2$.

(c) For sources subject to §§ 61.22(j) and 61.22(k):

(1) A brief description of each process that generates asbestos-containing waste material.

(2) The average weight of asbestos-containing waste material disposed of, measured in kg/day.

(3) The emission control methods used in all stages of waste disposal.

(4) The type of disposal site or incineration site used for ultimate disposal, the name of the site operator, and the name and location of the disposal site.[7]

(d) For sources subject to § 61.22(l):

(1) A brief description of the site.

(2) The method or methods used to comply with the standard, or alternative procedures to be used.[7]

(e) Such information shall accompany the information required by § 61.10. The information described in this section shall be reported using the format of Appendix A of this part.

(Sec. 114 of the Clean Air Act as amended (42 U.S.C. 7414))[40,47]

§ 61.25 Waste disposal sites.

In order to be an acceptable site for disposal of asbestos-containing waste material under § 61.22 (j) and (k), an active waste disposal site shall meet the requirements of this section.

(a) There shall be no visible emissions to the outside air from any active waste disposal site where asbestos-containing waste material has been deposited, except as provided in paragraph (e) of this section.

(b) Warning signs shall be displayed at all entrances, and along the property line of the site or along the perimeter of the sections of the site where asbestos-containing waste material is deposited, at intervals of 100 m (ca. 330 ft) or less except as specified in paragraph (d) of this section. Signs shall be posted in such a manner and location that a person may easily read the legend. The warning signs required by this paragraph shall conform to the requirements of 20" x 14" upright format signs specified in 29 CFR 1910.145(d)(4) and this paragraph. The signs shall display the following legend in the lower panel, with letter sizes and styles of a visibility at least equal to those specified in this paragraph.

LEGEND

ASBESTOS WASTE DISPOSAL SITE

Do Not Create Dust

Breathing Asbestos is Hazardous to Your Health

Notation

1" Sans Serif, Gothic or Block

¾" Sans Serif, Gothic or Block

14 Point Gothic

Spacing between lines shall be at least equal to the height of the upper of the two lines.

(c) The perimeter of the disposal site shall be fenced in order to adequately deter access to the general public except as specified in paragraph (d) of this section.

(d) Warning signs and fencing are not required where the requirements of paragraph (e)(1) of this section are met, or where a natural barrier adequately deters access to the general public. Upon request and supply of appropriate information, the Administra-

tor will determine whether a fence or a natural barrier adequately deters access to the general public.

(e) Rather than meet the requirement of paragraph (a) of this section, an owner or operator may elect to meet the requirements of paragraph (e)(1) or (e)(2) of this section, or may use an alternative control method for emissions from active waste disposal sites which has received prior approval by the Administrator.

(1) At the end of each operating day, or at least once every 24-hour period while the site is in continuous operation, the asbestos-containing waste material which was deposited at the site during the operating day or previous 24-hour period shall be covered with at least 15 centimeters (ca. 6 inches) of compacted non-asbestos-containing material.

(2) At the end of each operating day, or at least once every 24-hour period while the disposal site is in continuous operation, the asbestos-containing waste material which was deposited at the site during the operating day or previous 24-hour period shall be covered with a resinous or petroleum-based dust suppression agent which effectively binds dust and controls wind erosion. Such agent shall be used as recommended for the particular dust by the dust suppression agent manufacturer. Other equally effective dust suppression agents may be used upon prior approval by the Administrator. For purposes of this paragraph, waste crankcase oil is not considered a dust suppression agent.

38 FR 8826, 4/6/73 (1)

as amended

39 FR 15398, 5/3/74 (2)
40 FR 48299, 10/14/76 (7)
42 FR 12127, 3/2/77 (36)
42 FR 41424, 8/17/77 (40)
43 FR 8800, 3/3/78 (47)
43 FR 26372, 6/19/78 (49)

DEPARTMENT OF THE NAVY
NAVAL AIR STATION
JACKSONVILLE, FLORIDA 32212-5000

IN REPLY REFER TO:
5512
Code 184
JUN - 2 1986

Mr Clair Fancy PE
Florida Department of Environmental Regulation
2600 Blair Stone Road
Tallashassee, Florida 32301

Subject: MODIFICATION TO CONSTRUCTION PERMIT NUMBER AC 16-56672

Dear Mr Fancy:

Naval Air Station Jacksonville is presently operating the New Plating Facility Building No 794 under an extension to the subject construction permit while awaiting issuance of an operations permit.

Present and future operating schedules indicate that it is not possible for Naval Air Station Jacksonville to be restricted to specific conditions No 1 and 2 of the construction permit. Production schedules mandate that all shops in the New Plating Facility Building No 794 be available for three shift operation every day of the year. It is, therefore, requested that a modification to the construction and subsequent operating permits be allowed so that shops within the facility may operate to meet production schedules.

Please advise which forms and fees are required to request the permit nodification.

A. C. VALENTI
CAPTAIN, CEC, USN
PUBLIC WORKS OFFICER
BY DIRECTION OF THE
COMMANDING OFFICER

Copy to:
COMNAVAIRLANT
CINCLANTFLT
SOUTHNAVFACENGCOM (Code 1142)
NAVY JAG (Code 14)
NAVAIREWORKFAC JACKSONVILLE, FL

DER
JUN 4 1986
BAQM

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

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

BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

Pace
Woosley
Litt

September 29, 1982

Mr. Mike Goldston
Naval Facilities Engineering Command
2144 Melbourne Street
P. O. Box 10068
Charleston, South Carolina 29411
Code 1142

Dear Mr. Goldston:

Enclosed is Permit Number AC 16-56672, dated September 29, 1982 to U. S. Naval Station, Jacksonville, Florida issued pursuant to Section 403, Florida Statutes.

Acceptance of the permit constitutes notice and agreement that the Department will periodically review this permit for compliance, including site inspections where applicable, and may initiate enforcement actions for violation of the conditions and requirements thereof.

Sincerely,

for Steve Smallwood, Chief
Bureau of Air Quality
Management

SS/bjm

Enclosure

cc: Commanding Officer, Naval Rework Facility
Doug Dutton, DER Northeast District
Jerry Woosley, Duval County Bio-Environmental Services

Final Determination

U. S. Naval Air Station

Jacksonville, Florida

Construction Permit

Application Number:

AC 16-56672

Florida Department of Environmental Regulation

Bureau of Air Quality Management

Central Air Permitting

September 30, 1982

U. S. Naval Air Station

AC 16-56672

The application for a permit to construct a chrome plating installation at the base Rework Facility has been reviewed by the Bureau of Air Quality Management. Public Notice of the Department's Intent to Issue the construction permit was published in the Florida Times-Union on August 25, 1982.

Copies of the preliminary determination have been made available for public inspection at the DER Northeast District Office and Duval County Bio-Environmental Services in Jacksonville, and the department's Bureau of Air Quality Management in Tallahassee.

No comments were received concerning the proposed construction permit in response to the public notification process. Therefore, the final action by the department will be to issue the permit as indicated in the preliminary determination.

STATE OF FLORIDA
DEPARTMENT OF
ENVIRONMENTAL REGULATION

CONSTRUCTION
PERMIT

NO. AC 16-156672

U.S. NAVAL AIR STATION
JACKSONVILLE, FLORIDA

DATE OF ISSUANCE

September 25, 1992

VICTORIA J. TSCHINKEL
SECRETARY

DATE OF EXPIRATION

MARCH 1, 1986

CERTFORMPERM

BEST AVAILABLE COPY

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32301

BOB GRAHA
GOVERNO

VICTORIA J. TSCHINKE
SECRETAR

APPLICANT:

U. S. Naval Air Station
Naval Air Rework Facility
Jacksonville, Florida 32212

PERMIT/CERTIFICATION NO. AC 16-56672

COUNTY: Duval

PROJECT: Chrome platin facility

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Chapter 17-2 17-4, Florida Administrative Code. The above named applicant, hereinafter called Permittee, is hereby authorized perform the work or operate the facility shown on the approved drawing(s), plans, documents, and specifications attached hereto made a part hereof and specifically described as follows:

For the construction of a chrome plating facility, including a metal cleaning and painting shop.

The UTM coordinates are 435.45 km East and 3343.9 km North (Zone 17).

Construction shall be in accordance with the permit application and its amendments, plans, documents, and drawings except as otherwise noted under "Specific Conditions."

Attachments are as follows:

1. Application to Construct Air Pollution Sources, DER Form 17-1.122(16).

2. Department of Navy's letter of July 28, 1982 (Response to technical discrepancies).

3. Fume Dispersion Study.

4. Subsection 17-2.650(1)(f)(12), FAC.

PERMIT NO.: AC 16-56672
APPLICANT: U. S. Naval Air Station

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 Section 403.161(1), Florida Statutes. Permittee is hereby placed on notice that the department will review this permit periodically and may initiate court 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 indicated in the attached drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit shall constitute grounds for revocation and enforcement action by the department.

3. 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 non-compliance, including exact 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. 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.

4. As provided in subsection 403.087(6), 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.

5. This permit is required to be posted in a conspicuous location at the work site or source during the entire period of construction or operation.

6. 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 Section 403.111, F.S.

7. In the case of an operation permit, 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.

8. 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 penalities 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, except where specifically authorized by an order from the department granting a variance or exception from department rules or state statutes.

9. This permit is not transferable. Upon sale or legal transfer of the property or facility covered by this permit, the permittee shall notify the department within thirty (30) days. The new owner must apply for a permit transfer within thirty (30) days. The permittee shall be liable for any non-compliance of the permitted source until the transferee applies for and receives a transfer of permit.

10. The permittee, by acceptance of this permit, specifically agrees to allow access to permitted source at reasonable times by department personnel presenting credentials for the purposes of inspection and testing to determine compliance with this permit and department rules.

11. This permit does not indicate a waiver of or approval of any other department permit that may be required for other aspects of the total project.

12. This permit conveys no title to land or water, nor constitutes state recognition or acknowledgement of title, and does not constitute authority for the reclamation 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.

13. This permit also constitutes:

[ ] Determination of Best Available Control Technology (BACT)
[ ] Determination of Prevention of Significant Deterioration (PSD)
[ ] Certification of Compliance with State Water Quality Standards (Section 401, PL 92-500)

PERMIT NO.: AC 16-56672
APPLICANT: U. S. Naval Air Station

SPECIFIC CONDITIONS:

1. The plating shop shall operate not more than 4160 hours per year. 2 Shifts

2. The cleaning and painting shop shall operate not more than 2080 hours per year. 1 Shift

3. Maximum allowable emissions from B1 and J-23 degreaser shall be 3.75 Lbs/hr (3.0 TPY).

4. Maximum allowable emissions from PT 9, PT 10, PT 11, PT 18, PT 19 paint spray booths shall be 1.3 Lbs/hr (2.0 TPY).

5. VOC emissions shall be accounted for by accurate record keeping of solvent purchased, reclaimed, operating hours and submittal of annual operation reports (DER Form 17-1.122(44) on a annual basis to DER St. Johns River Subdistrict Office and Department of Bio-Environmental Services, Air Division, Jacksonville, Florida.

6. The paint spray booths shall not be operated unless the exhaust fan, two (2) filters and interlocks are functioning as designed. Emission limitations shall be visible emissions. Particulate matter shall not be discharged into the atmosphere the density of which is equal to or greater than 20 percent opacity. Compliance tests shall be conducted using DER Method 9.

7. The applicant shall be required to comply with 17-2.650(1)(f)(12), FAC. (See Attachment 4).

8. The plating shop shall not be operated until the scrubber systems are functional.

9. There shall be no visible emissions or objectionable odors detected in the scrubber system discharge stack exhausts.

10. The scrubber systems shall operate twenty-four hours per day, except for required maintenance.

11. When one of the scrubbers is down for sufficient cause, the affected area of the facility shall not be operated.

12. When the efficiency of each scrubber has been demonstrated as required in Subsection 2.1.2.5, Federal Specifications, Section 11530 (Attachement). The applicant may submit the test data in lieu of a compliance test.

PERMIT NO.: AC 16-56672
APPLICANT: U. S. Naval Air Station

13. A monthly spot test will be made on each scrubber exhaust stream. A white sheet of paper is held in the stack exhaust. If the paper stains, the scrubber is not operating as designed and immediate corrective action must be taken.

14. The applicant shall notify the Department 10 days prior to conducting compliance tests.

15. Following approval of compliance test results and prior to 90 days before the expiration date of this permit, a complete application for an Operating Permit shall be submitted to the DER St. Johns River Subdistrict office and the Jacksonville Department of Bio-Environmental Services, Air Division. Full operation of the source may then be conducted in compliance with the terms of this permit until expiration or receipt of an Operating Permit.

Expiration Date: March 1, 1986

_____ Pages Attached.

Issued this 29 day of September, 1982.

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

Victoria J. Tschinkel
Signature

P16 7682425

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED—
NOT FOR INTERNATIONAL MAIL
(See Reverse)

SENT TO
Mr. Mike Goldston

STREET AND NO.
2144 Melbourne St.

P.O., STATE AND ZIP CODE
Charleston, SC 29411

POSTAGE				$
CONSULT POSTMASTER FOR FEES	CERTIFIED FEE			¢
	OPTIONAL SERVICES	SPECIAL DELIVERY		¢
		RESTRICTED DELIVERY		¢
		RETURN RECEIPT SERVICE	SHOW TO WHOM AND DATE DELIVERED	¢
			SHOW TO WHOM, DATE, AND ADDRESS OF DELIVERY	¢
			SHOW TO WHOM AND DATE DELIVERED WITH RESTRICTED DELIVERY	¢
			SHOW TO WHOM, DATE AND ADDRESS OF DELIVERY WITH RESTRICTED DELIVERY	¢
TOTAL POSTAGE AND FEES				$

POSTMARK OR DATE
9/30/82

PS Form 3800, Apr. 1976

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

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

BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

September 29, 1982

Mr. Mike Goldston
Naval Facilities Engineering Command
2144 Melbourne Street
P. O. Box 10068
Charleston, South Carolina 29411
Code 1142

Dear Mr. Goldston:

Enclosed is Permit Number AC 16-56672, dated September 29, 1982 to U. S. Naval Station, Jacksonville, Florida issued pursuant to Section 403, Florida Statutes.

Acceptance of the permit constitutes notice and agreement that the Department will periodically review this permit for compliance, including site inspections where applicable, and may initiate enforcement actions for violation of the conditions and requirements thereof.

Sincerely,

Steve Smallwood, Chief
Bureau of Air Quality
Management

SS/bjm

Enclosure

cc: Commanding Officer, Naval Rework Facility
Doug Dutton, DER Northeast District
Jerry Woosley, Duval County Bio-Environmental Services

State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION

INTEROFFICE MEMORANDUM

For Routing To District Offices And/Or To Other Than The Addressee		
To:	Loctn.:	
To:	Loctn.:	
To:	Loctn.:	
From:	Date:	
Reply Optional [ ]	Reply Required [ ]	Info. Only [ ]
Date Due:	Date Due:	

RECEIVED
SEP 27 1982
Office of the Secretary

TO: Victoria J. Tschinkel

FROM: Steve Smallwood SS L.A. George for

DATE: September 28, 1982

SUBJ: Approval and Signature of attached Air Construction Permit described below

Attached please find one Air Construction Permit for which the applicant is the Jacksonville Naval Air Station. The proposed construction is a chrome plating shop located in the Naval Rework Facility.

Day 90, after which the permit would be issued by default is November 18, 1982.

The Bureau recommends your approval and signature.

SS/epm

Final Determination

U. S. Naval Air Station

Jacksonville, Florida

Construction Permit

Application Number:

AC 16-56672

Florida Department of Environmental Regulation

Bureau of Air Quality Management

Central Air Permitting

September 30, 1982

U. S. Naval Air Station

AC 16-56672

The application for a permit to construct a chrome plating installation at the base Rework Facility has been reviewed by the Bureau of Air Quality Management. Public Notice of the Department's Intent to Issue the construction permit was published in the Florida Times-Union on August 25, 1982.

Copies of the preliminary determination have been made available for public inspection at the DER Northeast District Office and Duval County Bio-Environmental Services in Jacksonville, and the department's Bureau of Air Quality Management in Tallahassee.

No comments were received concerning the proposed construction permit in response to the public notification process. Therefore, the final action by the department will be to issue the permit as indicated in the preliminary determination.

STATE OF FLORIDA
DEPARTMENT OF
ENVIRONMENTAL REGULATION

CONSTRUCTION
PERMIT

NO. AC 16-56672

U. S. NAVAL AIR STATION
JACKSONVILLE, FLORIDA

DATE OF ISSUANCE

September 28, 1982

DATE OF EXPIRATION

MARCH 1, 1986

VICTORIA J. TSCHINKEL
SECRETARY

DER FORM PERM 11-42

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32301

BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

APPLICANT:

U. S. Naval Air Station
Naval Air Rework Facility
Jacksonville, Florida 32212

PERMIT/CERTIFICATION NO. AC 16-56672

COUNTY: Duval

PROJECT: Chrome plating facility

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Chapter 17-2 17-4, Florida Administrative Code. The above named applicant, hereinafter called Permittee, is hereby authorized to perform the work or operate the facility shown on the approved drawing(s), plans, documents, and specifications attached hereto and made a part hereof and specifically described as follows:

For the construction of a chrome plating facility, including a metal cleaning and painting shop.

The UTM coordinates are 435.45 km East and 3343.9 km North (Zone 17).

Construction shall be in accordance with the permit application and its amendments, plans, documents, and drawings except as otherwise noted under "Specific Conditions."

Attachments are as follows:

1. Application to Construct Air Pollution Sources, DER Form 17-1.122(16).

2. Department of Navy's letter of July 28, 1982 (Response to technical discrepancies).

3. Fume Dispersion Study.

4. Subsection 17-2.650(1)(f)(12), FAC.

PERMIT NO.: AC 16-56672
APPLICANT: U. S. Naval Air Station

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 Section 403.161(1), Florida Statutes. Permittee is hereby placed on notice that the department will review this permit periodically and may initiate court 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 indicated in the attached drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit shall constitute grounds for revocation and enforcement action by the department.

3. 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 non-compliance, including exact 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. 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.

4. As provided in subsection 403.087(6), 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.

5. This permit is required to be posted in a conspicuous location at the work site or source during the entire period of construction or operation.

6. 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 Section 403.111, F.S.

7. In the case of an operation permit, 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.

8. 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 penalities 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, except where specifically authorized by an order from the department granting a variance or exception from department rules or state statutes.

9. This permit is not transferable. Upon sale or legal transfer of the property or facility covered by this permit, the permittee shall notify the department within thirty (30) days. The new owner must apply for a permit transfer within thirty (30) days. The permittee shall be liable for any non-compliance of the permitted source until the transferee applies for and receives a transfer of permit.

10. The permittee, by acceptance of this permit, specifically agrees to allow access to permitted source at reasonable times by department personnel presenting credentials for the purposes of inspection and testing to determine compliance with this permit and department rules.

11. This permit does not indicate a waiver of or approval of any other department permit that may be required for other aspects of the total project.

12. This permit conveys no title to land or water, nor constitutes state recognition or acknowledgement of title, and does not constitute authority for the reclamation 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.

13. This permit also constitutes:

[ ] Determination of Best Available Control Technology (BACT)
[ ] Determination of Prevention of Significant Deterioration (PSD)
[ ] Certification of Compliance with State Water Quality Standards (Section 401, PL 92-500)

PERMIT NO.: AC 16-56672
APPLICANT: U. S. Naval Air Station

SPECIFIC CONDITIONS:

1. The plating shop shall operate not more than 4160 hours per year.

2. The cleaning and painting shop shall operate not more than 2080 hours per year.

3. Maximum allowable emissions from B1 and J-23 degreaser shall be 3.75 Lbs/hr (3.0 TPY).

4. Maximum allowable emissions from PT 9, PT 10, PT 11, PT 18, PT 19 paint spray booths shall be 1.3 Lbs/hr (2.0 TPY).

5. VOC emissions shall be accounted for by accurate record keeping of solvent purchased, reclaimed, operating hours and submittal of annual operation reports (DER Form 17-1.122(44) on a annual basis to DER St. Johns River Subdistrict Office and Department of Bio-Environmental Services, Air Division, Jacksonville, Florida.

6. The paint spray booths shall not be operated unless the exhaust fan, two (2) filters and interlocks are functioning as designed. Emission limitations shall be visible emissions. Particulate matter shall not be discharged into the atmosphere the density of which is equal to or greater than 20 percent opacity. Compliance tests shall be conducted using DER Method 9.

7. The applicant shall be required to comply with 17-2.650(1)(f)(12), FAC. (See Attachment 4).

8. The plating shop shall not be operated until the scrubber systems are functional.

9. There shall be no visible emissions or objectionable odors detected in the scrubber system discharge stack exhausts.

10. The scrubber systems shall operate twenty-four hours per day, except for required maintenance.

11. When one of the scrubbers is down for sufficient cause, the affected area of the facility shall not be operated.

12. When the efficiency of each scrubber has been demonstrated as required in Subsection 2.1.2.5, Federal Specifications, Section 11530 (Attachement). The applicant may submit the test data in lieu of a compliance test.

PERMIT NO.: AC 16-56672
APPLICANT: U. S. Naval Air Station

13. A monthly spot test will be made on each scrubber exhaust stream. A white sheet of paper is held in the stack exhaust. If the paper stains, the scrubber is not operating as designed and immediate corrective action must be taken.

14. The applicant shall notify the Department 10 days prior to conducting compliance tests.

15. Following approval of compliance test results and prior to 90 days before the expiration date of this permit, a complete application for an Operating Permit shall be submitted to the DER St. Johns River Subdistrict office and the Jacksonville Department of Bio-Environmental Services, Air Division. Full operation of the source may then be conducted in compliance with the terms of this permit until expiration or receipt of an Operating Permit.

Expiration Date: March 1, 1986

Issued this 29 day of September, 1982.

_____ Pages Attached.

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

Victoria J. Tschinkel
Signature

No. 0157769

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED—
NOT FOR INTERNATIONAL MAIL
(See Reverse)

SENT TO
Capt. D. J. Monarch

STREET AND NO.
P. O. Box 5, NAS

P.O., STATE AND ZIP CODE
Jacksonville, FL 32212

POSTAGE			$
CONSULT POSTMASTER FOR FEES	CERTIFIED FEE		¢
OPTIONAL SERVICES	SPECIAL DELIVERY		¢
	RESTRICTED DELIVERY		¢
	RETURN RECEIPT SERVICE	SHOW TO WHOM AND DATE DELIVERED	¢
		SHOW TO WHOM, DATE, AND ADDRESS OF DELIVERY	¢
		SHOW TO WHOM AND DATE DELIVERED WITH RESTRICTED DELIVERY	¢
		SHOW TO WHOM, DATE AND ADDRESS OF DELIVERY WITH RESTRICTED DELIVERY	¢
TOTAL POSTAGE AND FEES			$

POSTMARK OR DATE

11/23/82

PS Form 3800, Apr. 1976

PS Form 3811, Jan. 1979

RETURN RECEIPT, REGISTERED, INSURED AND CERTIFIED MAIL

SENDER: Complete items 1, 2, and 3.
Add your address in the "RETURN TO" space on reverse.

1. The following service is requested (check one.)
- [x] Show to whom and date delivered..... ___¢
- [ ] Show to whom, date and address of delivery.... ___¢
- [ ] RESTRICTED DELIVERY
  Show to whom and date delivered..... ___¢
- [ ] RESTRICTED DELIVERY.
  Show to whom, date, and address of delivery.$___

(CONSULT POSTMASTER FOR FEES)

2. ARTICLE ADDRESSED TO:
Capt. D. J. Monarch, Jr.
Post Office Box 5, NAS
Jacksonville, FL 32212

3. ARTICLE DESCRIPTION:

REGISTERED NO.	CERTIFIED NO.	INSURED NO.
	0157769	

(Always obtain signature of addressee or agent)

I have received the article described above.
SIGNATURE ☐Addressee ☒Authorized agent

4. DATE OF DELIVERY

POSTMARK
JACKSONVILLE FL
NOV 29 1982
USPO NAS

5. ADDRESS (Complete only if requested)

6. UNABLE TO DELIVER BECAUSE:

CLERK'S INITIALS

☆GPO : 1979-300-459

TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32301

BOB GRAHAM
GOVERNOR

Victoria J. Tschinkel
SECRETARY

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

November 23, 1982

CERTIFIED MAIL-RETURN RECEIPT REQUESTED

Captain D. J. Monarch, Jr.
Public Works Officer
Post Office Box 5
Naval Air Station
Jacksonville, Florida 32212

Dear Capt. Monarch:

Enclosed is Permit Number AC 16-56671, dated November 18, 1982 to U.S. Naval Air Station issued pursuant to Section 403, Florida Statutes.

Acceptance of the permit constitutes notice and agreement that the Department will periodically review this permit for compliance, including site inspections where applicable, and may initiate enforcement actions for violation of the conditions and requirements thereof.

Sincerely,

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

CHF/pa

Enclosure

cc: Wayne C. Kelly, P.E., Naval Air Rework Facility
Doug Dutton, DER Northeast District
Jerry Woosley, Dept. of Health, Welfare and Bio-Environmental Services

DER Form 17-1.122(65)

Final Determination for the Jacksonville U. S. Naval Air Station Asbestos Firesleeve Installation

The construction permit application and amendments from the Jacksonville U. S. Naval Air Station for the construction of an asbestos firesleeve installation have been reviewed by the Bureau of Air Quality Management. The technical evaluation and preliminary determination was completed on September 20, 1982. Notice of the Department's Intent to Issue was published in The Florida Times-Union on October 11, 1982, fulfilling all State and Federal notice requirements. Copies of the preliminary determination were available for public inspection at Jacksonville Bio-Environmental Services, DER Northeast District Office and the Bureau of Air Quality Management in Tallahassee.

One comment was received from the Jacksonville Bio-Environmental Services Division (Attachment 3) to change "no visible emissions" to read "zero percent opacity" in specific condition number 2. The definition of visible emissions in NESHAPS, 40 CFR 61.21(f), means any emissions which are visually detectable without the aid of instruments and which contain particulate asbestos material (emphasis added). The State definition for visible emissions is an emission greater than 5 percent opacity (17-2.100(174), FAC). The opacity limitation is more specific, and therefore, is now part of the final determination. The construction permit should be issued as revised.

FINAL DETERMINATION

U. S. Naval Air Station

Jacksonville, Florida

Application Number:

AC 16-56671

Florida Department of Environmental Regulation

Bureau of Air Quality Management

Central Air Permitting

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32301

BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

APPLICANT:

U. S. Naval Air Station
Naval Air Rework Facility
Jacksonville, Florida

PERMIT/CERTIFICATION NO. AC 16-56671

COUNTY: Duval

PROJECT: Asbestos sleeve installation facility

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Chapter 17-2 and 17-4, Florida Administrative Code. The above named applicant, hereinafter called Permittee, is hereby authorized to perform the work or operate the facility shown on the approved drawing(s), plans, documents, and specifications attached hereto and made a part hereof and specifically described as follows:

For the construction of an asbestos sleeve installation facility in Building 101 in the south end of the Naval Air Rework Facility (NARF). The UTM coordinates are 435.48 km East and 3343.6 km North.

Construction shall be in accordance with the permit application and it supplements except as otherwise noted under "Specific Conditions."

Attachments are as follows:

1. Application to Construct Air Pollution Sources, DER Form 17-1.122(16).

2. Applicant's reply to department's letter of incompleteness.

3. Letter from Jacksonville Bio-Environmental Services dated October 6, 1982 - Comment on preliminary determination.

PERMIT NO.: AC 16-56671
APPLICANT: U. S. Naval Air Station

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 Section 403.161(1), Florida Statutes. Permittee is hereby placed on notice that the department will review this permit periodically and may initiate court 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 indicated in the attached drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit shall constitute grounds for revocation and enforcement action by the department.

3. 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 non-compliance, including exact 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. 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.

4. As provided in subsection 403.087(6), 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.

5. This permit is required to be posted in a conspicuous location at the work site or source during the entire period of construction or operation.

6. 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 Section 403.111, F.S.

7. In the case of an operation permit, 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.

8. 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 penalities 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, except where specifically authorized by an order from the department granting a variance or exception from department rules or state statutes.

9. This permit is not transferable. Upon sale or legal transfer of the property or facility covered by this permit, the permittee shall notify the department within thirty (30) days. The new owner must apply for a permit transfer within thirty (30) days. The permittee shall be liable for any non-compliance of the permitted source until the transferee applies for and receives a transfer of permit.

10. The permittee, by acceptance of this permit, specifically agrees to allow access to permitted source at reasonable times by department personnel presenting credentials for the purposes of inspection and testing to determine compliance with this permit and department rules.

11. This permit does not indicate a waiver of or aporoval of any other department permit that may be required for other aspects of the total project.

12. This permit conveys no title to land or water, nor constitutes state recognition or acknowledgement of title, and does not constitute authority for the reclamation 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.

13. This permit also constitutes:

[ ] Determination of Best Available Control Technology (BACT)
[ ] Determination of Prevention of Significant Deterioration (PSD)
[ ] Certification of Compliance with State Water Quality Standards (Section 401, PL 92-500)

PERMIT NO.: AC 16-56671
APPLICANT: U.S. Naval Air Station

SPECIFIC CONDITIONS:

1. Operation hours will be 4080 hours per year maximum.

2. Emissions to the outside air from the asbestos sleeve installation booth must be 0% opacity.

3. There must be no visible emissions to the outside air during deposition of the asbestos containing roughing filter,H.E.P.A., or vacuum cleaner bags.

4. There will be no filter by-pass ducts installed in the booth exhaust system.

5. The sleeve booth must not be operated unless a properly operating air filter is in the booth air exhaust stream.

6. All collected asbestos waste shall be put into plastic bags that have a minimum thickness of 0.15 mm (6 mil). Each container shall be labeled in accordance with OSHA regulation 29 CFR 1910.1001(g)(2).

7. Compliance tests will be conducted using DER Method 9.

8. The booth exhaust fan will run continuously for the entire 16 hours of scheduled booth operation.

9. Vacuum cleaners must be high efficiency particulate absolute filtering with a filter system capable of collecting and retaining asbestos fibers. Filter efficiency should be greater than 99.9% for retaining fibers greater than 0.3 micron in length.

10. The applicant will notify the Department 10 days prior to conducting compliance tests.

11. Following approval of compliance test results and prior to 90 days before the expiration date of this permit, a complete application for an Operating Permit shall be submitted to the DER Northeast District office and the Jacksonville Department of Bio-Environmental Services, Air Division. Full operation of the source may then be conducted in compliance with the terms of this permit until expiration or receipt of an Operating Permit.

12. The filter manometer reading will be noted on the process sheet at the beginning of each shift.

PERMIT NO.: AC 16-56671
APPLICANT: U. S. Naval Air Station

Expiration Date: February 29, 1984

_____ Pages Attached.

Issued this 18 day of November, 1982.

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

Victoria J. Tschinkel
Signature

State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION

INTEROFFICE MEMORANDUM

For Routing To District Offices And/Or To Other Than The Addressee		
To:	Loctn.:	
To:	Loctn.:	
To:	Loctn.:	
From:	Date:	
Reply Optional [ ]	Reply Required [ ]	Info. Only [ ]
Date Due:	Date Due:	

RECEIVED
NOV 18 1982
Office of the Secretary

TO: Victoria J. Tschinkel

FROM: Clair Fancy

DATE: November 16, 1982

SUBJ: Approval and Signature of Air Construction Permit

Attached please find one Air Construction Permit for which the applicant is U. S. Naval Air Station. The proposed construction is an asbestos sleeve installation at the Naval Air Rework Facility in Jacksonville, Florida.

Day 90, after which the permit would be issued by default, is December 28, 1982.

The Bureau recommends your approval and signature.

CF/pa

Attachment

DEPARTMENT OF HEALTH, WELFARE
& BIO-ENVIRONMENTAL SERVICES
Bio-Environmental Services Division
Air and Water Pollution Control

DER
OCT 08 1982
BAQM

October 6, 1982

Mr. Bill Thomas
Bureau of Air Quality Management
Dept. of Environmental Regulation
2600 Blairstone Road
Tallahassee, Florida 32301

Re: Application No. AC16-56671
Asbestos Sleeve Installation Project

Dear Mr. Thomas:

Bio-Environmental Services Division requests that Specific Condition No. 2 of the referenced application be modified to read as follows:

Opacity from the asbestos sleeve installation booth shall be 0%.

By stating the condition as above, opacity greater than zero is prohibited versus the proposed allowable of less than 5%. Due to the hazardous nature of asbestos, it is recommended that the above change be incorporated into the Construction Permit.

Please contact me if I can be of further assistance.

Very truly yours,

Jerry E. Woosley
Assistant Engineer

JEW/vj

cc: Capt. D. J. Monarch (NARF)
cc: Wayne C. Kelly, P.E. (NARF)
cc: Bill Roche (NAS)
cc: Doug Dutton (DER)

AREA CODE 904 / AIR POLLUTION — 633-3033 OR 633-3303 / WATER POLLUTION — 633-3415
515 WEST 6TH STREET / JACKSONVILLE, FLORIDA 32206—4397

The disease causing fiber sizes are 0.5 to 5.0 microns long. Visible fibers are at least 50.0 microns long, which is the lower threshold of human vision

PS Form 3811, Jan. 1979

RETURN RECEIPT, REGISTERED, INSURED AND CERTIFIED MAIL

SENDER: Complete items 1, 2, and 3.
Add your address in the "RETURN TO" space on reverse.

1. The following service is requested (check one.)
☒ Show to whom and date delivered.....¢
☐ Show to whom, date and address of delivery....¢
☐ RESTRICTED DELIVERY
Show to whom and date delivered.....¢
☐ RESTRICTED DELIVERY.
Show to whom, date, and address of delivery $

(CONSULT POSTMASTER FOR FEES)

2. ARTICLE ADDRESSED TO:
Capt. D. J. Monarch,
P.O. Box 5, Naval Air Station
Jacksonville, FL 32212

3. ARTICLE DESCRIPTION:

REGISTERED NO.	CERTIFIED NO.	INSURED NO.
	7682423	

(Always obtain signature of addressee or agent)

I have received the article described above.
SIGNATURE ☐Addressee ☐Authorized agent

4. DATE OF DELIVERY | POSTMARK

5. ADDRESS (Complete only if requested)

6. UNABLE TO DELIVER BECAUSE: | CLERK'S INITIALS

☆GPO : 1979-300-459

P16 7682423

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED—
NOT FOR INTERNATIONAL MAIL
(See Reverse)

SENT TO
Capt. D. J. Monarch
STREET AND NO.
P. O. Box 5, NAS
P.O., STATE AND ZIP CODE
Jacksonville, FL 32212

POSTAGE	$
CERTIFIED FEE	¢
SPECIAL DELIVERY	¢
RESTRICTED DELIVERY	¢
SHOW TO WHOM AND DATE DELIVERED	¢
SHOW TO WHOM, DATE, AND ADDRESS OF DELIVERY	¢
SHOW TO WHOM AND DATE DELIVERED WITH RESTRICTED DELIVERY	¢
SHOW TO WHOM, DATE AND ADDRESS OF DELIVERY WITH RESTRICTED DELIVERY	¢
TOTAL POSTAGE AND FEES	$

CONSULT POSTMASTER FOR FEES — OPTIONAL SERVICES — RETURN RECEIPT SERVICE

POSTMARK OR DATE

9/22/82

PS Form 3800, Apr. 1976

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

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

BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

September 20, 1982

CERTIFIED MAIL-RETURN RECEIPT REQUESTED

Captain D. J. Monarch, Jr., USN
Public Works Officer
Post Office Box 5, Naval Air Station
Jacksonville, Florida 32212

Dear Capt. Monarch:

Pursuant to Section 403.815, Florida Statutes, and Florida Administrative Code Rule 17-1.62, you are required to publish (at your own expense) the attached notice. This notice should be published one time only, in the legal ad section of the Florida Times Union as soon as possible and no later than October 11, 1982.

The Department, in accordance with Rule 17-1.62, is required to have proof that the public notice was given. Therefore, please have the newspaper prepare an affidavit of publication to submit to the Department.

Sincerely,

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

CHF/pa

Attachment

cc: Jerry Woosley, Dept. of Health, Welfare and
Bio-Environmental Services
Doug Dutton, DER Northeast District

PUBLIC NOTICE

The Department intends to issue a permit to construct an asbestos firesleeve installation facility at the U.S. Naval air Station, Jacksonville, Florida.

The permit will include conditions to assure compliance with Chapter 17-2, Florida Administrative Code (F.A.C.).

Any person wishing to file comments on this proposed action may do so by submitting such comments in writing to:

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

Any comments received within thirty (30) days after publication of this notice will be considered and noted in the Department's final determination.

Any person whose substantial interest would be affected by the Department's intended action on this permit may request an administrative hearing by filing a petition as set forth in Section 28-5.14, F.A.C., within fourteen (14) days of the date of this notice with:

Ms. Martha Hall
Office of General Counsel
Florida Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, Florida

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

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

BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

M E M O R A N D U M

TO: Capt. D. J. Monarch, Naval Air Rework Facility
Wayne C. Kelly, P.E., Naval Air Rework Facility
Jerry Woosley, Dept. of Health, Welfare and Bio-Environmental Services
Doug Dutton, FDER Northeast District

FROM: C. H. Fancy, Deputy Chief, Bureau of Air Quality Management

DATE: September 20, 1982

SUBJ: Preliminary Determination - U. S. Naval Air Station Jacksonville, AC 16-56671

Attached is one copy of the application, Technical Evaluation and Preliminary Determination, and proposed permit to construct an asbestos firesleeve installation at the U.S. Naval Air Station, Jacksonville, Florida.

Please submit any comments you may have concerning this action, in writing, to Bill Thomas of the Bureau of Air Quality Management.

CHF/pa

Attachment

Technical Evaluation

and

Preliminary Determination

U. S. Naval Air Station

Jacksonville, Florida

Application Number:

AC 16-56671

Florida Department of Environmental Regulation

Bureau of Air Quality Management

Central Air Permitting

PUBLIC NOTICE

The Department intends to issue a permit to construct an asbestos firesleeve installation facility at the U.S. Naval air Station, Jacksonville, Florida.

The permit will include conditions to assure compliance with Chapter 17-2, Florida Administrative Code (F.A.C.).

Any person wishing to file comments on this proposed action may do so by submitting such comments in writing to:

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

Any comments received within thirty (30) days after publication of this notice will be considered and noted in the Department's final determination.

Any person whose substantial interest would be affected by the Department's intended action on this permit may request an administrative hearing by filing a petition as set forth in Section 28-5.14, F.A.C., within fourteen (14) days of the date of this notice with:

Ms. Martha Hall
Office of General Counsel
Florida Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, Florida

RULES OF THE ADMINISTRATIVE COMMISSION
MODEL RULES OF PROCEDURE
CHAPTER 28-5
DECISIONS DETERMINING SUBSTANTIAL INTERESTS

28-5.15 Requests for Formal and Informal Proceedings

(1) Requests for proceedings shall be made by petition to the agency involved. Each petition shall be printed typewritten or otherwise duplicated in legible form on white paper of standard legal size. Unless printed, the impression shall be on one side of the paper only and lines shall be double spaced and indented.

(2) All petitions filed under these rules should contain:

(a) The name and address of each agency affected and each agency's file or identification number, if known;

(b) The name and address of the petitioner or petitioners;

(c) All disputed issues of material fact. If there are none, the petition must so indicate;

(d) A concise statement of the ultimate facts alleged, and the rules, regulations and constitutional provisions which entitle the petitioner to relief;

(e) A statement summarizing any informal action taken to resolve the issues, and the results of that action;

(f) A demand for the relief to which the petitioner deems himself entitled; and

(g) Such other information which the petitioner contends is material.

I. PROJECT DESCRIPTION

A. Applicant

U. S. Naval Air Station
Naval Air Rework Facility
Jacksonville, Florida 32212

B. Project and Location

The applicant plans to construct an asbestos firesleeve fabrication facility. The process consists of inserting a metal tube into a prefabricated asbestos sleeve. The fabrication rate is one firesleeve per hour with an estimated annual production rate of 4070.

The firesleeve fabrication process will be located in Building No. 101 in the south end of the Naval Air Rework Facility, U. S. Naval Air Station, Jacksonville, Florida. The UTM coordinates are 435.48 km East and 3343.6 km North.

C. Process and Controls

Fabrication of the firesleeves will be done within the confines of a Vectaire 54L176 laboratory fume hood. The ventilating system is composed of one 1760 CFM exhaust fan and one 1120 CFM air make-up fan designed to maintain negative pressure within the enclosure. Asbestos contaminated air from the process flows through a filter pack prior to discharge to the atmosphere.

The filter pack contains a rough or pre-filter made of fiberglass to remove the larger asbestos fibers, followed by a high efficiency particulate absolute filter (H.E.P.A.) that uses Flanders paper media rated at a minimum of 99.97 percent efficiency for particles as small as 0.3 to 0.5 microns. A liquid manometer is mounted on the filter housing to indicate pressure drop across the unit.

An electrical interlock system shuts down the make-up air fan in the event the exhaust fan becomes inoperative. Filtered air from the booth is discharged to the atmosphere at ambient temperature.

II. RULE APPLICABILITY

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

Asbestos, the air contaminant from the proposed source, is subject to the National Emission Standards for Hazardous Air Pollutants (NESHAPS), 40 CFR Part 61, Subpart B, as set forth in 17-2.670(2)(b) FAC. The potential emissions from the proposed source are less than the significant emission rates as listed in Table 500-2 (17-2.500 FAC), Regulated Air Pollutants Significant Emission Rates. A Prevention of significant Deterioration (PSD) review, therefore, is not required.

III. SUMMARY OF EMISSIONS AND AIR QUALITY ANALYSIS

A. Emission Limitations

The proposed asbestos emission rate limitation is based upon information in the application and its amendments. There shall be no visible emissions to the outside air, NESHAPS 40 CFR 61.22(h).

B. Air Quality Analysis

No modeling was required for this source.

IV. CONCLUSIONS

The proposed air pollution control device is considered state-of-the-art for this type of operation. Asbestos fiber sizes 0.3 to 0.5 microns long are considered to have the greatest adverse affect on human health. The proposed air filtering system will trap and retain asbestos fibers as small as 0.3 microns. A more stringent emission limit than that required by NESHAPS, 40 CFR Part 61.20, is not warranted for the proposed source.

All collected asbestos waste shall be put into plastic bags that have a minimum of 0.15 mm (6 mil) thickness and labeled in accordance with OSHA regulation 29 CFR 1910.1001(g)(2). Disposal of the waste asbestos will be in Class I landfill in accordance with chapter 17-7 FAC.

The General and Specific Conditions listed the proposed permit will assure compliance will all applicable requirements of Chapter 17-2, FAC.

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32301

BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

APPLICANT:

U. S. Naval Air Station
Naval Air Rework Facility
Jacksonville, Florida 32212

PERMIT/CERTIFICATION
NO. AC 16-56671

COUNTY: Duval

PROJECT: Asbestos sleeve installation facility

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Chapter 17-2 and 17-4, Florida Administrative Code. The above named applicant, hereinafter called Permittee, is hereby authorized to perform the work or operate the facility shown on the approved drawing(s), plans, documents, and specifications attached hereto and made a part hereof and specifically described as follows:

For the construction of an asbestos sleeve installation facility in Building 101 in the south end of the Naval Air Rework Facility (NARF). The UTM coordinates are 435.48 km East and 3343.6 km North.

Construction shall be in accordance with the permit application and it supplements except as otherwise noted under "Specific Conditions."

Attachments are as follows:

1. Application to Construct Air Pollution Sources, DER Form 17-1.122(16).

2. Applicant's reply to department's letter of incompleteness.

PERMIT NO.: AC 56671
APPLICANT: U. S. Naval Air Station

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 Section 403.161(1), Florida Statutes. Permittee is hereby placed on notice that the department will review this permit periodically and may initiate court 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 indicated in the attached drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit shall constitute grounds for revocation and enforcement action by the department.

3. 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 non-compliance, including exact 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. 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.

4. As provided in subsection 403.087(6), 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.

5. This permit is required to be posted in a conspicuous location at the work site or source during the entire period of construction or operation.

6. 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 Section 403.111, F.S.

7. In the case of an operation permit, 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.

8. 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 penalities 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, except where specifically authorized by an order from the department granting a variance or exception from department rules or state statutes.

9. This permit is not transferable. Upon sale or legal transfer of the property or facility covered by this permit, the permittee shall notify the department within thirty (30) days. The new owner must apply for a permit transfer within thirty (30) days. The permittee shall be liable for any non-compliance of the permitted source until the transferee applies for and receives a transfer of permit.

10. The permittee, by acceptance of this permit, specifically agrees to allow access to permitted source at reasonable times by department personnel presenting credentials for the purposes of inspection and testing to determine compliance with this permit and department rules.

11. This permit does not indicate a waiver of or approval of any other department permit that may be required for other aspects of the total project.

12. This permit conveys no title to land or water, nor constitutes state recognition or acknowledgement of title, and does not constitute authority for the reclamation 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.

13. This permit also constitutes:

[ ] Determination of Best Available Control Technology (BACT)
[ ] Determination of Prevention of Significant Deterioration (PSD)
[ ] Certification of Compliance with State Water Quality Standards (Section 401, PL 92-500)

PERMIT NO.: AC 16-56671
APPLICANT: U. S. Naval Air Station

SPECIFIC CONDITIONS:

1. Operation hours will be 4080 hours per year maximum.

2. There must be no visible emissions to the outside air from the sleeve installation booth.

3. There must be no visible emissions to the outside air during deposition of the asbestos containing roughing filter,H.E.P.A., or vacuum cleaner bags.

4. There will be no filter by-pass ducts installed in the booth exhaust system.

5. The sleeve booth must not be operated unless a properly operating air filter is in the booth air exhaust stream.

6. All collected asbestos waste shall be put into plastic bags that have a minimum thickness of 0.15 mm (6 mil). Each container shall be labeled in accordance with OSHA regulation 29 CFR 1910.1001(g)(2).

7. Compliance tests will be conducted using DER Method 9.

8. The booth exhaust fan will run continuously for the entire 16 hours of schedule booth operation.

9. Vacuum cleaners must be high efficiency particulate absolute filtering with a filter system capable of collecting and retaining asbestos fibers. Filter efficiency should be greater than 99.9% for retaining fibers greater than 0.3 micron in length.

10. The applicant will notify the Department 10 days prior to conducting compliance tests.

11. Following approval of compliance test results and prior to 90 days before the expiration date of this permit, a complete application for an Operating Permit shall be submitted to the DER Northeast District office and the Jacksonville Department of Bio-Environmental Services, Air Division. Full operation of the source may then be conducted in compliance with the terms of this permit until expiration or receipt of an Operating Permit.

12. The filter manometer reading will be noted on the process sheet at the beginning of each shift.

PERMIT NO.: AC 16-56671
APPLICANT: U. S. Naval Air Station

Expiration Date: _____

_____ Pages Attached.

Issued this _____ day of _____, 19_____.

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

_____
Signature

PERMIT NO.: AC 16-56671
APPLICANT: U. S. Naval Air Station

Expiration Date: _____

_____ Pages Attached.

Issued this _____ day of _____, 19_____.

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

_____
Signature

ATTACHMENT 2

NAVAL AIR STATION
JACKSONVILLE, FLORIDA 32212

IN REPLY REFER TO:
Code 18E
6280

AUG 25 1982

Mr. Steve Smallwood, Chief
Bureau of Air Quality Management
Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, FL 32301

AUG 27 1982
BAQM

Re: Construction Application No. A C 16-56671,
Asbestos Ventilation System, Naval Air
Rework Facility, NAS, Jacksonville, FL

Dear Mr. Smallwood:

In response to State of Florida, Department of Environmental Regulation letter of 22 June 1982, the following information is provided:

a. The amount of asbestos dust generated in the installation of each fire sleeve is unknown. The process is unique; there is no known baseline data and no test runs have been made.

b. There is no estimate of asbestos dust concentration for reasons cited in a. The basic installation procedure consists of inserting a metal tube into a prefabricated asbestos sleeve. The sleeve resembles a garden hose and is cut to fit the metal tube within the confines of the exhause system.

c. Sixteen sleeve operations will be performed per day for a total of 4,070 over a period of one year.

d. Information related to subsection 61.24 of 40 CFR 61 is as follows:

1. Emission control equipment consists of a Hamilton "Vectaire" fume removal system with a filter assembly consisting of a rough filter made of fiberglass and a HEPA filter utilizing Flanders paper media to retain .3 to .5 micron particle sizes. Details of components which make up the asbestos ventilation system are contained in attachment.

2. The process creating the condition is the insertion of a metal tube into a prefabricated sleeve that contains asbestos. The sleeve resembles a garden hose and will be cut to suit the tube length within confines of the exhaust hood assembly such that all fibers and dust are captured by the filter assembly.

3. The average daily weight of asbestos waste material trapped in the filter components is unknown. It is anticipated that the roughing filter will be disposed of several times during the year and the HEPA filter will be disposed of at termination of the project which is estimated to be of one year duration.

4. Emission controls consist of the roughing filter, final HEPA filter and the exhaust fan/makeup fan interlock. Additionally, all surface dust and fibers will be vacuumed as required.

5. Asbestos vacuum bags and loaded roughing and HEPA filters will be double bagged using heavy duty plastic bags, securely tied, labeled and disposed of at the City of Jacksonville north landfill located at New Berlin Road, Jacksonville, Florida. This landfill is approved and operated by the City of Jacksonville Public Works Department Sanitation Division. Mr. Dennis Bedwell is in charge and may be reached at 904 633-2422. Asbestos is buried early in the morning so that the remaining days disposals provide a good cover.

6. Installation start and completion is pending the arrival of materials and scheduling the labor force. It is anticipated that start of construction will not occur earlier than October 1982. The previous date of 8-82 was a typographical error.

7. Exhaust and makeup air fan interlocks, as shown on the wiring diagram in the attachment, will provide a safe shutdown should the exhaust fan fail. The absolute filter is fitted with a manometer to indicate loading.

8. Stack height = 20 LF; stack diameter = 12". Gas flow rate is basically the exhaust fan and filter assembly capacity of 1560 cfm. Gas exit temperature = ambient shop air temperature; water vapor content = ambient shop humidity. Velocity = 125 FPM at the face of the hood (capture velocity) and 2,000 FPM exit velocity.

Upon receipt of the construction permit and installation of equipment, we will conduct a test run to determine the concentration and weight of asbestos dust generated per operation with comparative parameters and standards provided by the Department of Environmental Regulation.

Very truly yours,

D. J. MONARCH, JR.
CAPTAIN, CEC, USN
Public Works Officer
By direction of the
Commanding Officer

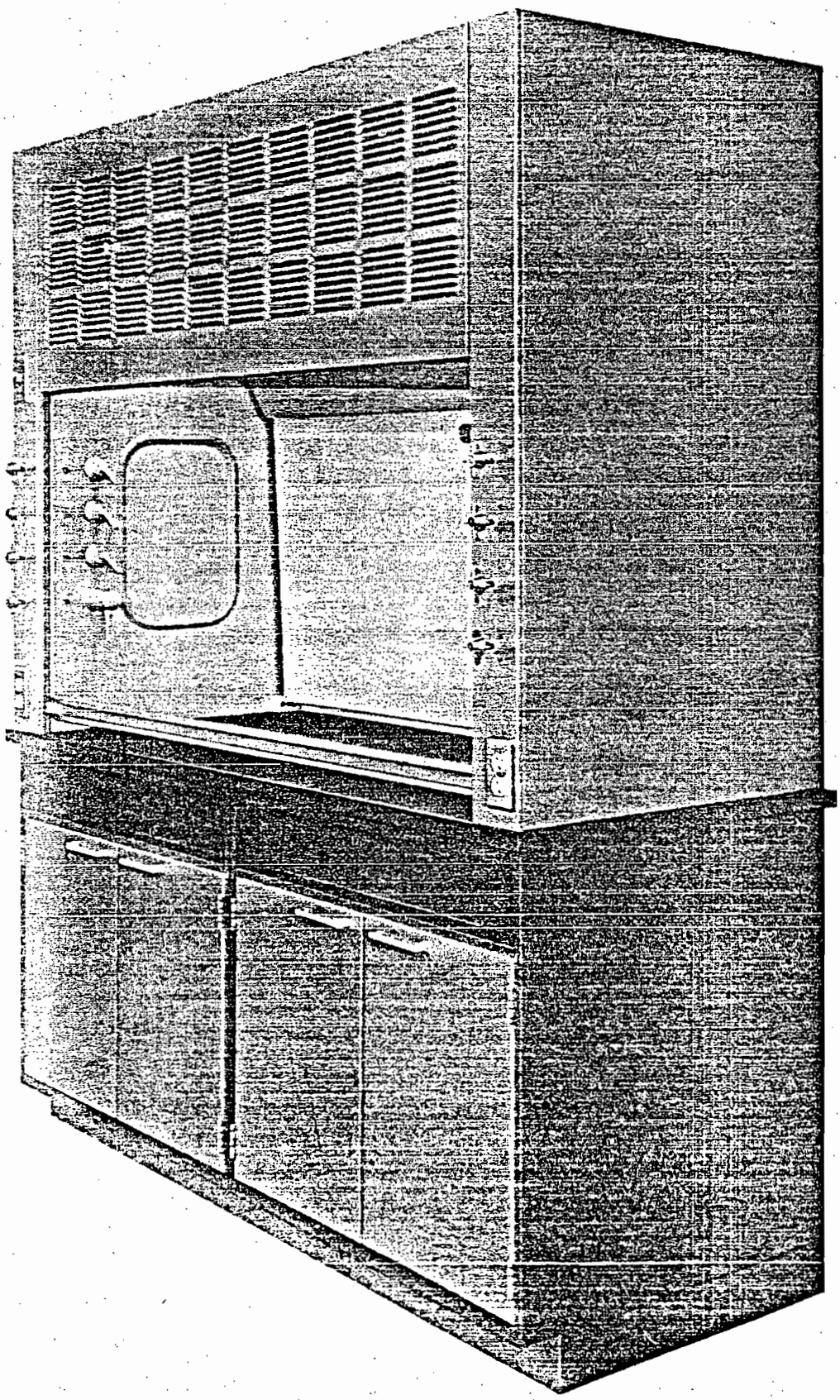
Copy to:
Mr. Jerry E. Woosley (BES)
Air and Water Pollution Control
515 West 6th Street
Jacksonville, FL 32206

Attachment:
Asbestos Ventilation System Components Data

Hamilton® VECTAIRE®

Laboratory Fume Hoods and Fume Removal Systems

American Hamilton 5/81 11p LABORATORY EQUIPMENT



FOR CONSTR. PERMIT APPLICATION AC 16-56671 ENCL (1)

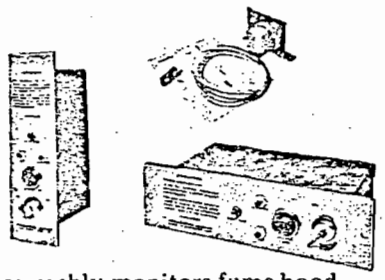
American Hamilton

Division of
American Hospital Supply Corporation
1316 18th Street
Two Rivers WI 54241
Telephone 414 793-1121

Printed in U.S.A.

fume hood accessories

ALARM



Alarm assembly monitors fume hood exhaust and signals when exhaust volume and face velocity fall below a pre-selected point. Alarm system will report such potentially hazardous conditions as slipping or broken blower belts, duct and blower deterioration caused by corrosion or accumulation of deposits on blower impeller blades.

On-Off switch with key provides positive control of alarm by laboratory director or health-safety personnel. Pilot light burns when alarm is on. Test circuits verify alarm function. Audible alarm signal can be silenced by pressing silencing relay button. Red warning light continues to burn until condition causing alarm signal is corrected.

54L259 For Vertical Mounting
Dimensioned to mount in the front vertical post of Hamilton Vectaire fume hoods. Can be installed anywhere panel space is available or bracketed from either post of existing fume hoods.

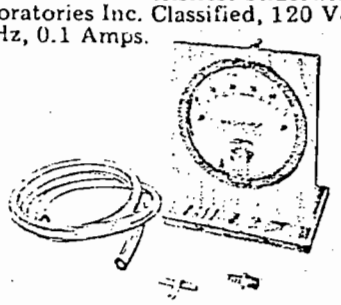
54L260 For Horizontal Mounting
Suitable for installation in base cabinet panels of existing fume hood installations, or anywhere panel space is available for horizontal configuration.

DIMENSIONS:

	Long	Wide	Deep
Face Plate	9-1/2"	2-5/8"	1/4"
Overall	9-1/2"	1-5/8"	4-3/4"
Cutout	8"	2-1/4"	—

Alarm assembly consists of sensor, pressure switch with mounting bracket, connecting tubing and pre-wired alarm box. Installation of suitable connecting wires and final connections are field operations by electrician.

Electrical Characteristics: Underwriters Laboratories Inc. Classified, 120 Volts, 60 Hz, 0.1 Amps.

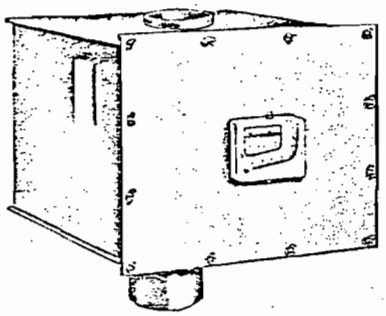


54L327 Pressure Adjusting Set
Gauge Range 0-1" W.C.

54L328 Pressure Adjusting Set
Gauge Range 0-3" W.C.

Each set includes pressure gauge, wood stand, tubing, adapter and "T" fitting. Select correct set for checking and/or resetting of fume hood alarm per instructions included with each alarm.

EXHAUST FILTERS



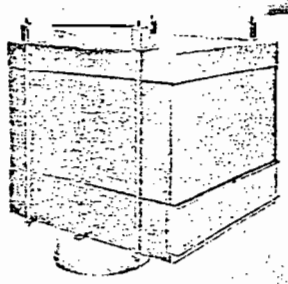
54L250 Filter Assembly.
Stainless steel assembly is complete with rough and H.E.P.A. filters. Liquid manometer mounted on housing indicates filter pressure drop and reports on filter condition. Rated capacity is 1300 CFM @ 1.6" S.P. when filters are clean. Each H.E.P.A. filter is tested and rated at 99.97% efficiency, minimum, for particles .3 to .5 microns in diameter. Rough filter prolongs the life of expensive H.E.P.A. filter.

54L250 (Illustrated). Stainless steel housing complete with filters and manometer. Overall dimensions: 26½" wide, 24" high, 25¼" deep, 12" diameter inlet and outlet.

54L253 Stainless steel housing and manometer; without filters.

54L254 Replacement filter set consisting of one rough and one H.E.P.A. filter.

54L256 Manometer assembly consisting of manometer, tubes, nipples and liquid.



New style filter pack assembly provides simplified filter exchange with access from front and sides. Complete with H.E.P.A. filter, rough or pre-filter and manometer assembly.

Filter will trap and retain particles as small as .3 to .5 microns Eliminates exhaust of particulate contaminants and maintains clean condition in duct downstream from filter.

54L296 Mild steel housing coated with No. 1145 PMA fume resistant plastic. Includes H.E.P.A. and rough filter with Manometer Assembly No. 54L313. Rated capacity 1300 CFM @ 1.6" S.P. water gauge when filters are clean. Overall: 24" x 24" x 24", 12" diameter collars.

54L297 Mild steel housing coated with No. 1145 PMA fume resistant plastic. Assembly includes H.E.P.A. and rough filter with Manometer No. 54L313. Rated capacity 1500 CFM @ 1.6" S.P. water gauge, with clean filters. Overall: 24" wide, 30" long, 24" high, 12" diameter collars.

54L298 Same as 54L296, but of stainless steel construction.

54L299 Same as 54L297, but of stainless steel construction.

54L254 Replacement filters, one set, consisting of rough and H.E.P.A. for 54L296 or 54L298.

54L300 Replacement filters, one set, consisting of rough and H.E.P.A. for 54L297 or 54L299.

selecting a blower

Hamilton recommends that the principle of one fume hood, one exhaust duct system and one blower be strictly followed. It is also recommended that the blower be located exterior to the building proper, at the discharge end of the exhaust duct.

Once the type of laboratory fume hood has been selected and face velocity determined, additional data will permit blower selection to be made. See Data Recording Form.

1. Translate face velocity (F.P.M.) into total exhaust volume (C.F.M.) for the unit.

2. Determine the fume hood static pressure (S.P.) from data tables.

3. Calculate duct system static pressure loss (Reference Page 45) and combine this figure with the fume hood static pressure for a total system requirement.

4. Select a blower with the capacity to move the required exhaust air volume at the total system static pressure loss (Reference Pages 39, 40, 41 and 42). Whenever possible, select an adjustable V-Belt drive blower that will be able to compensate for minor discrepancies in duct fabrication, room pressure and other building conditions that may cause deviations from the theoretical calculations and conditions.

FUME HOOD DATA RECORDING FORM

FUME HOOD DATA

Hood identification/location _____ Catalog No. _____

Size 6 Ft. Face velocity 125 F.P.M. Exhaust Vol. 1560 C.F.M.

Static Pressure Loss of Fume Hood from schedule .64 " W.G.

DUCT DATA

Size 12 " (Compatible with collar size)

Length of straight duct (a) 20 Ft.

Number of elbows 2

Length equivalent per elbow 25 Ft.

Length equivalent X Number = (b) 50 Ft.

Total calculated length (a + b) 70 Ft.

Static Pressure Loss of Duct .322 " W.G.

TOTAL SYSTEM DATA

Grand total Static Pressure Loss of Fume Hood & Duct at Fume Hood C.F.M. .962 " W.G.

BLOWER SELECTION DATA

Total S.P.L. .96 "W.G. @ 1560 C.F.M.

Select Blower number from schedule

115V ✓ or 230V X

115V and 230V motors are 60Hz - Single Phase

_____ H.P. _____ R.P.M. from schedule

NOTE: Follow same procedure for Supply Air blower selection.

supply air data

SUPPLY AIR REQUIREMENT FOR BENCH STYLE AUXILIARY AIR HOODS

75% of hood air requirement

Hood Size	Face Velocity 75 F.P.M.		Face Velocity 100 F.P.M.		Face Velocity 125 F.P.M.		Face Velocity 150 F.P.M.	
	C.F.M.	S.P.	C.F.M.	S.P.	C.F.M.	S.P.	C.F.M.	S.P.
3 Ft.	290	----	390	.03	485	.10	585	.20
4 Ft.	425	.06	570	.17	710	.31	855	.41
5 Ft.	562	.16	750	.33	938	.47	1125	.63
6 Ft.	705	.30	935	.47	1170	.66	1400	.85
8 Ft.	960	.50	1280	.75	1605	1.10	1925	1.25

60% of hood air requirement

Hood Size	Face Velocity 75 F.P.M.		Face Velocity 100 F.P.M.		Face Velocity 125 F.P.M.		Face Velocity 150 F.P.M.	
	C.F.M.	S.P.	C.F.M.	S.P.	C.F.M.	S.P.	C.F.M.	S.P.
3 Ft.	234	----	312	----	390	.03	468	.08
4 Ft.	342	----	456	.07	570	.17	684	.27
5 Ft.	450	.07	600	.21	750	.33	900	.43
6 Ft.	564	.16	750	.33	936	.47	1122	.63
8 Ft.	768	.34	1026	.56	1284	.75	1542	.97

50% of hood air requirement

Hood Size	Face Velocity 75 F.P.M.		Face Velocity 100 F.P.M.		Face Velocity 125 F.P.M.		Face Velocity 150 F.P.M.	
	C.F.M.	S.P.	C.F.M.	S.P.	C.F.M.	S.P.	C.F.M.	S.P.
3 Ft.	195	----	260	----	325	----	390	.03
4 Ft.	285	----	380	.02	475	.10	570	.17
5 Ft.	375	.02	500	.12	625	.22	750	.33
6 Ft.	470	.10	625	.22	780	.34	935	.47
8 Ft.	640	.24	855	.41	1070	.59	1285	.75

SUPPLY AIR REQUIREMENT FOR WALK-IN STYLE AUXILIARY AIR HOODS

70% of hood air requirement

Hood Size	Face Velocity 75 F.P.M.		Face Velocity 100 F.P.M.		Face Velocity 125 F.P.M.		Face Velocity 150 F.P.M.	
	C.F.M.	S.P.	C.F.M.	S.P.	C.F.M.	S.P.	C.F.M.	S.P.
4 Ft.	441	----	595	.08	742	.17	889	.25
5 Ft.	588	.07	777	.19	973	.31	1169	.35
6 Ft.	721	.16	966	.30	1204	.44	1442	.56
8 Ft.	1001	.32	1330	.51	1666	.63	2002	.89

60% of hood air requirement

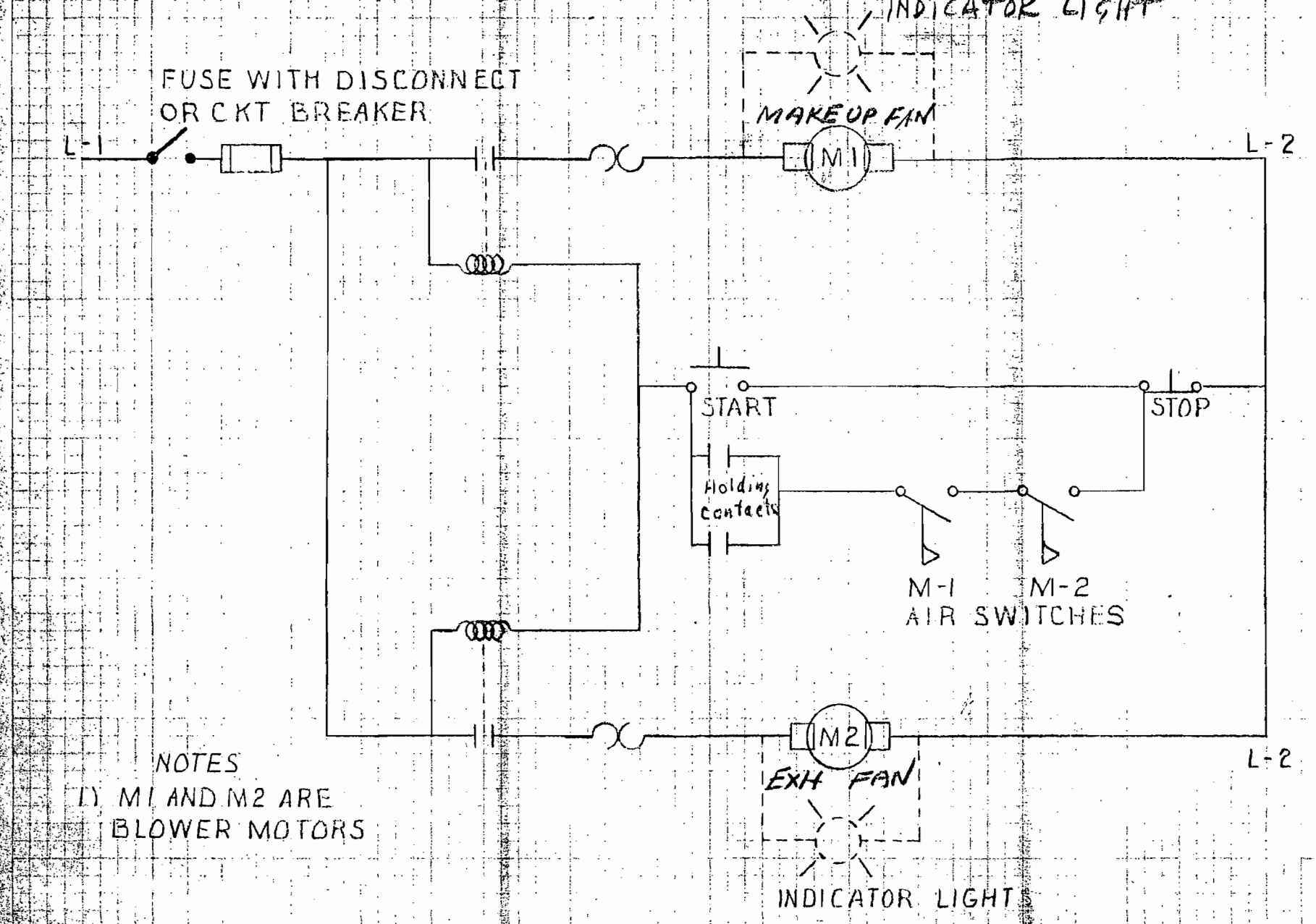
Hood Size	Face Velocity 75 F.P.M.		Face Velocity 100 F.P.M.		Face Velocity 125 F.P.M.		Face Velocity 150 F.P.M.	
	C.F.M.	S.P.	C.F.M.	S.P.	C.F.M.	S.P.	C.F.M.	S.P.
4 Ft.	378	----	510	.03	636	.11	762	.18
5 Ft.	504	.03	666	.12	834	.22	1002	.32
6 Ft.	618	.10	828	.22	1032	.34	1236	.45
8 Ft.	858	.23	1140	.40	1428	.56	1716	.72

50% of hood air requirement

Hood Size	Face Velocity 75 F.P.M.		Face Velocity 100 F.P.M.		Face Velocity 125 F.P.M.		Face Velocity 150 F.P.M.	
	C.F.M.	S.P.	C.F.M.	S.P.	C.F.M.	S.P.	C.F.M.	S.P.
4 Ft.	315	----	425	----	530	.04	635	.11
5 Ft.	420	----	555	.05	695	.14	835	.22
6 Ft.	515	.03	690	.14	860	.24	1030	.33
8 Ft.	715	.16	950	.30	1190	.43	1430	.56

FAN INTERLOCK FOR ASBESTOS FIBER SYSTEM

CONSTRUCTION APPLICATION NO. AC16-56671



NOTES

1) M1 AND M2 ARE BLOWER MOTORS

DEPARTMENT OF THE NAVY
SOUTHERN DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
2144 MELBOURNE ST., P.O. BOX 10068
CHARLESTON, S.C. 29411
TEL. #803-743-5510

PLEASE ADDRESS REPLY TO THE COMMANDING OFFICER, NOT TO THE SIGNER OF THIS LETTER. REFER TO:

Code 1142

31 AUG 1982

DEP
SEP 03 1982
BAQM

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

Dear Mr. Fancy:

In response to your letter of August 17, 1982, concerning construction of a chrome plating and metal pretreatment facility, Jacksonville, FL, the enclosed affidavit of publication is forwarded.

If there are additional requirements, please contact Mr. Laurens Pitts.

Very truly yours,

D. R. Spell

D. R. SPELL, P.E.
Head, Environmental Branch

BEST AVAILABLE COPY

The Florida Times-Union Jacksonville Journal

FLORIDA PUBLISHING COMPANY

Publishers

JACKSONVILLE, DUVAL COUNTY, FLORIDA

STATE OF FLORIDA }
COUNTY OF DUVAL }

Before the undersigned authority personally appeared _____

George A. Dan, who on oath says that he is

Retail Advertising Supervisor of The Florida Times-Union, and

Jacksonville Journal, daily newspapers published at Jacksonville in Duval County,

Florida; that the attached copy of advertisement, being a _____

Legal Notice

in the matter of Construction of chrome plating & metal

pretreating facility

in the _____ Court,

was published in The Florida Times Union

in the issues of August 25, 1982

PUBLIC NOTICE

The department intends to issue a permit to U. S. Naval Air Station for the construction of a chrome plating and metal pretreating facility, Jacksonville, Florida. The permit will include conditions to assure compliance with Chapter 17-2, Florida Administrative Code (FAC).

Any person wishing to file comments on this proposed action may do so by submitting such comments in writing to:

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

Any comments received within thirty (30) days after publication of this notice will be considered and noted in the Department's final determination.

Any person whose substantial interest would be affected by the Department's intended action on this permit may request an administrative hearing by filing a petition as set forth in Section 28-5.14, F.A.C., within fourteen (14) days of the date of this notice with:

Ms. Martha Hall
Office of General Counsel
Florida Department of
Environmental Regulation
2600 Blair Stone Road
Tallahassee, Florida 32301

Affiant further says that the said The Florida Times-Union and Jacksonville Journal are each newspapers published at Jacksonville, in said Duval County, Florida, and that the said newspapers have each heretofore been continuously published in said Duval County, Florida, The Florida Times-Union each day, and Jacksonville Journal each day except Sundays, and each has been entered as second class mail matter at the postoffice in Jacksonville, in said Duval County, Florida, for a period of one year next preceding 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.

Sworn to and subscribed before me this 25th day of August, A.D. 19 82

Notary Public, State of Florida at Large.

George A. Dan

My Commission Expires

Notary Public, State of Florida
My Commission Expires July 9, 1986
Bonded Thru Troy Fain - Insurance Inc.

DA 444

BEST AVAILABLE COPY

The Florida Times-Union | Jacksonville Journal

FLORIDA PUBLISHING COMPANY

Publishers

JACKSONVILLE, DUVAL COUNTY, FLORIDA

STATE OF FLORIDA }
COUNTY OF DUVAL }

Before the undersigned authority personally appeared

George A. Dan, who on oath says that he is

Retail Advertising Supervisor of The Florida Times-Union, and Jacksonville Journal, daily newspapers published at Jacksonville in Duval County, Florida; that the attached copy of advertisement, being a

Legal Notice

in the matter of Notice- The dept. intends to issue a permit to construct an asbestos firesleeve installation facility

in the _____ Court,

was published in The Florida Times Union

in the issues of October 11, 1982

Affiant further says that the said The Florida Times-Union and Jacksonville Journal are each newspapers published at Jacksonville, in said Duval County, Florida, and that the said newspapers have each heretofore been continuously published in said Duval County, Florida, The Florida Times-Union each day, and Jacksonville Journal each day except Sundays, and each has been entered as second class mail matter at the postoffice in Jacksonville, in said Duval County, Florida, for a period of one year next preceding 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.

Sworn to and subscribed before me this 11th day of October A.D. 19 82

Naomi S. Dye
Notary Public,
State of Florida at Large.

George A. Dan

My Commission Expires

Notary Public, State of Florida
My Commission Expires July 9, 1986
Bonded Thru Troy Fain Insurance, Inc.

DA 444

PUBLIC NOTICE

The Department intends to issue a permit to construct an asbestos firesleeve installation facility at the U.S. Naval Air Station, Jacksonville, Florida.

The permit will include conditions to assure compliance with Chapter 17-2, Florida Administrative Code (F.A.C.).

Any person wishing to file comments on this proposed action may do so by submitting such comments in writing to:

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

Any comments received within thirty (30) days after publication of this notice will be considered and noted in the Department's final determination.

Any person whose substantial interest would be affected by the Department's intended action on this permit may request an administrative hearing by filing a petition as set forth in Section 28-5.14, F.A.C., within fourteen (14) days of the date of this notice with:

Ms. Martha Hall
Office of General Counsel
Florida Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, Florida

PS Form 3811, Jan. 1979

RETURN RECEIPT, REGISTERED, INSURED AND CERTIFIED MAIL

● SENDER: Complete items 1, 2, and 3.
Add your address in the "RETURN TO" space on reverse.

1. The following service is requested (check one.)
   - ☒ Show to whom and date delivered.....___¢
   - ☐ Show to whom, date and address of delivery....___¢
   - ☐ RESTRICTED DELIVERY
     Show to whom and date delivered.....___¢
   - ☐ RESTRICTED DELIVERY.
     Show to whom, date, and address of delivery.$___

   (CONSULT POSTMASTER FOR FEES)

2. ARTICLE ADDRESSED TO:
Mike Goldston
2144 Melbourne Street
P. O. Box 10068
Charleston, SC 29411

3. ARTICLE DESCRIPTION:

REGISTERED NO.	CERTIFIED NO.	INSURED NO.
	7682433	

(Always obtain signature of addressee or agent)

I have received the article described above.
SIGNATURE ☐Addressee ☐Authorized agent

4. DATE OF DELIVERY
8-20-82

POSTMARK
AUG 1982

5. ADDRESS (Complete only if requested)

6. UNABLE TO DELIVER BECAUSE:

CLERK'S INITIALS

☆GPO : 1979-300-459

P16 7682433

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED—
NOT FOR INTERNATIONAL MAIL
(See Reverse)

SENT TO
Mike Goldston
STREET AND NO.
2144 Melbourne St.
P.O., STATE AND ZIP CODE
Charleston, S.C.29411

POSTAGE		$
CONSULT POSTMASTER FOR FEES	CERTIFIED FEE	¢
OPTIONAL SERVICES	SPECIAL DELIVERY	¢
	RESTRICTED DELIVERY	¢
RETURN RECEIPT SERVICE	SHOW TO WHOM AND DATE DELIVERED	¢
	SHOW TO WHOM, DATE, AND ADDRESS OF DELIVERY	¢
	SHOW TO WHOM AND DATE DELIVERED WITH RESTRICTED DELIVERY	¢
	SHOW TO WHOM, DATE AND ADDRESS OF DELIVERY WITH RESTRICTED DELIVERY	¢
TOTAL POSTAGE AND FEES		$
POSTMARK OR DATE		

PS Form 3800, Apr. 1976

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

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

BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

August 17, 1982

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Mike Goldston
Code 1142
Naval Facilities Engineering Command
2144 Melbourne Street
P. O. Box 10068
Charleston, South Carolina 29411

Dear Mr. Goldston:

Pursuant to Section 403.815, Florida Statutes, and Florida Administrative Code Rule 17-1.62, you are required to publish (at your own expense) the attached notice. This notice should be published, one time only, in the legal ad section of the Florida Times-Union as soon as possible and no later than September 13, 1982.

The Department, in accordance with Rule 17-1.62, is required to have proof that the public notice was given. Therefore, please have the newspaper prepare an affidavit of publication to submit to the Department.

Sincerely,

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

CHF:ras

Attachment

Public Notice

The department intends to issue a permit to U. S. Naval Air Station for the construction of a chrome plating and metal pretreating facility, Jacksonville, Florida. The permit will include conditions to assure compliance with Chapter 17-2, Florida Administrative Code (FAC).

Any person wishing to file comments on this proposed action may do so by submitting such comments in writing to:

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

Any comments received within thirty (30) days after publication of this notice will be considered and noted in the Department's final determination.

Any person whose substantial interest would be affected by the Department's intended action on this permit may request an administrative hearing by filing a petition as set forth in Section 28-5.14, F.A.C., within fourteen (14) days of the date of this notice with:

Ms. Martha Hall
Office of General Counsel
Florida Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, Florida 32301

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

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

BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

MEMORANDUM

TO: Mr. Mike Goldston, Naval Facilities Engineering Command
Commanding Officer, Naval Rework Facility
Mr. Doug Dutton, DER St. Johns River Subdistrict
Mr. Jerry Woosley, Duval County Bio-Environmental Services

FROM: L.A. George for C. H. Fancy, Bureau of Air Quality Management

DATE: August 18, 1982

SUBJECT: Preliminary Determination, U. S. Naval Air Station, Naval Rework Facility AC 16-56672

Attached is one copy of the application, Technical Evaluation and Preliminary Determination, and proposed permit to construct a chrome plating and metal pretreating facility at the U. S. Naval Air Station in Jacksonville, Florida.

Please submit any comments you may have concerning this action, in writing, to Bill Thomas of the Bureau of Air Quality Management

CF:PA:ras

Technical Evaluation

and

Preliminary Determination

U. S. Naval Air Station

Jacksonville, Florida

Application Number:

AC 16-56672

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

Public Notice

The department intends to issue a permit to U. S. Naval Air Station for the construction of a chrome plating and metal pretreating facility, Jacksonville, Florida. The permit will include conditions to assure compliance with Chapter 17-2, Florida Administrative Code (FAC).

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Florida Department of Environmental
Regulation
2600 Blair Stone Road
Tallahassee, Florida 32301

RULES OF THE ADMINISTRATIVE COMMISSION
MODEL RULES OF PROCEDURE
CHAPTER 28-5
DECISIONS DETERMINING SUBSTANTIAL INTERESTS

28-5.15 Requests for Formal and Informal Proceedings

(1) Requests for proceedings shall be made by petition to the agency involved. Each petition shall be printed typewritten or otherwise duplicated in legible form on white paper of standard legal size. Unless printed, the impression shall be on one side of the paper only and lines shall be double spaced and indented.

(2) All petitions filed under these rules should contain:

(a) The name and address of each agency affected and each agency's file or identification number, if known;

(b) The name and address of the petitioner or petitioners;

(c) All disputed issues of material fact. If there are none, the petition must so indicate;

(d) A concise statement of the ultimate facts alleged, and the rules, regulations and constitutional provisions which entitle the petitioner to relief;

(e) A statement summarizing any informal action taken to resolve the issues, and the results of that action;

(f) A demand for the relief to which the petitioner deems himself entitled; and

(g) Such other information which the petitioner contends is material.

I. Project Description

A. Applicant

U. S. Naval Air Station
Naval Air Rework Facility
Jacksonville, Florida 32212

B. Project and Location

The applicant plans to construct a chrome plating facility which includes a metal pretreatment and paint shop. Emissions from the plating and metal pretreatment areas will be ducted to a packed-tower type fume scrubber before release to the atmosphere. Fumes from the paint shop will exhaust directly to the atmosphere. The process rate is 1.85 pounds per hour of chromium Trioxide, 40 percent of which is emitted as a mist and ducted to the emission control system. The plating shop is scheduled to operate 16 hours per day, 5 days per week. The metal pretreatment and paint shop will operate 8 hours per day.

The facility, building P-419, is located on Wright Street south of Enterprise Avenue in the Naval Air Rework Facility, U. S. Naval Air Station, Jacksonville, Florida. The UTM coordinates are 435.45 km East and 3343.9 km North.

C. Process and Controls

The acid mist emissions from the chrome plating facility are to be controlled by four packed tower type fume scrubbers.

FIGURE I

Scrubber	Pollutant	Control
S-3	Chromic acid Sulfuric acid	Mist eliminator and fume scrubber
S-4	Chromic acid Sulfuric acid	Fume scrubber
S-5	Sulfuric acid	Fume scrubber
S-6	Chromic acid P-C-535	Fume scrubber

The total process input rate is 148 pounds chromium trioxide per week based on a 16 hour per day, 5 days per week. Approximately 40 percent of the process input is emitted as an acid mist of which 80 percent is ducted to scrubber S-3; 15 percent to scrubber S-4 and 5 percent to scrubbers S-5 and S-6. Each scrubber system has a rated efficiency of 99 percent.

Potential acid emissions:

FIGURE 2

Scrubber	Lb/hr	Ton/yr
S-3	0.006	0.012
S-4	0.001	0.002
S-5	0.0002	0.0004
S-6	0.0002	0.0004

The metal pretreatment shop will contain four vapor degreasers;

FIGURE 3

Unit NO.	Solvent	Surface Area	Potential Emissions
B-1	trichloroethylene	20 Ft^2	1.50 lb/hr
C-2	trichloroethane	18 Ft^2	1.35 lb/hr
J-23	trichloroethylene	18 Ft^2	1.35 lb/hr
K-29	trichloroethane	32 Ft^2	2.40 lb/hr

and five paint spray booths;

FIGURE 4

Unit No.	Type	Air Flow (CFM)
PT 9	Dry	11,726
PT 10	Dry	11,726
PT 11	Dry	11,726
PT 18	CERAMIC	13,900
PT 19	CERAMIC	13,900

which will contain emissions from the surface application of;

FIGURE 5

COATING	USAGE lb/yr	POTENTIAL lb/hr	EMISSIONS ton/yr
lacquer	250	0.05	0.06
enamel	1750	0.38	0.40
epoxy primer	250	0.05	0.06
resin coating	560	0.12	0.13
solaramic	1752	0.38	0.40
cermetal W	960	0.21	0.22
cermetal J	300	0.06	0.07
TOTAL	5822		1.34

Each spray booth will have two paint arrestor filters to trap the air-borne particulate matter. There is an air flow interlock system to prevent sprayer operation when the filters

become plugged. There is, however, no interlock device to prevent operation with the filters removed. The volatile fumes will discharge to the atmosphere.

Two of the solvent degreasers in the metal pretreatment shop, C-2 and K-29, use the solvent trichloroethane. The emissions from this solvent are not figured in the proposed emissions inventory pursuant to 17-2.510(2)(a), FAC. The vapor degreasers will have no add-on fume emission control device.

II. Rule Applicability

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

The proposed project is located in Duval county classified nonattainment for the pollutant Ozone (17-2.410(1)(a) 3.FAC). The solvent 1,1,1 trichloroethane is nonreactive and is not considered in the determination of VOC emissions from the proposed installation (17-2.510(2)(a) FAC). The increase in VOC emissions does not result in a significant net emission increase as set forth in 17-2.510(2)(e)2. FAC, and is exempt from New Source Review (17-2.510(2)(d)4.a. FAC). Section 17-2.520, FAC will apply.

The potential emissions from the modification are less than the significant emission rates as listed in Table 500-2 (17-2.500, FAC), Regulated Air Pollutants - Significant Emission rates. A Prevention of Significant Deterioration (PSD) review, therefore, is not required, the provisions of Section 17-2.520, FAC will apply.

III. Summary of Emissions and Air Quality Analysis

A. Emission Limitations

The proposed VOC emission rates are based upon information in the application and its amendments. Individual solvent potential emissions are listed in Table 1. The annual emission rate is based upon 2080 operating hours per year.

TABLE 1

VOC Potential Emissions

Solvent	Lb/hr	Ton/yr
Trichloroethlene	2.85	2.96
1,1,1 trichloroethane	3.75	3.90*
Paint Vehicle	1.26	1.34
TOTAL	4.11	4.30

*1,1,1 trichloroethane is nonreactive and exempted as set forth

in 17-2.510(2)(a) F.A.C.

The amount of VOC emissions from the degreasers takes into account a 50% reduction due to process and equipment design (AP-42, Table 4.6-2, Projected Emission Reduction Factors for Solvent Degreasing). VOC potential emissions from the spray booths are based on the total amount of the various coatings (Figure 5) containing 45% solvent all of which are considered as being emitted to the atmosphere.

The maximum allowable VOC emissions from the four new degreasers will be 3.0 tons per year and 2.0 tons per year from the five new spray booths. A material usage report shall be used to determine compliance. This report will be submitted annually to the department and the local air management authority.

Potential particulate emissions from the paint pigment are considered insignificant and shall only require that there will be no visible emissions from the spray booth exhaust stacks.

The estimated acid emissions from the chrome plating facility exhaust scrubber systems are less than one pound per hour. To assure this, compliance requirements will be no visible emissions from the scrubber exhaust stack; no objectionable odor detected and operating conditions as follows:

1) The scrubber systems will operate twenty-four hours per day, except for required maintenance down-time.

2) When one of the scrubber units is down for sufficient cause, the affected portion of the plating facility shall not be in operation.

3) Efficiency of the scrubber shall be demonstrated to be as required in Subsection 2.1.2.5, Federal Specifications, Section 11530. (Attachment 1).

4) The mist eliminator will be used whenever the affected area of the chrome plating facility is operational.

5) A chromic acid mist evolution test will be made a minimum of once per month. The test will involve holding a sheet of white paper in the scrubber discharge. If the paper stains, the scrubber is not operating as designed and immediate corrective action must be taken.

B. Air Quality Analysis

No modeling for VOC's is required. An independent modeling analysis was performed using the Industrial Source Complex (ISC) model. The concentrations were off by a factor of 1000 but when corrected was still well below the applicable Threshold Limit Value (TLV) (Attachement 3).

IV. Conclusions

The proposed VOC emission rates were based upon the applicant's submitted data. The VOC emissions from the degreasers and the spray booths consume increment and must be included in the air inventory. The amount of emissions is minimal and the requirement for more stringent emission control is not economically justified.

The Air Pollution Engineering Manual, Second Edition, describes a field test method of determining chromic acid mist evolution. A sheet of white paper is held in the scrubber discharge. Any mist contacting the paper will cause stains. This simple method has been included in permit conditions as a monitor and not as a surrogate test method.

The permitted emissions from this facility will not interfere with reasonable further progress toward attaining the ambient air quality standards, a requirement of 17-2.520, FAC.

The General and Specific Conditions listed in the proposed permit will assure compliance with all applicable requirements of Chapter 17-2, FAC.

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32301

BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

APPLICANT:

U. S. Naval Air Station
Naval Air Rework Facility
Jacksonville, Florida 32212

PERMIT/CERTIFICATION NO. AC 16-56672

COUNTY: Duval

PROJECT: Chrome plating facility

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Chapter 17-2 17-4, Florida Administrative Code. The above named applicant, hereinafter called Permittee, is hereby authorized to perform the work or operate the facility shown on the approved drawing(s), plans, documents, and specifications attached hereto and made a part hereof and specifically described as follows:

For the construction of a chrome plating facility, including a metal cleaning and painting shop.

The UTM coordinates are 435.45 km East and 3343.9 km North (Zone 17).

Construction shall be in accordance with the permit application and its amendments, plans, documents, and drawings except as otherwise noted under "Specific Conditions."

Attachments are as follows:

1. Application to Construct Air Pollution Sources, DER Form 17-1.122(16).

2. Department of Navy's letter of July 28, 1982 (Response to technical discrepancies).

3. Fume Dispersion Study.

4. Subsection 17-2.650(1)(f)(12), FAC.

PERMIT NO.: AC 16-56672
APPLICANT: U. S. Naval Air Station

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 Section 403.161(1), Florida Statutes. Permittee is hereby placed on notice that the department will review this permit periodically and may initiate court 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 indicated in the attached drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit shall constitute grounds for revocation and enforcement action by the department.

3. 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 non-compliance, including exact 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. 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.

4. As provided in subsection 403.087(6), 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.

5. This permit is required to be posted in a conspicuous location at the work site or source during the entire period of construction or operation.

6. 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 Section 403.111, F.S.

7. In the case of an operation permit, 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.

8. 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 penalities 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, except where specifically authorized by an order from the department granting a variance or exception from department rules or state statutes.

9. This permit is not transferable. Upon sale or legal transfer of the property or facility covered by this permit, the permittee shall notify the department within thirty (30) days. The new owner must apply for a permit transfer within thirty (30) days. The permittee shall be liable for any non-compliance of the permitted source until the transferee applies for and receives a transfer of permit.

10. The permittee, by acceptance of this permit, specifically agrees to allow access to permitted source at reasonable times by department personnel presenting credentials for the purposes of inspection and testing to determine compliance with this permit and department rules.

11. This permit does not indicate a waiver of or approval of any other department permit that may be required for other aspects of the total project.

12. This permit conveys no title to land or water, nor constitutes state recognition or acknowledgement of title, and does not constitute authority for the reclamation 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.

13. This permit also constitutes:

[ ] Determination of Best Available Control Technology (BACT)
[ ] Determination of Prevention of Significant Deterioration (PSD)
[ ] Certification of Compliance with State Water Quality Standards (Section 401, PL 92-500)

PERMIT NO.: AC 16-56672
APPLICANT: U. S. Naval Air Station

SPECIFIC CONDITIONS:

1. The plating shop shall operate not more than 4160 hours per year.

2. The cleaning and painting shop shall operate not more than 2080 hours per year.

3. Maximum allowable emissions from B1 and J-23 degreaser shall be 3.75 Lbs/hr (3.0 TPY).

4. Maximum allowable emissions from PT 9, PT 10, PT 11, PT 18, PT 19 paint spray booths shall be 1.3 Lbs/hr (2.0 TPY).

5. VOC emissions shall be accounted for by accurate record keeping of solvent purchased, reclaimed, operating hours and submittal of annual operation reports (DER Form 17-1.122(44) on a annual basis to DER St. Johns River Subdistrict Office and Department of Bio-Environmental Services, Air Division, Jacksonville, Florida.

6. The paint spray booths shall not be operated unless the exhaust fan, two (2) filters and interlocks are functioning as designed. Emission limitations shall be visible emissions. Particulate matter shall not be discharged into the atmosphere the density of which is equal to or greater than 20 percent opacity. Compliance tests shall be conducted using DER Method 9.

7. The applicant shall be required to comply with 17-2.650(1)(f)(12), FAC. (See Attachment 4).

8. The plating shop shall not be operated until the scrubber systems are functional.

9. There shall be no visible emissions or objectionable odors detected in the scrubber system discharge stack exhausts.

10. The scrubber systems shall operate twenty-four hours per day, except for required maintenance.

11. When one of the scrubbers is down for sufficient cause, the affected area of the facility shall not be operated.

12. When the efficiency of each scrubber has been demonstrated as required in Subsection 2.1.2.5, Federal Specifications, Section 11530 (Attachement). The applicant may submit the test data in lieu of a compliance test.

PERMIT NO.: AC 16-56672
APPLICANT: U. S. Naval Air Station

13. A monthly spot test will be made on each scrubber exhaust stream. A white sheet of paper is held in the stack exhaust. If the paper stains, the scrubber is not operating as designed and immediate corrective action must be taken.

14. The applicant shall notify the Department 10 days prior to conducting compliance tests.

15. Following approval of compliance test results and prior to 90 days before the expiration date of this permit, a complete application for an Operating Permit shall be submitted to the DER St. Johns River Subdistrict office and the Jacksonville Department of Bio-Environmental Services, Air Division. Full operation of the source may then be conducted in compliance with the terms of this permit until expiration or receipt of an Operating Permit.

Expiration Date: _____

_____ Pages Attached.

Issued this _____ day of _____, 19_____.

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

_____
Signature

Chapter 17-2

Florida Administrative Code

Subsection 17-2.650(1)(f)(12)

12. Solvent Metal Cleaning

a. Applicability

(i) The emission limiting standards and control technology set forth in 17-2.650(1)(f)12. shall apply to cold cleaning, open-top vapor degreasing, and conveyorized degreasing operations.

(ii) The provisions of 17-2.650(1)(f)12. shall apply with the following exceptions:

(A) Open-top vapor degreasers with an open area smaller than 10.8 square feet (one square meter) shall be exempt from 17-2.650(1)(f)12.c.(iii),

(B) Conveyorized degreasers with an air/vapor interface smaller than 21.5 square feet (2.0 square meters) shall be exempt from 17-2.650(1)(f)12.d.(ii)

b. Cold Cleaning Control Technology

Except as provided under 17-2.650(1)(f)12.a., the owner or operator of a cold cleaning facility shall comply with each of the following requirements:

(i) Equip the cleaner with a cover. The cover shall be so designed that it can be easily operated with one hand if:

(A) The solvent volatility is greater than 0.3 pounds per square inch (15 millimeters of mercury or 2 kilopascals) measured at 100°F (38°C);

(B) The solvent is agitated;

(C) The solvent is heated.

(ii) Equip the cleaner with a facility for draining cleaned parts. The drainage facility shall be constructed internally so that parts are enclosed under the cover while draining if the solvent volatility is greater than 0.6 pounds per square inch (31 millimeters of mercury or 4.1 kilopascals) measured at 100°F (38°C), except that the drainage facility may be external for the application where an internal type cannot fit into the cleaning system.

(iii) Install one of the following control devices if the solvent volatility is greater than 0.6 pounds per square inch (31 millimeters of mercury or 4.1 kilopascals) measured at 100°F (38°C), or if the solvent is heated above 120°F (50°C):

(A) Freeboard that gives a freeboard ratio greater than or equal to 0.7; or,

(B) Water cover (solvent must be insoluble in and heavier than water); or,

(C) Other systems of equivalent control such as refrigerated chiller or carbon absorption.

(iv) Provide a permanent, conspicuous label summarizing the operating requirements.

(v) Store waste solvent only in covered containers and not dispose of waste solvent or transfer it to another party, such that greater than 20 percent of the waste solvent (by weight) can evaporate into the atmosphere.

(vi) Close the cover whenever parts are not being handled in

the cleaner.

(vii) Drain the cleaned parts for at least 15 seconds or until dripping ceases.

(viii) If used, supply a solvent spray that is a solid fluid stream (not a fine, atomized, or shower-type spray) at a pressure which does not cause excessive splashing.

c. Open Top Vapor Degreaser Contol Technology

Except as provided under 17-2.650(1)(f)12., the owner or operator of an open top vapor degreaser shall comply with each of the following requirements:

(i) Equip the vapor degreaser with a cover that can be opened and closed easily without disturbing the vapor zone.

(ii) Provide the following safety switches:

(A) A condenser flow switch and thermostat which shut off the heat if the condenser coolant is either not circulating or too warm; and,

(B) A spray safety switch which shuts off the spray pump if the vapor level drops more than 4 inches (10 centimeters) below the bottom condenser coil; and,

(C) A vapor level control thermostat which shuts off the heat when the vapor level rises too high.

(iii) Install one of the following control devices:

(A) A freeboard ratio greater than or equal to 0.75, and a powered or mechanically assisted cover if the degreaser opening is greater than 10.8 square feet (1.0 square meter); or,

(B) Refrigerated chiller; or,

~~(C) An enclosed design (cover or door opens only when the dry~~

(C) An enclosed design (cover or door opens only when the dry part is actually entering or exiting the degreaser); or,

(D) A carbon adsorption system, with ventilation greater than or equal to 50 cubic feet per minute per square foot (15 cubic meters per minute per square meter) of air/vapor area (when cover is open), and exhausting less than 25 parts per million of solvent averaged over one complete adsorption cycle.

(iv) Keep the cover closed at all times except when processing work loads through the degreaser.

(v) Minimize solvent carryout by:

(A) Racking parts to allow complete drainage; and,

(B) Moving parts in and out of the degreaser at less than 11 feet per minute (3.3 meters per minute); and,

(C) Holding the parts in the vapor zone at least 30 seconds or until condensation ceases; and,

(D) Decanting any pools of solvent on the cleaned parts before removal from the vapor zone; and,

(E) Allowing parts to dry within the degreaser for at least 15 seconds or until visually dry.

(vi) Not degrease porous or absorbent materials, such as cloth, leather, wood, or rope.

(vii) Not occupy more than half of the degreaser's open-top area with a workload.

(viii) Not load the degreaser to the point where the vapor level would drop more than 4 inches (10 centimeters) below the bottom condenser coil when the workload is removed from the vapor zone.

(ix) Always spray below the vapor level.

(x) Repair solvent leaks immediately, or shut down the degreaser.

(xi) Store waste solvent only in covered containers and not dispose of waste solvent or transfer it to another party, such that greater than 20 percent of the waste solvent (by weight) can evaporate into the atmosphere.

(xii) Not operate the cleaner so as to allow water to be visually detectable in solvent exiting the water separator.

(xiii) Not use ventilation fans near the degreaser opening, nor provide exhaust ventilation exceeding 66 cubic feet per minute per square foot (20 cubic meters per minute per square meter) of degreaser open area, unless necessary to meet OSHA requirements.

(xiv) Provide a permanent, conspicuous label, summarizing the operating procedure of 17-2.650(1)(f)12.c.(iv) through (xii).

DEPARTMENT OF THE NAVY
SOUTHERN DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
2144 MELBOURNE ST., P. O. BOX 10068
CHARLESTON, S. C. 29411

TEL. 803-743-5510

PLEASE ADDRESS REPLY TO THE COMMANDING OFFICER, NOT TO THE SIGNER OF THIS LETTER.
REFER TO: Code 1142

DER
JUL 30 1982
BAQM

28 JUL 1982

Mr. Steve Smallwood, Chief
Department of Environmental Regulation
Bureau of Air Quality Management
2600 Blairstone Road
Tallahassee, FL 32301

Subj: Plating and Cleaning Facility, Naval Air Rework Facility, Jacksonville, Florida, Chrome Plating System Permit Application to Construct Air Emission Source

Dear Mr. Smallwood:

This letter is in response to your letter dated 22 June 1982, concerning the subject permit application, and is in reference to two phone discussions between Mr. Edward Palagyi of your office and Mr. Mike Goldston of this Command on 9 July and 16 July 1982. The following is offered in response to your questions and comments.

1. The factors 45%, 15%, and 40% utilized in the first page of the calculations are percentage factors used for estimating product loss in the chrome plating process. As shown 40% of the product input is lost to the ventilation/exhaust system and will exhaust through the fume scrubbers. These percentages are based on information from personnel operating the existing plating facilities at NARF Jacksonville and on the expert opinion of the consulting engineering firm, Burns & McDonnell, who specialize in this field.

2. Reference should be made to the enclosed letters dated 16 September 1981 and 28 September 1981, in which confirmation is made by your department that a permit will be needed for the chromic acid treatment fume scrubber only. It was agreed the sulfuric acid and cyanide emissions will be negligible and inoffensive as verified in AP-40, Air Pollution Engineering Manual, Page 830. In order to provide the requested information, enclosed is a fume dispersion study by Burns & McDonnell which contains information on the sulfuric acid, cyanide and chromic acid emissions and relates them to threshold limit values. The study conclusions indicate all emissions when exhausting through the fume scrubbers will be far below the TLV of each constituent at the indicated locations. In addition, all emissions except for the chromic acid mist will be below their respective TLV without the aid of the fume scrubbers.

3. Attached are revised calculations for the chromic acid emissions based on the 99% efficient fume scrubber expressed in $\mu g/m^3$. The efficiency of 75% was used as a worst case situation arbitrarily per chance the equipment does not meet their specifications or for times when the equipment is malfunctioning and under repair.

28 JUL 1982

4. During plating operations the scrubbers will be in operation on a continuous basis.

5. The fume scrubbers will utilize recirculated water in their operation. Each fume scrubber system will include installation of a conductivity meter to monitor the process water. Also the exhaust stacks will be installed with sampling ports for monitoring the acid mist emissions. This should satisfy your inquiry concerning a means to monitor and control the performance of the fume scrubbers.

6. Enclosed is correspondence between Mr. Jerry Woosley of your department and Mr. Glenn Bradley of this Command involving the emissions from the vapor degreasers and paint booths to be installed with this project. As indicated and justified with our letters of 5 May and 10 May 1982, their construction are exempt from permitting pursuant to the designated sections of the State of Florida Air Rules. Mr. Woosley's letters of 12 May and 19 May 1982, verify and approve the requested exemptions.

A final design set of plans and specifications will be available in approximately two weeks and will be forwarded to you. It is hoped the information provided is adequate for your approval and will enable your office to issue a permit to construct the chrome plating system.

Should you need any further information, please let us know by calling Mr. Goldston at the above telephone number. Your cooperation is appreciated.

Very truly yours,

D. R. Spell

D. R. SPELL, P.E.
Head, Environmental Branch

Revised Calculations (Using Efficiency = 99%)

Scrubber	Emissions
S-3 (30,000 cfm) -	lb/hr = (0.74)(0.8)(.01) = 0.0059 lb/hr Ton/yr = (0.0059)(16)(5)(52)/(2000) = 0.0123 ton/yr $\mu g/m^3$ = (0.0059 lb/hr)(454X106μg/lb)(1 hr/60 min)/(30000 ft^3/min)(.02832 m^3/ft^3) = 52.5 $\mu g/m^3$
S-4 (32,500 cfm) -	lb/hr = (0.74)(0.15)(.01) = 0.0011 lb/hr Ton/yr = (0.0011)(2.08) = 0.0023 ton/yr $\mu g/m^3$ = (0.0011)(8221) = 9.0 $\mu g/m^3$
S-5 (39,500 cfm)*-	lb/hr = (0.74)(0.025)(0.01) = 0.0002 lb/hr Ton/yr = (0.0004)(2.08) = 0.0004 ton/yr $\mu g/m^3$ = (0.0002)(6764) = 1.4 $\mu g/m^3$
S-6 (50,000 cfm)*-	lb/hr = (0.74)(0.025)(0.01) = 0.0002 lb/hr Ton/yr = (0.0002)(2.08) = 0.0004 ton/yr $\mu g/m^3$ = (0.0002)(5344) = 1.1 $\mu g/m^3$

*Estimate the emission rate in the previous calculations for scrubbers S-5 and S-6 is distributed 50/50.

TEL. 803-743-5510 Code 1142/P3

16 SEP 1981

Mr. Jerry Woosley
Department of Health, Welfare and
Bio-Environmental Control
Air Pollution Control
515 W. 6th Street
Jacksonville, FL 32206

Subj: Proposed Plating and Coating Facility, Naval Air Rework Facility, Naval Air Station, Jacksonville, FL

Dear Mr. Woosley:

This letter is provided as a summarization of your 9 September 1981 meeting with Mr. Steve Chambliss of this Command concerning the proposed construction of the above subject project. As discussed, there will be four significant types of air emission sources which will require permitting and control. These operations and corresponding control devices are as follows:

1. Abrasive Blasting - baghouse type dust collector

2. Paint Spray Booths - fabric particulate filters for each booth

3. Vapor Degreasing - design and operating parameters in accordance with Rules of the Florida Department of Environmental Regulation Chapter 17-2.16(6)(m)

4. Chromic Acid Treatments - wet scrubber

Other shop operations are insignificant sources of air pollution and do not require permitting under existing regulations.

Design will continue utilizing the above specified controls. Upon completion of design, permit applications will be forwarded for review with supporting design plans. If the above is not in accordance with applicable regulations or if you have questions or comments, please contact Mr. Chambliss at the above telephone number. Your cooperation is appreciated.

Very truly yours,

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C. R. SPELL, P.E.
Head, Environmental Branch

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9/16/81

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DEPARTMENT OF HEALTH, WELFARE
& BIO-ENVIRONMENTAL SERVICES
Bio-Environmental Services Division
Water Conservation Activity

CITY OF JACKSONVILLE, FLORIDA

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September 28, 1981

Commanding Officer
Department of the Navy, Southern Division
Naval Facilities Engineering Command
2144 Melbourne Street
P. O. Box 10068
Charleston, South Carolina 29411

Re: Code 1142/P3

Dear Sir:

Receipt of Mr. D. R. Spell's letter of September 16, 1981, is acknowledged.

The actions proposed concerning the permitting of the proposed plating and coating facility at the Naval Air Rework Facility are satisfactory. It is emphasized that Construction Permits must be obtained prior to construction of the pollution sources.

If we may assist you in any way, please advise.

Very truly yours,

Jerry E. Woosley
Assistant Air Engineer

JEW/am

3318

ALL-AMERICA CITY
AREA CODE 904 / 633-3419 / 515 WEST 6TH STREET / JACKSONVILLE, FLORIDA 32206

DEPARTMENT OF HEALTH, WELFARE
& BIO-ENVIRONMENTAL SERVICES
Bio-Environmental Services Division
Air and Water Pollution Control

May 19, 1982

Commanding Officer
Code 1142
Dept. of the Navy
Southern Division
Naval Facilities Engineering Command
2144 Melbourne Street
P.O. Box 10068
Charleston, S.C. 29411

Dear Sir:

Receipt of the letter dated May 10, 1982 from Glenn C. Bradley, P.E., Acting Head, Environmental Branch is acknowledged. It has been determined from the information provided that air pollution Operation/Construction Permits will not be required at this time.

Should you have any questions concerning this matter, please advise.

Very truly yours,

Jerry E. Woosley
Assistant Engineer

JEW/vj

cc: Mr. Stan Garrison - NARF (NAS) Jax.
cc: Mr. Bill Roche - NAS Jax.

AREA CODE 904 / AIR POLLUTION – 633-3033 OR 633-3303 / WATER POLLUTION – 633-3415
515 WEST 6TH STREET / JACKSONVILLE, FLORIDA 32206

DEPARTMENT OF HEALTH, WELFARE
& BIO-ENVIRONMENTAL SERVICES
Bio-Environmental Services Division
Air and Water Pollution Control

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May 12, 1982

Commanding Officer
Code 1142
Department of the Navy
Southern Division
Naval Facilities Engineering Command
2144 Melbourne Street
P.O. Box 10068
Charleston, South Carolina 29411

Dear Sir:

I have reviewed the information submitted by Mr. Glenn C. Bradley (Acting Head, Environmental Branch) concerning the five (5) paint spray booths to be constructed at NARF, Naval Air Station, Jacksonville, Florida.

Since the VOC emissions are deminimus, an air pollution Construction/Operation Permit is not required at this time. However, this Agency reserves the right to change this determination at a later date.

If we may assist you further, please advise.

Very truly yours,

Jerry E. Woosley
Assistant Engineer

JEW/vj

cc: Stan Garrison, NARF - Jacksonville Florida
Naval Air Station

TEL. #803-743-5510 Code 1142

1 0 MAY 1982

Mr. Jerry Woosley
Department of Health, Welfare and
Bio-Environmental Control
Air Pollution Control
515 W. 6th Street
Jacksonville, FL 32206

Dear Mr. Woosley:

This letter is in reference to your phone discussion with Mr. Mike Goldston of this Command, on 5 May 1982, concerning the vapor degreasers to be installed in the proposed plating and cleaning facility at Naval Air Rework Facility, Jacksonville, FL. Attached is data associated with each vapor degreaser and justification that each vapor degreaser is exempt from DER permit requirements.

The emissions, hourly and daily, for units B-1, C-2, J-23 and NI-1 are exempt pursuant to Section 17-2.650(1)(c) and Section 17-2.510(1)(c)2.a. of the Florida Air Pollution Rules. Units K-29 and PT-7 are exempt pursuant to Section 17-2.650(1)(d) and Section 17-2.510(1)(c)2.a. Unit PS-5 is using freon as the solvent and will not be vented to the atmosphere. This unit is exempt pursuant to Section 17-2.510(1)(c)2.a.

In addition to the above it should be noted that units C-2, B-1, J-23 and K-29 will be vented through a scrubber system prior to discharge to the atmosphere.

If there is any additional information required, please contact Mr. Goldston at the above telephone number. Your cooperation is appreciated.

Very truly yours,

GLENN C. BRADLEY, P.E.
Acting Head, Environmental Branch

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Vapor Degreasers and Solvent	Tank Surface Area, ft^2	X	Emission Factor* ($lb/hr/ft^2$)	X	Control ** Efficiency	=	Emissions (lb/hr)
B-1 (Trichloroethylene)	20		.15		.5		1.50
C-2 (Trichloroethane)	18		.15		.5		1.35
J-23 (Trichloroethylene)	18		.15		.5		1.35
K-29 (Trichloroethane)	32		.15		.5		2.40
PT-7 (Trichloroethane)	54		.15		.5		4.05
NI-1 (Trichloroethane)	24		.15		.5		1.80
PS-5 (Freon)	45		.15		.5		3.38

NOTE: PT-7, NI-1, and PS-5 are existing in the existing plating and cleaning facility.
*AP42 Table 4.6-2 (.15 $lb/hr/ft^2$)
**AP42 Table 4.6-3 (assume 50%)

Operation hr/day	Emissions (lb/hr)	Emissions (lb/day)	Exemption*** (lb/hr)	Exemption*** (lb/day)
8	1.50	12.0	3	15
8	1.35	10.8	3	15
8	1.35	10.8	3	15
8	2.40	19.2	3	15
8	4.05	32.4	3	15
8	1.80	14.4	3	15
8	3.38	27.0	3	15

*** Section 17-2.650(1)(c)1. of the State Air Laws
NOTE: (1) Section 17-2.650(1)(d) of the State Air Laws exempt 1,1,1 trichloroethane.
(2) Section 17-2.510(1)(c)2.a. exempts all VOC sources.

File Const Permit NAS JAX

TEL. #803-743-5510 Code 1142

5 MAY 1982

Mr. Jerry Woosley
Department of Health, Welfare and
Bio-Environmental Control
515 W. 6th Street
Jacksonville, FL 32206

Subj: Proposed Plating and Coating Facility, Naval Air Rework Facility, Naval Air Station, Jacksonville, FL

Dear Mr. Woosley:

This letter is written in reference to your phone discussion of 29 April 1982, with Mr. Mike Goldston of this Command, concerning the permit application for the five (5) paint spray booths to be installed with the subject project. As discussed, the quantity of surface coatings to be applied is minimal as shown on the enclosed data sheet and a permit to construct will be unnecessary.

The surface coatings specified will be applied to various naval aircraft engine parts and accessories inside paint spray booths with paint arrestor filters. The through flow will be exhausted to the atmosphere via an exhaust fan and stack as shown on the drawings.

If there is any additional information necessary, call Mr. Goldston at the above telephone number. Your cooperation is appreciated.

Very truly yours,

GLENN C. BRADLEY, P.E.
Acting Head, Environmental Branch

Copy to: (w/o encl)
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ESTIMATED QUANTITIES OF SURFACE COATINGS

1981 Paint Quantity (The quantity of surface coatings will remain the same)

Lacquer	25 gallons	@	10#/gal
Enamel	175 gallons	@	10#/gal
Epoxy Primer	25 gallons	@	10#/gal
Resin Coating	56 gallons	@	10#/gal
Solaramic	146 gallons	@	12#/gal
Cermetal W	80 gallons	@	12#/gal
Cermetal J	25 gallons	@	12#/gal
Total	532 gallons		

25 gal X 10 #/gal = 250#/yr
175 gal X 10 #/gal = 1750#/yr
25 gal X 10 #/gal = 250#/yr
56 gal X 10 #/gal = 560#/yr
146 gal X 12 #/gal = 1752#/yr
80 gal X 12 #/gal = 960#/yr
25 gal X 12 #/gal = 300#/yr
5822#/yr

Paint Booths

PT9 (Dry Type) - one fan at 11,726 cfm
PT10 (Dry Type) - one fan at 11,726 cfm
PT11 (Dry Type) - one fan at 11,726 cfm
PT18 (Ceramic) - one fan at 13,900 cfm
PT19 (Ceramic) - one fan at 13,900 cfm
Total = 62,978 cfm

SECTION 11501

SPRAY BOOTHS

PART 1 - GENERAL

1.1 Applicable Publications:

1.1.1 Federal Specifications (Fed. Spec.):

L-P-387A(1) Int Amd 2	Plastic Sheet, Laminated, Thermosetting (For Designation Plates)

1.1.2 National Fire Protection Association (NFPA):

33-1977	Spray Application
70-1981	National Electrical Code
91-1973	Blower and Exhaust System

1.2 Qualifications of Spray Booth Manufacturers: Prior to installation, submit data for approval by the Government showing that the Spray Booth Manufacturer is currently in the business of manufacturing spray booths and has been in the business of manufacturing spray booths similar to the type herein specified for not less than five years. Data shall include the names and locations of at least three installations where this size and type of manufacturer's equipment has been in successful operation for a period of at least five years.

1.3 General Requirements: Manufacturer's and model numbers herein referenced are in accordance with Paragraph 10 of Section 01011, "General Paragraphs." Section 11000, "Process Equipment General Requirements," applies to this section, with additions and modifications specified herein.

1.3.1 Description of Work: The work includes furnishing and installing spray booths herein specified and as indicated. The booths, exhaust air fans, pumps, tanks, accessories, filters, valves, safety guards, recommended spare parts, and all other labor, equipment and materials, and performance of work necessary for or incidental to the complete installation of the spray booth units shown or specified or not.

1.3.2 Submittals: Items for which the submittals requirements of this section apply are as follows:

1.3.2.1 Manufacturer's Data: Submit to the Contracting Officer.

Solvent Spray Booths
Dry-Type Paint Spray Booths

Ceramic Spray Booths
Paint Mixing Bench

1.3.2.2 Shop Drawings: Submit to the Contracting Officer.

Solvent Spray Booths
Dry-Type Paint Spray Booths
Ceramic Spray Booths
Paint Mixing Bench

1.3.2.3 Certified Test Reports:

Solvent Spray Booths
Dry-Type Paint Spray Booths
Ceramic Spray Booths

1.3.2.4 Operation and Maintenance Manual:

Solvent Spray Booths
Dry-Type Paint Spray Booths
Ceramic Spray Booths

1.3.2.5 Posted Operating Instructions:

Solvent Spray Booths
Dry-Type Paint Spray Booths
Ceramic Spray Booths

PART 2 - EQUIPMENT

2.1 Solvent Spray Booths CC2 and DA1:

2.1.1 Size: Solvent spray booth shall be leg-type unit with nominal inside working dimensions of 3'-4" wide, 4'-2" high, 2'-6" deep with nominal outside dimensions of 4'-4" wide, 7'-2" high, 4'-8-1/2" deep with an open face and with work surface 2'-6" above the floor.

2.1.2 Material: Unit shall be of 18-gage steel panel construction with 10-gage legs. Unit shall be completely factory painted.

2.1.3 Work Surface: Work surface shall be strong wood-slat grating for nonsparking surface with grounded brass wear strips.

2.1.4 Solvent Reclaim System: Solvent reclaim tank shall be located below the wood-slat work table. Solvent tank shall have a pump for recirculating solvent. Solvent circulating pump shall have a 1/4-hp 115/230-volt, single-phase motor.

2.1.5 Filters: The filter bank shall consist of metal mesh filter pads and baffles.

2.1.6 Exhaust: Booth shall have an 18-inch-diameter top-discharge exhaust duct connection and an 18-inch-diameter exhaust fan capable of handling 3,000 cfm at 3/8-inch static pressure. Fan shall be belt driven with belts enclosed from the air stream. Fan blades shall be of nonsparking construction. Fan bearings shall be lifetime lubricated.

2.1.7 Exhaust Fan Motor: Exhaust fan motor shall be 1/2 hp, 1,750 rpm, 115/230 volt, single phase, TENV. Fan motor shall be mounted on the roof on a roof-type fan support frame provided by the unit manufacturer. A weather cover and disconnect switch for the motor shall be provided. Motor shall be located outside the exhaust air stream.

2.1.8 Ductwork: The exhaust ductwork shall be 18-inch diameter and shall terminate with a no-loss vertical discharge stack head. Exhaust duct system shall be supplied by the unit supplier.

2.1.9 Accessories Shall Include:

a. Manual motor starters, one each for fan and pump.

b. One set of replacement filters.

c. Provide a sail switch in the exhaust ductwork and a solenoid valve in the solvent line to prevent solvent flow when the exhaust fan is shut off.

d. Nameplates, Laminated Plastic: Fed. Spec. L-P-387. Provide a nameplate for each spray booth engraved with the equipment number and name as indicated in the shop equipment schedules. Laminated plastic shall be 1/8-inch-thick black melamine plastic with white center core, matte finish and square corners. The lettering shall be accurately aligned and engraved into the white.

2.1.10 Electrical Equipment Rating: All electrical equipment located in a Class 1, Division 1 or Class 1, Division 2 area as defined by NFPA 70, Article 516 shall be rated for use in such an area and shall be clearly marked with the hazardous area rating.

2.1.11 Solvent spray booth system shall be a DeVilbiss Model DEC-505.

2.2 Dry-Type Paint Spray Booths PT9, PT10, PT11: Floor model dry-type, paint-arrestor spray booth shall have nominal inside working dimensions of 9'-8" width, 8'-0" height and 6'-0" depth with nominal outside overall dimensions of 10'-0" wide, 8'-2" high and 9'-8" deep and shall have an open face. Units shall be built of 18-gage steel panels with exterior flanges and smooth interior surfaces. Joint sealer shall be furnished to provide airtight joints. Channels for mounting spray booth to floor shall be provided. Units shall be completely factory painted. Booth shall have two wire glass windows in top front panel.

2.2.1 Filters: The filter bank shall consist of a paint-arrestor pad frame with pad retainers and one complete set of paint-arrestor filter pads. The filter cells shall be two 1-inch-thick, 20-inch by 20-inch filter pads.

2.2.2 Draft Gage: A draft gage shall be mounted on the exterior of the booth for measuring differential pressure across the filter bank.

2.2.3 Exhaust: The unit shall have a top-discharge exhaust duct connection and a 34-inch-diameter exhaust fan capable of handling 11,726 cfm at 1/4-inch static pressure. Exhaust fan wheel shall be of nonsparking construction. Fan shall be belt driven with belts enclosed from the air stream. Fan shall have lifetime lubricated bearings.

2.2.4 Exhaust Fan Motor: Fan motor shall be 2 hp, 1,750 rpm, 460 volt, three phase, TEFC. Fan motor shall be mounted on the roof on a roof-type fan support frame provided by the unit manufacturer. A weather cover and disconnect for the motor shall be provided. Motor shall be mounted outside the exhaust air stream.

2.2.5 Ductwork: The exhaust ductwork shall be 34-inch diameter and shall have a 12-inch by 18-inch cleanout access door every 4 feet of length, and at every elbow. A no-loss vertical discharge stack head shall be provided. Exhaust duct system shall be supplied by the unit supplier.

2.2.6 Accessories Shall Include:

a. Automatic shutdown system that consists of a filter gage switch in an explosion-proof housing and a three-way solenoid valve No. 29-627 to prevent spraying when the exhaust fan is not running or when the filter pads load up with paint and the air flow is insufficient. Binks Model 29-860 Automatic Safety Shutdown System.

b. One pedestal-mounted 48-inch-diameter manual turntable having 500-pound load capacity.

c. Exhaust fan combination magnetic motor starter with an isolated N.O. auxiliary contact wired to terminal blocks.

d. One complete set of replacement filter pads.

2.2.7 Lighting: Provide fluorescent fixtures, with lamps. The average maintained illumination level shall be 50 fc minimum. Fixtures shall be mounted on top of the booth and be isolated from the interior of the booth by a transparent plastic panel. The fixtures shall be rated for a Class 1, Division 1, Group D environment. Provide a switch mounted on an outside wall of the booth.

2.2.8 Electrical Equipment Rating: All electrical equipment located in a Class 1, Division 1 or Class 1, Division 2 area as defined by NFPA 70, Article 516 shall be rated for use in such an area and shall be clearly marked with the hazardous area rating.

2.2.9. Dry-type spray booth shall be Binks Model PFF-10-8-T, with 30-4305 exhaust fan.

2.3 Ceramic Spray Booths PT18 and PT19: Floor model dry-type spray booth for ceramic materials shall have nominal inside working dimensions of 11'-8" wide, 8'-0" high and 7'-6" deep with nominal outside dimensions of 12'-0" wide, 8'-6" high and 11'-2" deep and shall have an open face. Unit shall be built of 18-gage steel panels with exterior flanges and smooth interior surfaces. Joint sealer shall be furnished to provide airtight joints. Channels for mounting spray booth shall be provided. Unit shall be completely factory painted. Booth shall have two wire glass panels in top front panel.

2.3.1 Baffles: The booth shall have three rows of knife edge baffle plates located forward of the arrestor pad filter bank for the purpose of promoting a more uniform distribution of air flow across the work area. The knife edge baffle assembly shall be removable for maintenance of filters and when booth is used for low volume electrostatic paint spraying. Baffles to be in approximately three-foot wide sections.

2.3.2 Filters: The filter bank shall consist of a paint-arrestor pad frame with pad retainers and one complete set of paint-arrestor filter pads. The filter cells shall be two 1-inch-thick, 20-inch by 20-inch filter pads.

2.3.3 Draft Gage: A draft gage shall be mounted on the exterior of the booth for measuring differential pressure across the filter bank.

2.3.4 Exhaust: The unit shall have a top-discharge exhaust duct connection and a 34-inch-diameter exhaust fan capable of handling 13,900 cfm at 1/4-inch static pressure. Exhaust fan wheel shall be of nonsparking construction. Fan shall be belt-driven with belts enclosed from the air stream. Fan shall have lifetime lubricated bearings.

2.3.5 Exhaust Fan Motor: The fan motor shall be 3 hp, two speed 1,750/1,150 rpm, 460 V, three phase, TEFC. Fan motor shall be mounted on the roof on a roof-type fan support frame provided by the unit manufacturer. A weather cover and disconnect for the motor shall be provided. The motor shall be located outside the exhaust air stream.

2.3.6 Ductwork: The exhaust duct shall be 34-inch diameter and shall have a 12-inch by 18-inch cleanout access door every 4 feet of length and at every elbow. A no-loss vertical-discharge stack head shall be provided. Exhaust duct system shall be supplied by the unit supplier.

2.3.7 Accessories Shall Include:

a. Automatic shutdown system that consists of a filter gage switch in an explosion-proof housing, 2 three-way solenoid valves No. 29-327 to prevent spraying when the exhaust fan is not running or when the filter pads load up with paint and the air flow is insufficient. Binks Model 29-860 Automatic Safety Shutdown System.

b. Exhaust fan combination magnetic two-speed motor starter with an isolated N.O. auxiliary contact from each coil wired to terminal blocks.

c. One set of replacement filter pads.

d. Strippable coating for knife-edge baffle in lieu of baffle removal when electrostatic painting.

2.3.8 Lighting: Provide fluorescent fixtures, with lamps. The average maintained illumination level shall be 50 fc minimum. Fixtures shall be mounted on top of the booth and be isolated from the interior of the booth by a transparent plastic panel. The fixtures shall be rated for a Class 1, Division 1, Group D environment. Provide a switch mounted on an outside wall of the booth.

2.3.9 Electrical Equipment Rating: All electrical equipment located in a Class 1, Division 1 or Class 1, Division 2 area as defined by NFPA 70, Article 516 shall be rated for use in such an area and shall be clearly marked with the hazardous area rating.

2.3.10 Dry-type ceramic spray booth shall be Binks Model PFF-12-8-T, with ceramic baffles and 30-4307 exhaust fan.

2.4 PT8 Paint Mixing Bench: Paint mixing bench shall consist of an all steel work table with a Contractor fabricated sheet metal exhaust hood, the exact arrangement shall be as shown on the drawings.

2.4.1 Work table shall be 36" wide x 72" long x 34" high, industrial grade work table with a 12-gage steel top rated at 250 pounds per square foot. Table shall have welded 14-gage flared legs. Table shall have factory grey enamel finish.

2.4.2 Exhaust hood shall be constructed as indicated on drawings. Hood shall be constructed of 20-gage galvanized sheet metal ASTM A527. Hood shall be mounted on work table as indicated on drawings.

2.4.3 Exhaust fan shall be a ten-inch-diameter in-line duct fan having a capacity of 375 cfm at 3/8-inch static pressure. Fan shall have an explosion-proof motor for Class I, Group D environment and shall have a nonsparking wheel.

2.4.4 Provide an explosion-proof starter for fan motor.

PART 3 - PERFORMANCE

3.1 Installation: Installation shall be in accordance with NFPA 33, the manufacturer's written recommendations and Section 11000, "Process Equipment General Requirements." The Contractor shall be responsible for the furnishing of labor, equipment, material and performance of work necessary for or incidental to the complete installation of services and equipment. Resizing or rerouting of services resulting from the selection of equipment or manufacturing changes shall be coordinated and accomplished by the Contractor at no cost to the Government.

FLOOR TYPE SPRAY BOOTHS (Paint Arrestor Filter)

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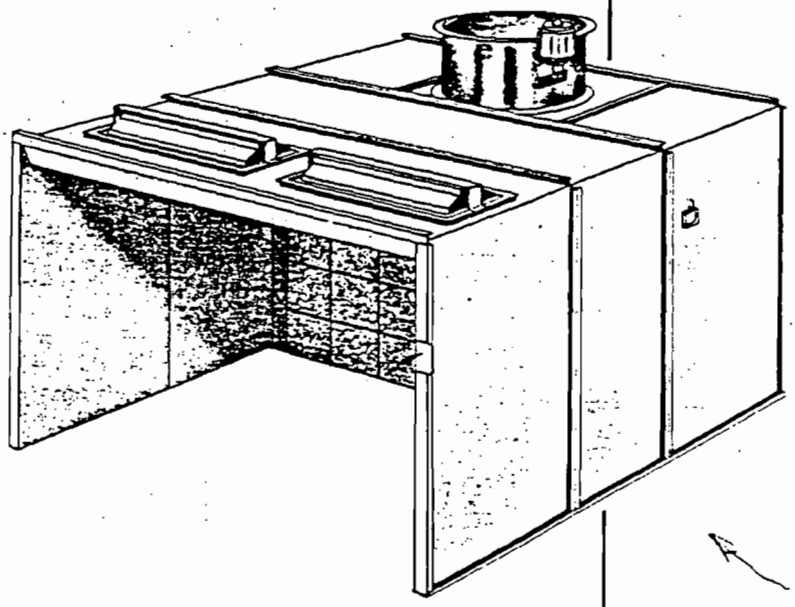


Paint Arrestor Spray Booths

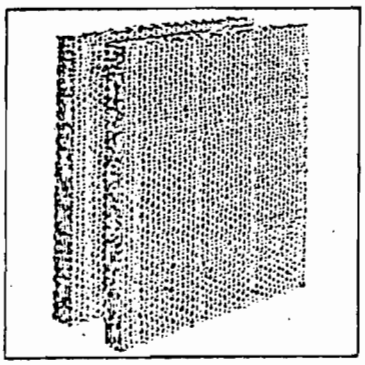
Binks Paint Arrestor Floor Type Spray Booths efficiently remove overspray and equalize air flow through the work area. The paint arrestor filters trap air-borne paint particles and minimize paint accumulation on the exhaust system fan and stack.

Construction Features

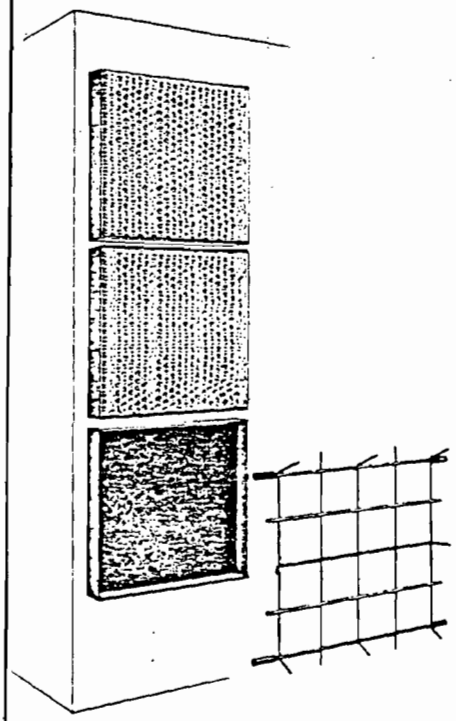
Built of 18 gauge steel panels with exterior flanges, the booth is easily assembled by two men. Inside of booth is smooth. Panels are factory painted, both sides.

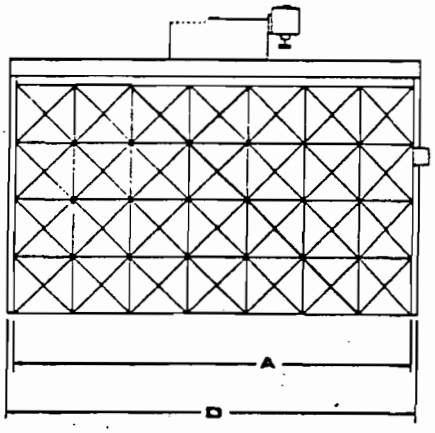
The filter bank is preassembled and shipped in either one or two sections. Individual filter cells consists of two 20" x 20" x 1" Paint Arrestor filter pads. Filters are easily replaced. They have a Class 2 listing by Underwriters' Laboratories and are Factory Mutual approved.

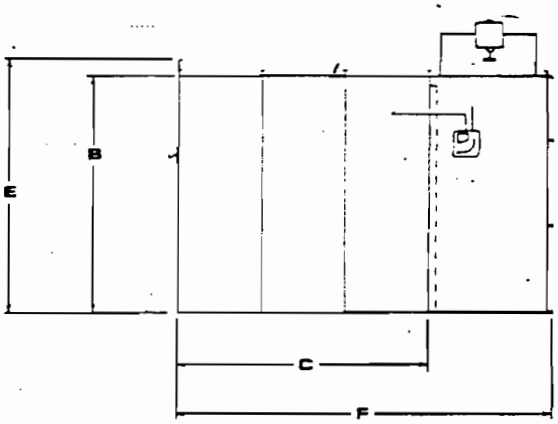
Exhaust Unit & Lighting equipment for dry filter booths can be ordered separately or included in package models.



A double layer of one inch thick pads are used. Only one layer need be replaced at a time as most paint particles are caught in the first one inch filter thickness.







7'-0" HIGH 125 FPM MIN. FACE VELOCITY (FLOOR TYPE)

Model Number•	Work Dimensions A	B	C	Overall Dimensions D	E	F	No. of Filter Cells	Air Flow at 1/4" Water Col. SCFM	Fan and Motor† Model No.	Dia.	H.P.	Qty. Windows & Lights	Shpg. Wt. Lbs.
FF-4-7-T	4'-0"	7'-0"	4'-0"	4'-4"	7'-2"	6'-8"	8	3750	30-1620	18"	3/4	0	550
PFF-4-7-T												0	675
FF-5-7-T												0	575
PFF-5-7-T	5'-0"	7'-0"	4'-0"	5'-4"	7'-2"	6'-8"	12	4500	30-4200	24"	1/2	0	750
PFF-5-7-T-LH												1	840
FF-6-7-T												0	660
PFF-6-7-T	6'-0"	7'-0"	4'-0"	6'-4"	7'-2"	6'-8"	12	5600	30-4202	24"	3/4	0	850
PFF-6-7-T-LH												1	940
FF-8-7-T												0	950
PFF-8-7-T	7'-8"	7'-0"	6'-0"	8'-0"	7'-2"	8'-8"	16	7400	30-4206	24"	1½	0	1150
PFF-8-7-T-LH												1	1240
FF-10-7-T												0	1150
PFF-10-7-T	9'-8"	7'-0"	6'-0"	10'-0"	7'-2"	9'-8"	20	10000	30-4303	34"	1½	0	1450
PFF-10-7-T-LH												2	1630
FF-12-7-T												0	1300
PFF-12-7-T	11'-8"	7'-0"	6'-0"	12'-0"	7'-6"	9'-8"	28	11700	30-4305	34"	2	0	1600
PFF-12-7-T-LH												3	1870
FF-16-7-T												0	1950
PFF-16-7-T	15'-8"	7'-0"	7'-6"	16'-8"	7'-10"	11'-2"	36	13900	30-4307	34"	3	0	2300
PFF-16-7-T-LH												4	2660
FF-20-7-T												0	2600
PFF-20-7-T	19'-8"	7'-0"	7'-6"	20'-8"	8'-0"	11'-8"	44	18000	30-4410	42"	5	0	3000
PFF-20-7-T-LH												6	3540

8'-0" HIGH 125 FPM MIN. FACE VELOCITY (FLOOR TYPE)

Model Number•	Work Dimensions A	B	C	Overall Dimensions D	E	F	No. of Filter Cells	Air Flow at 1/4" Water Col. SCFM	Fan and Motor† Model No.	Dia.	H.P.	Qty. Windows & Lights	Shpg. Wt. Lbs.
FF-4-8-T	4'-0"	8'-0"	4'-0"	4'-4"	8'-2"	6'-8"	8	4500	30-4200	24"	1/2	0	570
PFF-4-8-T												0	730
FF-5-8-T												0	660
PFF-5-8-T	5'-0"	8'-0"	4'-0"	5'-4"	8'-2"	6'-8"	12	5600	30-4202	24"	3/4	0	810
PFF-5-8-T-LH												1	900
FF-6-8-T												0	750
PFF-6-8-T	6'-0"	8'-0"	4'-0"	6'-4"	8'-2"	6'-8"	12	6200	30-4204	24"	1	0	930
PFF-6-8-T-LH												1	1020
FF-8-8-T												0	1100
PFF-8-8-T	7'-8"	8'-0"	6'-0"	8'-0"	8'-2"	8'-8"	16	8000	30-4207	24"	2	0	1400
PFF-8-8-T-LH												1	1490
FF-10-8-T												0	1300
PFF-10-8-T	9'-8"	8'-0"	6'-0"	10'-0"	8'-2"	9'-8"	20	10000	30-4303	34"	1½	0	1600
PFF-10-8-T-LH												2	1780
FF-12-8-T												0	1700
PFF-12-8-T	11'-8"	8'-0"	7'-6"	12'-0"	8'-6"	11'-2"	28	11700	30-4305	34"	2	0	2000
PFF-12-8-T-LH												3	2270
FF-16-8-T												0	2100
PFF-16-8-T	15'-8"	8'-0"	7'-6"	16'-8"	8'-10"	11'-2"	36	17000	30-4312	34"	5	0	2450
PFF-16-8-T-LH												4	2810
FF-20-8-T												0	2750
PFF-20-8-T	19'-8"	8'-0"	7'-6"	20'-8"	9'-0"	11'-8"	44	20300	30-4412	42"	5	0	3150
PFF-20-8-T-LH												6	3690

• Model number suffix LH indicates booth furnished with dust and ignition proof fluorescent fixtures. Model 29-900, which conform to OSHA requirements for Class I, Div. 2 hazard locations.

† See pages 50 and 51 for exhaust fan specifications.

1. See page 5 for operating components and accessories furnished with above booths
2. Fluorescent tubes not furnished. Purchase locally
3. Explosion proof or totally enclosed motors, and motor starter, available at extra cost
4. Top or back exhaust standard. Specify on order. Consult Binks representative if more than 25 ft. of exhaust duct are required.
5. Available with conveyor openings. Send factory your drawing of opening requirements.
6. Safety monitoring and control devices, as well as complete automatic systems, available at extra cost. Consult local codes and your Binks representative for the equipment most appropriate to your operation.

Burns & McDonnell

ENGINEERS - ARCHITECTS - CONSULTANTS

Kansas City, Missouri

FUME DISPERSION STUDY

Plating & Cleaning Facility

at

Naval Air Rework Facility, NAS
Jacksonville, Florida
FY 1982 MCON P-419
A-E Contract N62467-80-C-0246

for

Department of the Navy

Southern Division
Naval Facilities Engineering Command
Charleston, South Carolina

May, 1982

80-801-1-004

Burns & McDonnell
Engineers-Architects-Consultants

FUME DISPERSION STUDY

LIST OF FIGURES

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Conclusions and Recommendations

The new Plating and Cleaning Facility at the Naval Air Rework Facility, Jacksonville, Florida, will not adversely affect the enlisted men's barracks that are in close proximity. The current stack heights and emission abatement equipment are adequate to protect the quality of the environment. No further control measures are necessary.

The maximum expected ground-level concentration at average emissions is always less than 1 percent of the Threshold Limit Value (TLV). The highest level of concentrations at the barrack are 3/10,000 of 1 percent of the TLV or less which occurs at Barrack A, the eastern most of the north barracks.

Although the west barracks will be exposed to the emissions, particularly during easterly winds, and may experience greater concentrations at any one time, the maximum ground-level concentrations at the west barracks will be less than the maximum concentration at the north barracks.

At maximum anticipated emission levels, the concentrations within close proximity of the Plating and Cleaning Facility may approach 15 percent of the TLV. Even at these maximum emission levels, the concentrations at the barracks are less than 1/100 of 1 percent of the TLV.

If pollution abatement equipment is not used, the concentration levels at the barracks will be less than 1 percent of the TLV even at maximum anticipated emission levels. However, in close proximity of the facility, the TLV of chrome

will be exceeded by approximately 13.5 times if no pollution abatement equipment is used. A demister alone would probably not be adequate for the chrome.

Without pollution, abatement equipment on emissions other than chrome, the concentration levels in close proximity to the Facility will be in the range of 25 percent of the TLV at maximum anticipated emissions. In industrial areas, this would be acceptable, particularly if demisters were used. However, in a residential area, all emissions that can reasonably be removed should be as a good-neighbor policy.

It is Burns & McDonnell's recommendation that the chrome system be equipped with a direct-contact fume scrubber as now indicated and that the other systems be equipped with wet-demister-type scrubbers as now indicated.

Introduction

The new Plating and Cleaning Facility siting requirements resulted in the only available location being in a residential area. Every effort has been made in the facility design to minimize the impact of this industrial operation at this location. Scrubbers have been utilized on all process tank exhausts to reduce emissions from process tank ventilation.

This study was performed to determine the dispersion of the fumes from the stacks of the plating and cleaning facility. The location of the enlisted mens' barracks on the north and west sides of the facilities could be impacted by emissions from the stacks. The close proximity of these barracks and the relatively small stack height prompted this investigation.

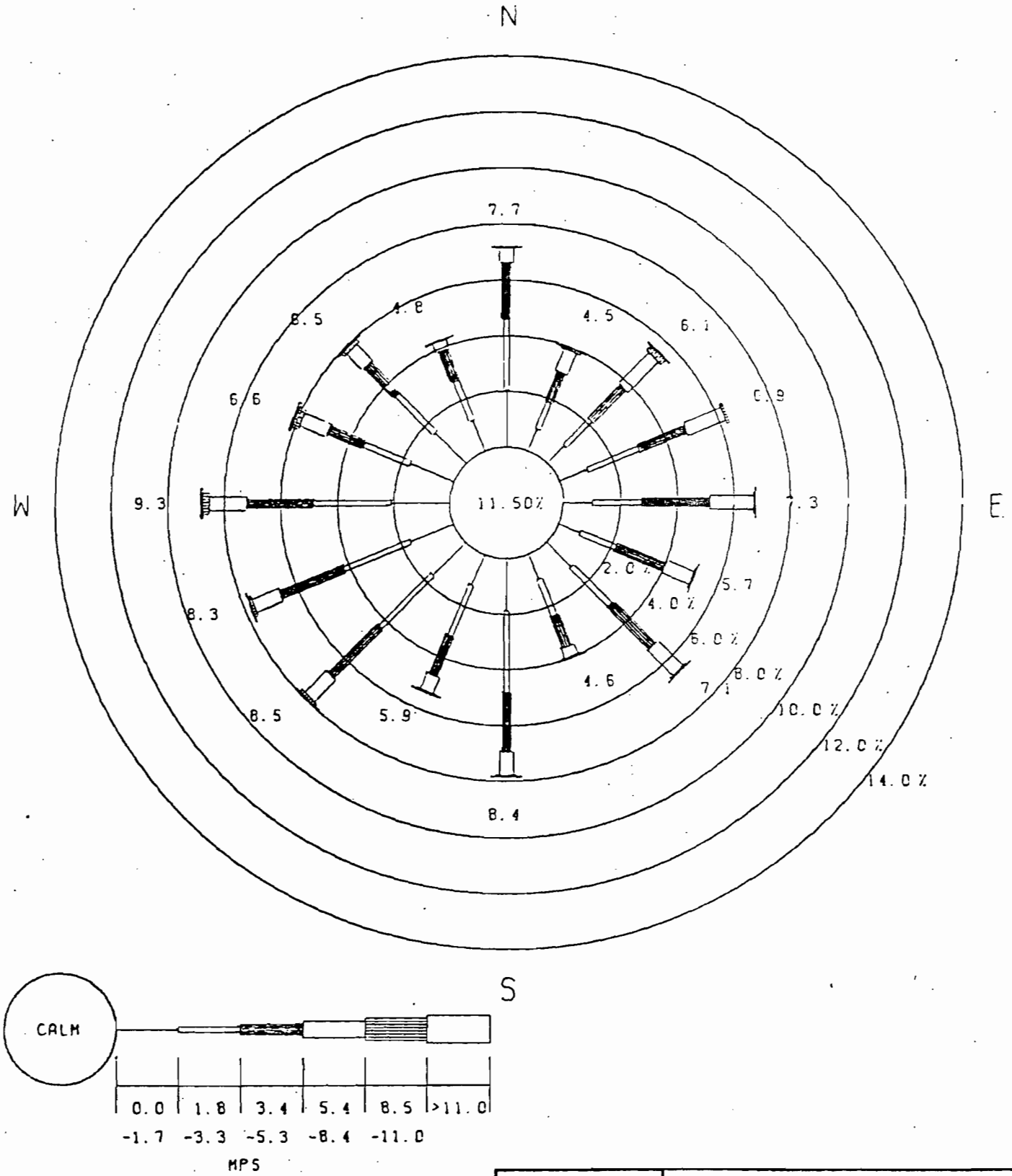
In accordance with the American Conference of Government Industrial Hygienist recommendation of stack height, as shown on Figure 6-23 of their Manual of Recommended Practice, a good height of discharge stack should be 1.3 to 2.0 times the building height. Due to support considerations and close proximity of access drives that prohibited guying, the stack is at the lower end of this height range. In order to reduce pressure drop and acquire maximum dispersion, a vertical discharge stackhead in lieu of a weather cap as shown on Figure 6-22 and Figure 6-24 of the above referenced manual, was utilized.

Method of Analysis

Meteorological data from Jacksonville, Florida airport for 1970 through 1974 was used to define the local meteorological conditions. Figure 1 shows an annual wind rose a diagram indicating the frequency and strengths of winds in a definite locality for this period. The uniform wind distribution and the large frequency of calm winds suggest a uniform distribution of the fumes from the cleaning and plating facility. Micrometeorological conditions associated with the land/sea interactions could significantly modify this wind rose. In order to fully assess the impact of the cleaning and plating facility, a dispersion modeling study using a combination of wind directions and meteorological diffusion conditions was performed.

Diffusion formulas are fairly accurate for flows over level uniform ground. However, flows near buildings contain curved stream lines, sharp velocity, discontinuities, and highly nonliomogeneous turbulence. Extensive research has been performed recently using wind tunnels and field studies. These studies have resulted in an algarithom used in a U.S. Environmental Protection Agency dispersion model known as the Industrial Source Complex (ISC) model. The ISC model programs account for the effects of building wakes by modifying horizontal and vertical dispersion parameters. Due to the uncertainty of dispersion in the cavity region downwind of the building, this program's reliability is limited to a distance exceeding three times the building's height.

To determine the maximum instantaneous concentrations that may be expected to occur in this cavity region, the guidelines of "Diffusion Estimation for Small Emissions" by Gary A. Briggs of Air Resources Atmospheric Turbulence and



CALMS DISTRIBUTED
IN THE FIRST WIND SPEED CLASS

Figure 1. Wind Rose
USNARF-80801 1004
JACKSONVILLE, FLORIDA
1970-1974

Diffusion Laboratory, NDAA, Oak Ridge, Tennessee, were used. The ISC model output was utilized to determine the atmospheric conditions that results in the highest level of ground concentrations. With this, the above referenced guidelines provide a means of calculating the plume height and the location and resulting concentrations of the plume falling to ground level.

Dispersion Model Inputs

Careful review of the annual wind rose from Jacksonville Airport showed a large frequency of calm winds and an almost uniform wind direction frequency distribution. Twenty-two combinations of wind speeds and stability classes (a measure of the atmosphere's dispersion capability) were defined for 36 different wind directions. This "worst case" meteorological data combinations accounted for 792 hours. The Industrial Source Complex (ISC) model used these 792 hours to calculate a one-hour pollutant concentration. The ISC model requires building dimensions, stack height emission parameters, and a receptor coordinate grid system to predict hourly concentrations. A polar coordinate grid system center at the center of the cleaning and plating facility was used for receptor and source location with north being 0 and south 180. Table 1 lists ISC source data input for the six stacks. The emission rate was normalized to a 100 gram per second level. Based on the wet scrubbers acting as evaporative coolers, stack temperature was assumed to be equal to ambient wet-bulb temperature which was set at 70 degrees Fahrenheit (298 degrees K). By normalizing to 100 grams per second with six stacks, any emissions could be divided by this normalized 600 grams per second (100 grams per second x six stacks = 600 grams per second) emission and multiplied by our resulting dispersion. This would allow a method of determining the various emissions of different element at our receptor location.

A total of 360 receptor locations were used to calculate hourly concentrated based on our normalized 100 grams per second per stack. A polar coordinate system using ten ring distances varying from 30 to 267 meters (100 to 875 feet) downwind for 36 directions (one every 10 degrees) was used. Some of the source

*** USNARF PLATING AND CLEANING FACILITY 80-801-1-004 ***

*** SOURCE DATA ***

SOURCE NUMBER	TYPE	WAKE	NUMBER PART. CATS.	EMISSION RATE TYPE=0,1 (GRAMS/SEC) TYPE=2 (GRAMS/SEC) *PER METER**2	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	HEIGHT (METERS)	TEMP. TYPE=0 (DEG.K); VERT.DIM TYPE=1 (METERS)	EXIT VEL. TYPE=0 (M/SEC); HORZ.DIM TYPE=1,2 (METERS)	DIAMETER TYPE=0 (METERS)	BLDG. HEIGHT TYPE=0 (METERS)	BLDG. LENGTH TYPE=0 (METERS)	BLDG. WIDTH TYPE=0 (METERS)
111	0	1	0	.10000E+03	-61.0	13.0	6.4	14.00	298.00	16.00	1.17	10.70	121.90	60.76
221	0	1	0	.10000E+03	-61.0	30.5	6.4	13.70	298.00	15.40	1.17	11.00	121.90	60.76
331	0	1	0	.10000E+03	60.9	18.3	6.4	13.40	298.00	14.10	1.12	11.60	121.90	60.76
441	0	1	0	.10000E+03	60.9	9.2	6.4	14.60	298.00	13.00	1.07	11.60	121.90	60.76
551	0	1	0	.10000E+03	60.9	-6.0	6.4	14.60	298.00	13.20	1.42	11.60	121.90	60.76
661	0	1	0	.10000E+03	60.9	-21.2	6.4	14.60	298.00	15.10	1.42	10.40	121.90	60.76

Source No. 111 --- Stack S-1 Chem. Clean Sys. #1
221 --- Stack S-2 Chem. Clean Sys. #2
331 --- Stack S-3 Chrome Sys. #3
441 --- Stack S-4 Continuous Acid #4
551 --- Stack S-5 Cyanide System #5
661 --- Stack S-6 Acid System #6

Table 1. Normalized input for Industrial Source Complex Model

receptor distances were closer than the three building heights and were discarded in the ISC computer model calculations. This area was accounted for in manual calculations based on the guidelines of Diffusion Estimation for Small Emissions.

Results

Table 2 shows the highest one-hour ground-level concentrations beyond the aerodynamic "cavity" that forms in the lee of the building for 100 grams per second normalized emission rates for each of the six stacks, for 36 direction and 10 receptor rings. This includes the areas to the north and west where the barracks are located. The concentration is in micrograms per cubic meter. The maximum values occurred north northeast of the facility approximately 100 to 120 meters (328 to 394 feet) from the northwest corner of the building. This is near the east side of Barrack A, the eastern most north barracks. A secondary maximum occurs southeast of the facility about 120 meters (394 feet). This is in the open area to the south of the facility.

As a point of reference, the ICS program indicates that at an emission rate of 600 gm/sec, the maximum level of concentration is 0.000053822 gm/m^3. Since our maximum expected average rate of emission for any one product is less than 0.0003 gm/sec, the concentration would be in the order of less than 0.00000000003 gm/m^3 ($3x10^{-11}$). This range corresponds to Level 1 as shown on Figure 2. Level 2 is 80 percent of Level 1 and Level 3 is 60 percent of Level 1. The unmarked zones are less than 60 percent of Level 1.

As might have been expected, the calculations based on the Diffusion Estimation for Small Emissions indicates that the instantaneous ground-level concentrations resulting from a downdraft condition near the facility will be greater than for those at a greater distance as experienced at the barracks. For comparison, the calculations indicate that at an emission rate of 100 gm/sec, the maximum level of concentration is 0.107 gm/m^3. Based on the above referenced emission of

HIGH
1-HR
SGROUPH 1

*** USNARF PLATING AND CLEANING FACILITY 80-801-1-004 ***

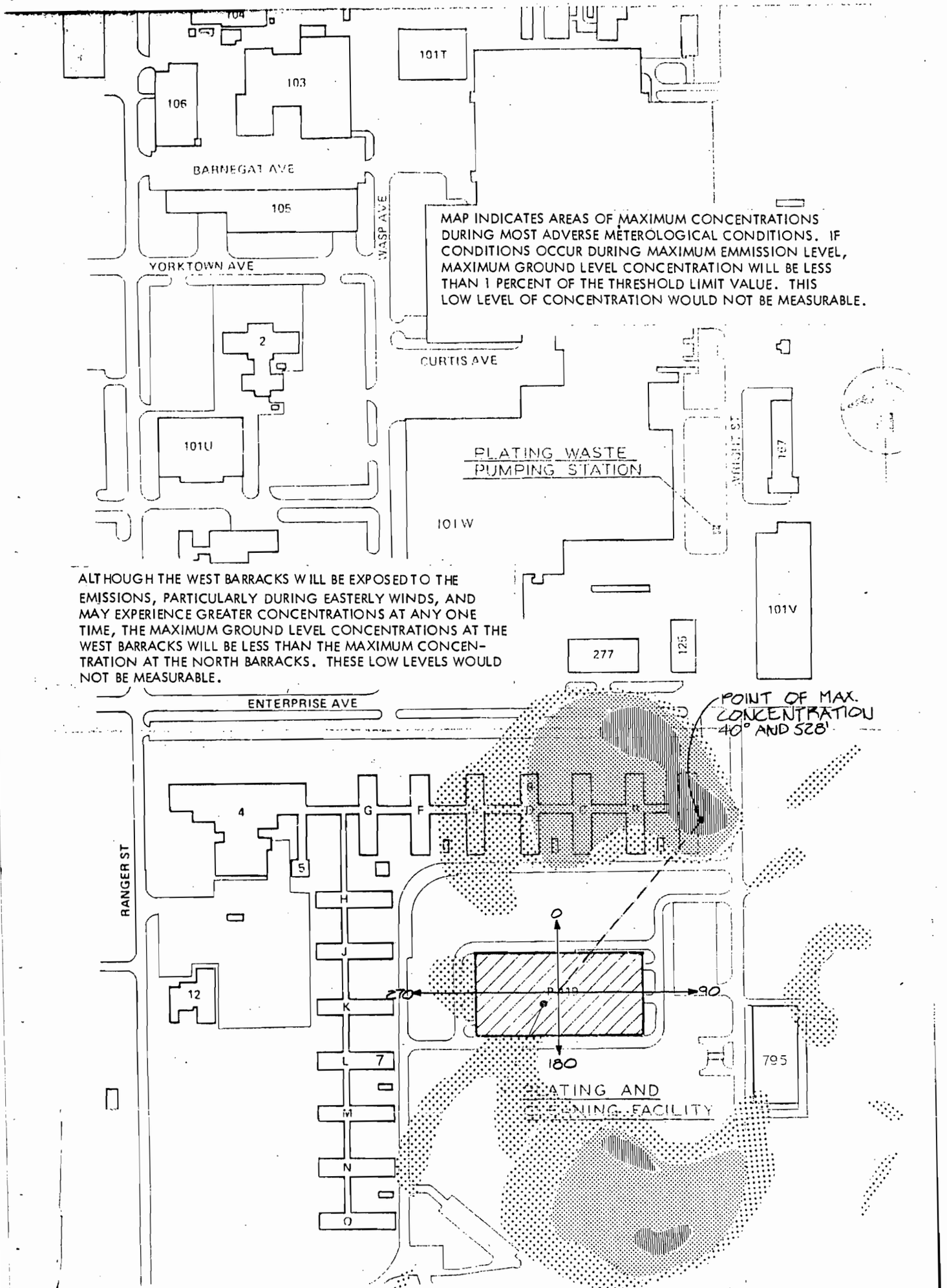
* HIGHEST 1-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM ALL SOURCES *
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 53822.98680 AND OCCURRED AT (161.0, 40.0) *

DIRECTION / (DEGREES) /	RANGE (METERS) 161.0	187.0	214.0	240.5	267.0
350.0 /	39775.19190 (1,22)	30785.57540 (1,22)	17683.69630 (1, 8)	19370.78660 (1,12)	23230.82490 (1,18)
340.0 /	36168.68120 (1,22)	25150.48240 (1,22)	18258.56860 (1,12)	21732.84600 (1,12)	26313.10110 (1,22)
330.0 /	31806.10550 (1,22)	18411.35720 (1, 8)	21747.05980 (1,12)	25084.90820 (1,18)	29175.25780 (1,22)
320.0 /	19211.56810 (1, 8)	22200.46260 (1,12)	24996.67900 (1,18)	27927.32130 (1,22)	28598.53420 (1,22)
310.0 /	22832.97360 (1,12)	24974.42630 (1,18)	27586.66110 (1,22)	27040.09770 (1,22)	23445.27950 (1,22)
300.0 /	26379.73390 (1,22)	27704.08430 (1,22)	24483.05620 (1,22)	22206.82980 (1, 8)	21959.56150 (1, 8)
290.0 /	25326.05620 (1,22)	25662.94260 (1,12)	27097.53080 (1,12)	27772.14140 (1,12)	27953.72020 (1,12)
280.0 /	18223.07100 (1, 8)	28161.90940 (1,22)	28534.23710 (1,12)	29069.34400 (1,12)	29193.52370 (1,12)
270.0 /	23377.59620 (1,12)	25406.33810 (1,12)	26197.57930 (1,12)	26646.18800 (1,12)	26824.89210 (1,12)
260.0 /	27101.44870 (1,22)	26389.24070 (1,22)	25717.17140 (1,22)	25141.64380 (1,22)	24674.61060 (1,22)
250.0 /	19456.05570 (1,22)	19307.98100 (1,22)	19115.11960 (1,22)	18912.15750 (1,22)	18773.04490 (1, 7)
240.0 /	20143.65360 (1,12)	18534.22630 (1,12)	16653.46140 (1,12)	16454.55640 (1, 4)	16846.77440 (1, 4)
230.0 /	24870.11130 (1,18)	23261.42800 (1,18)	21311.97460 (1,12)	19447.95750 (1,12)	17464.40260 (1,12)
220.0 /	30163.64840 (1,22)	29875.35820 (1,22)	27464.39140 (1,22)	24504.01640 (1,22)	22351.01150 (1,18)
210.0 /	18038.06570 (1,12)	24780.68510 (1,22)	29934.16310 (1,22)	30895.80660 (1,22)	29290.20950 (1,22)
200.0 /	22616.71020 (1,12)	22172.03250 (1,22)	20654.80400 (1,18)	27610.43770 (1,22)	31839.47610 (1,22)
190.0 /	33006.25490 (1,22)	22013.06370 (1,12)	16881.46950 (1, 8)	20507.40380 (1,12)	26757.01830 (1,22)
180.0 /	45952.73490 (1,22)	30084.10140 (1,22)	18705.93730 (1, 8)	18115.23410 (1,12)	22240.78050 (1,18)
170.0 /	45517.89840 (1,22)	43654.12210 (1,22)	21700.46630 (1,12)	17331.51710 (1, 8)	21082.59960 (1,12)
160.0 /	39443.36870 (1,22)	51241.19580 (1,22)	22934.46440 (1,12)	17877.11550 (1, 8)	21603.82250 (1,12)
150.0 /	41545.28130 (1,22)	48593.78080 (1,22)	21933.83840 (1,12)	19183.62260 (1, 8)	23688.70680 (1,18)
140.0 /	43201.56840 (1,22)	40131.65160 (1,22)	18997.54610 (1, 8)	22233.91550 (1,12)	27265.18580 (1,22)
130.0 /	39711.66500 (1,22)	30234.61210 (1,22)	21475.45650 (1, 8)	25580.08420 (1,18)	27683.18800 (1,22)
120.0 /	40799.44630 (1,22)	21030.75070 (1, 8)	24180.16110 (1,12)	27556.14040 (1,22)	30436.41330 (1,22)
110.0 /	26573.61230 (1,22)	24035.92360 (1,22)	28242.07860 (1,22)	30526.68460 (1,22)	25682.51810 (1,22)
100.0 /	24580.57910 (1,22)	33010.03960 (1,22)	28871.65870 (1,22)	27135.27200 (1,12)	27983.67310 (1,12)
90.0 /	33283.17190 (1,22)	25607.83250 (1, 8)	27616.21800 (1, 8)	28962.42600 (1,12)	29629.86300 (1,12)
80.0 /	14433.89400 (1,22)	30895.05890 (1,22)	30133.77610 (1,22)	29521.71730 (1,22)	29019.17040 (1,22)
70.0 /	16192.07970 (1,19)	19715.45850 (1,22)	21227.03470 (1, 8)	21742.79490 (1, 8)	21978.04640 (1, 8)
60.0 /	33150.61040 (1,22)	32910.79640 (1,22)	26700.19510 (1,18)	24019.00880 (1,12)	21787.89700 (1,12)
50.0 /	14320.26260 (1, 9)	27842.95310 (1,22)	37040.46680 (1,22)	34964.04980 (1,22)	30118.06590 (1,22)
40.0 /	53822.98680 (1,22)	26890.11500 (1,18)	18324.91750 (1, 8)	15496.98240 (1, 2)	15171.62560 (1, 2)
30.0 /	53531.84280 (1,22)	42958.80960 (1,22)	20864.15720 (1, 8)	21530.95140 (1,12)	28555.50560 (1,22)
20.0 /	39581.34180 (1,22)	53284.17530 (1,22)	23419.26590 (1,12)	18593.80100 (1, 8)	22824.17900 (1,18)
10.0 /	38254.45850 (1,22)	50284.18650 (1,22)	23316.71000 (1,12)	17730.40430 (1, 8)	21485.51120 (1,12)
360.0 /	40490.77780 (1,22)	41366.96830 (1,22)	21084.85080 (1,12)	17620.48970 (1, 8)	21507.81490 (1,12)

Table 2. Highest Concentration level based on normalized input

BEST AVAILABLE COPY



MAP INDICATES AREAS OF MAXIMUM CONCENTRATIONS DURING MOST ADVERSE METEROLOGICAL CONDITIONS. IF CONDITIONS OCCUR DURING MAXIMUM EMMISSION LEVEL, MAXIMUM GROUND LEVEL CONCENTRATION WILL BE LESS THAN 1 PERCENT OF THE THRESHOLD LIMIT VALUE. THIS LOW LEVEL OF CONCENTRATION WOULD NOT BE MEASURABLE.

ALTHOUGH THE WEST BARRACKS WILL BE EXPOSED TO THE EMISSIONS, PARTICULARLY DURING EASTERLY WINDS, AND MAY EXPERIENCE GREATER CONCENTRATIONS AT ANY ONE TIME, THE MAXIMUM GROUND LEVEL CONCENTRATIONS AT THE WEST BARRACKS WILL BE LESS THAN THE MAXIMUM CONCENTRATION AT THE NORTH BARRACKS. THESE LOW LEVELS WOULD NOT BE MEASURABLE.

CONCENTRATION LEVELS

LEVEL 1

LEVEL 2 (80% OF LEVEL 1)

LEVEL 3 (60% OF LEVEL 1)

FIGURE 2-AREAS OF CONCENTRATION

LOCATION MAP

0 100 200 1:2000 METERS

200' 0' 200' 400'

GRAPHIC SCALE 1" = 200'

ALL OTHERS LESS THAN 60% OF LEVEL 1

0.0003 gm/sec, the instantaneous concentration would be in the order of 0.0000003 gm/m^3 ($3x10^{-7}$). This ground-level concentration would occur approximately 20 meters (65 feet) from the stack at the most severe downdraft conditions.

Analysis of Results

The hazard potential of the excaping fumes is designated A, B, C or D (A is the most hazardous), and depends on the maximum permissible contaminant concentration in the breathing area. This Threshold Limit Value (TLV) must not be exceeded at any location.

By using the normalized emissions and the known quantity of chemicals available for discharge, a maximum concentration for each of the Class A hazards and cyanide was calculated for average emission rates at the location of highest concentration, Barrack A, the eastern most north barrack. These are presented in Table 3. To preclude the possibility that the total emission concentrations were the result of one source rather than all six stacks, Table 4 was calculated for the same location using the concentrations as if they resulted from only one stack. These tables cover all areas beyond the building cavity, including where the barracks are located.

Table 5 is a calculation of the maximum instantaneous concentration that can occur inside the building cavity during downdraft conditions based on average emission rates.

When two or more hazardous substances are present, their combined effect, rather than that of either individually, should be given primary consideration. In the absence of information to the contrary, the effects of the different hazards should be considered as additive. This is the last column on Table 3 and Table 4.

Emission	Maximum Concentration* (mg/m^3)	TLV (mg/m^3)	Concentration as % of TLV
Chromic Acid CrO_3	0.0000000258	0.05	0.0000516%
HydroChloric Acid HCl	0.00000001	7.0	0.0000001428%
Nitric Acid HNO_3	0.00000001188	5.0	0.0000002376%
Sulfuric Acid H_2SO_4	0.000000014	1.0	0.0000014%
Cyanide CN	0.0000000226	5.0 (Skin)	0.000000452%
		TOTAL	0.0000538324

*Concentrations occur at the eastern most of the north barracks, Barrack A

Table 3. Maximum Concentration Based on Concentrations Resulting From Equal Distribution of All Six Stacks During Average Emission Rates

Emission	Maximum Concentration* (mg/m^3)	TLV (mg/m^3)	Concentration as % of TLV
Chromic Acid CrO_3	0.0000001548	0.05	0.0003096%
HydroChloric Acid HCl	0.00000006	7.0	0.0000008568%
Nitric Acid HNO_3	0.00000007128	5.0	0.0000014256%
Sulfuric Acid H_2SO_4	0.000000084	1.0	0.0000084%
Cyanide CN	0.0000001356	5.0 (Skin)	0.00000271%
		TOTAL	0.0003229944%

*Concentrations occur at the eastern most of the north barracks, Barrack A

Table 4. Maximum Concentrations Based on Total Concentration Resulting From One Stack During Average Emission Rates

Emission	Maximum Concentration* (mg/m3)	TLV (mg/m3)	Concentration as % of TLV
Chromic Acid CrO_3	0.00031	0.05	0.62
HydroChloric Acid HCl	0.00012	7.0	0.0017
Nitric Acid HNO_3	0.00014	5.0	0.0028
Sulfuric Acid H_2SO_4	0.00017	1.0	0.017
Cyanide CN	0.00027	5.0 (Skin)	0.0054

*Concentrations occur where stack plum reaches the ground during severe downdraft conditions. (Approximately 65 feet from stack)

Table 5. Maximum Concentrations In The Building Cavity During Average Emission Rates

Since Table 5 represents the instantaneous concentrations where the individual stack plume hits the ground, only the emission from one stack will occur at this location. Therefore, the effects of the substances are not additive.

The maximum concentrations for a "worst-case" condition at the barracks, as shown in Table 4, will occur at Barracks A, the eastern most of the north barracks. Based on average emission rates, the expected concentration will be in the order of 3/10,000 of 1 percent of the Threshold Limit Value (TLV). The maximum ground-level concentration will occur in the Plating and Cleaning Facility "cavity" during severe downdraft conditions. This may result in concentrations around 2/3 of 1 percent of the TLV.

All the above calculations were based on average emissions; that is the total amounts of chemicals potentially released to the atmosphere over a period of one year divided by the number of hours in one year. To address the situation that could occur if the "worst-case" meteorological conditions correspond with the highest emission levels, Tables 6, 7, and 8 were generated. These are the ground-level concentrations that can potentially occur at these same locations if maximum, rather than average, emission rates and adverse meteorological conditions exist simulanteously.

Based on these maximum emission levels, the expected concentration at Barrack A will be in the order of less than 1/100 of 1 percent of the Threshold Limit Value. Under these conditions, the instantaneous ground-level concentrations may approach 15 percent of the TLV.

Emission	Maximum Concentration* (mg/m^3)	TLV (mg/m^3)	Concentration as % of TLV
Chromic Acid CrO_3	0.000000565	0.05	0.0011300%
HydroChloric Acid HCl	0.000000219	7.0	0.0000031%
Nitric Acid HNO_3	0.000000260	5.0	0.0000052%
Sulfuric Acid H_2SO_4	0.000000319	1.0	0.0000319%
Cyanide CN	0.000000495	5.0 (Skin)	0.0000099%
		TOTAL	0.0011801

*Concentrations occur at the eastern most of the north barracks, Barrack A

Table 6. Maximum Concentration Based on Concentrations Resulting From Equal Distribution of All Six Stacks During Maximum Emission Rates

Emission	Maximum Concentration* (mg/m^3)	TLV (mg/m^3)	Concentration of % of TLV
Chromic Acid CrO_3	0.00000339	0.05	0.006780%
HydroChloric Acid HCl	0.00000131	7.0	0.000019%
Nitric Acid HNO_3	0.00000156	5.0	0.000031%
Sulfuric Acid H_2SO_4	0.00000191	1.0	0.000191%
Cyanide CN	0.00000297	5.0 (Skin)	0.000059%
		TOTAL	0.00708%

*Concentrations occur at the eastern most of the north barracks, Barracks A

Table 7. Maximum Concentrations Based on Total Concentration Resulting From One Stack During Maximum Emission Rates

Emission	Maximum Concentration* (mg/m^3)	TLV (mg/m^3)	Concentration as & of TLV
Chromic Acid CrO_3	0.00674	0.05	13.480
HydroChloric Acid HCl	0.00244	7.0	0.035
Nitric Acid HNO_3	0.00310	5.0	0.062
Sulfuric Acid H_2SO_4	0.00381	1.0	0.381
Cyanide CN	0.00591	5.0 (Skin)	0.118

*Concentrations occur where stack plum reaches the ground during severe downdraft conditions. (Approximately 65 feet from stack)

Table 8. Maximum Concentrations In The Building Cavity During Maximum Emission Rates

Next, to determine the impact of the pollution abatement equipment, the concentrations at the same locations were calculated assuming no scrubbers or demisters were used. These results are shown in Tables 9, 10 and 11. While the highest concentrations at the barracks will be less than 1 percent of the TLV, the instaneous ground-level concentrations near the Plating and Cleaning Facility may approach 13.5 times the TLV for chrome and 25 percent of the TLV for other emissions.

* * * * *

Emission	Maximum Concentration* (mg/m^3)	TLV (mg/m^3)	Concentration as % of TLV
Chromic Acid CrO_3	0.0000565	0.05	0.11300%
HydroChloric Acid HCl	0.0000109	7.0	0.000161%
Nitric Acid HNO_3	0.0000130	5.0	0.00026%
Sulfuric Acid H_2SO_4	0.0000160	1.0	0.00160%
Cyanide CN	0.0000248	5.0 (Skin)	0.00050%
		TOTAL	0.11552%

*Concentrations occur at the eastern most of the north barracks, Barrack A

Table 9. Maximum Concentration Based on Concentrations Resulting From Equal Distribution of All Six Stacks During Maximum Emission Rates Without Pollution Abatement

Emission	Maximum Concentration* (mg/m^3)	TLV (mg/m^3)	Concentration as % of TLV
Chromic Acid CrO_3	0.000339	0.05	0.6780%
HydroChloric Acid HCl	0.000065	7.0	0.0093%
Nitric Acid HNO_3	0.000078	5.0	0.0016%
Sulfuric Acid H_2SO_4	0.000096	1.0	0.0096%
Cyanide CN	0.000149	5.0 (Skin)	0.0030%
		TOTAL	0.7015%

*Concentrations occur at the eastern most of the north barracks, Barracks A

Table 10. Maximum Concentrations Based on Total Concentration Resulting From One Stack During Maximum Emission Rates Without Pollution Abatement

Emission	Maximum Concentration* (mg/m^3)	TLV (mg/m^3)	Concentration as % of TLV
Chromic Acid CrO_3	0.674	0.05	1348.0%
HydroChloric Acid HCl	0.120	7.0	1.7%
Nitric Acid HNO_3	0.155	5.0	3.1%
Sulfuric Acid H_2SO_4	0.190	1.0	19.0%
Cyanide CN	0.295	5.0 (Skin)	5.9%

*Concentrations occur where stack plum reaches the ground during severe downdraft conditions. (Approximately 65 feet from stack)

Table 11. Maximum Concentrations In The Building Cavity During Maximum Emission Rates Without Pollution Abatement

As shown in Table 1, the stack emissions were normalized to 100 grams/sec for each of the six stacks. The highest 1-hour average concentration resulting from this 600 gram/sec emission is shown in Table 2, given in micrograms/meter^3.

Obviously, emmissions can not be greater than the chemical usage. The total usage for the cleaning chemicals were assumed to go up the stack.

By numbers provided by NARF

HCL .71 gal/wk
= 7.45 lb/wk

$$7.45\ \text{lb/wk} \times 52\ \text{wk/yr} \times \frac{1\ \text{yr}}{8760\ \text{hr}} \times \frac{1\ \text{hr}}{3600\ \text{sec}} = 1.23 \times 10^{-5}\ \text{lb/sec}$$
$$= 5.58 \times 10^{-3}\ \text{gm/sec}$$

5.58×10^{-3} gm/sec of HCL will enter ventilation system
Scrubber will remove 98%
$5.58 \times 10^{-3} \times .02 = 1.12 \times 10^{-4}$ gm/sec will be emitted

Our normalized program indicates 600 gm/sec will result in a worst case of 53822×10^{-9} gm/m^3 concentration

Therefore, our HCL worst case will be

$$\frac{1.12 \times 10^{-4}\ gm/sec}{600\ gm/sec} \times 53822 \times 10^{-6}\ gm/m^3$$

★ $= 1.0 \times 10^{-8}\ gm/m^3$ (Table 3)

HCL is approximately 1,265,000 gm/m^3
or 1 ppm = 1.265 gm/m^3

$\therefore$ HCL concentration $\simeq 8 \times 10^{-12}$ ppm

Based on our calculations that were part of our March 29, 1982 letter, 2000 lb of CrO_3 per year is carried in the ventilation system (see attached sheet)

$$2000\ lb/yr \times 454\ gm/lb \times \frac{1\ yr}{8760\ hr} \times \frac{1\ hr}{3600\ sec} = 2.88 \times 10^{-2}\ gm/sec$$

Scrubber, etc will remove 99%

$2.88 \times 10^{-2} \times .01 = 2.88 \times 10^{-4}$ gm/sec will be emitted

Our normalized program indicates 600 gm/sec will result in a worst case of 53822×10^{-9} gm/m³ concentration

Therefore, our CrO_3 worst case will be

$$\frac{2.88 \times 10^{-4}\ gm/sec}{600\ gm/sec} \times 53822 \times 10^{-9}$$

☆ $= 2.58 \times 10^{-11}$ gm/m³ (Table 3)

CrO_3 is approximately 2,695,000 gm/m³
or 1 ppm = 2.695 gm/m³

∴ CrO_3 concentration ≃ 9.58×10^{-12} ppm

(Calculation from March 29, 1982 letter)

Chrome plating is approximately 15% efficient. The 85% inefficiency results in water being broken down into hydrogen and oxygen. As these gases escape, they carry out a chromic acid mist. This results in approximately 50% of the chrome being carried away in the ventilation system. 40% of the chrome will actually be plated and about 10% will end up in the rinse tank as drag-out.

Annual Chrome Usage

4,000 lbs × .40 plated = 1,600 lbs plated
4,000 lbs × .50 vent. loss = 2,000 lbs lost in ventilation
4,000 lbs × .10 drag-out = 400 lbs drag out

Of the 2,000 lbs of chrome carried in the ventilation Ductwork, 90% will be recovered by the mist eliminator and virtually all the remaining 10% will be captured by the scrubber

2,000 lbs × .90 mist eliminator = 1,800 lbs
2,000 lbs × .10 scrubber = 200 lbs

Nitric Acid numbers were not provided by NARF therefore assumption is that quantity will not be greater than that of HCL since the total number of tanks involved is substantially less than those involving HCL.

HNO_3 .71 gal/wk

s.g. 1.502 = 8.873 lbs./wk

$$8.873 \text{ lbs/wk.} \times \frac{52 \text{ wk}}{\text{yr.}} \times \frac{1 \text{ yr}}{87 \text{ sc/hr}} \times \frac{1 \text{ hr}}{3600 \text{ sec}} = 1.46 \times 10^{-5} \text{ lb/sec}$$
$$= 6.622 \times 10^{-3} \text{ gm/sec}$$

6.622×10^{-3} gm/sec of HNO_3 will enter the ventilation system

scrubber will remove 98%

$6.622 \times 10^{-3} \times .02 = 1.324 \times 10^{-4}$ gm/sec will be emitted

Our normalized program indicates 600 gm/sec will result in a worst case of 53822×10^{-9} gm/m³ concentration

Therefore, our HNO_3 worst case will be

$$\frac{1.324 \times 10^{-4} \text{ gm/sec}}{600 \text{ gm/sec}} \times 53822 \times 10^{-9}$$

★ $= 1.188 \times 10^{-13}$ (Table 3)

HNO_3 is approx. 1496782 gm/m³

or 1 ppm = 1.778 gm/m³

Sulfuric Acid quantities were not provided by NARF, therefore assumption is as with nitric acid that the quantity will not be greater that that of HCL

H_2SO_4 = .71 gal/wk
= 10.856 lbs/wk

$$10.86 \frac{lbs}{wk} \times \frac{52\ wk}{1\ yr} \times \frac{1\ yr}{8750\ Hr} \times \frac{1\ hr}{3600\ sec} = 1.78 \times 10^{-5}\ lb/sec$$
$$= 8.07 \times 10^{-3}\ gm/sec$$

8.07×10^{-3} gm/sec of H_2SO_4 will enter the ventilation system.
Scrubber will remove 98%
$8.07 \times 10^{-3} \times .02 = 1.614 \times 10^{-4}$ gm/sec will be emitted

Our normalized program indicates 600 gm/sec will result in a worst case of 53822×10^{-9} gm/m³ concentration
Therefore, our H_2SO_4 worst case will be

$$\frac{1.614 \times 10^{-4}\ gm/sec}{600\ gm/sec} \times 53822 \times 10^{-9}\ gm/m^3$$

★ $= 1.447 \times 10^{-8}$ (Table 3)

H_2SO_4 is approx. 1832447.5 gm/m³
or 1 ppm = 2.651 gm/m³

Let l_b = lesser of h_b / w_b ⊥ to wind

$h_b = 10.7\,m$

$w_b = 61.0\,m$ $\quad (h_b + 1.5 l_b) = 26.75$

$l_b = 10.7\,m$ $\quad (h_b + 0.5 l_b) = 16.05$

$$h' = h_s + 2(v_s/u - 1.5)D$$

	System	V_s	D	h_s	h_b	h'
$u = 3\,m/s$	1	16.0	1.17	14.0	10.7	23.0
	2	15.4	1.17	13.7	11.0	22.2
	3	14.1	1.12	13.4	11.6	20.6
	4	13.0	1.07	14.6	11.6	20.6
	5	13.2	1.42	14.6	11.6	22.8
	6	15.1	1.42	14.6	10.4	24.6

Outside cavity $(h' > (h_b + 0.5 l_b))$

$$h'' = 2h' - (h_b + 1.5 l_b)$$

	h''
1	19.3
2	17.7
3	14.5
4	14.5
5	18.9
6	22.5

$> l_b/2 = 5.35\,m$

Elevated source

No bouyancy ⟹ ambient temp

98% air

$h = h''$

maximum concentration occurs @ $R_z = h$

$$\chi = \left(\frac{R_z}{R_y}\right) \frac{Q}{4uh^2}$$

$R_z / R_y = 0.6$ to 0.9

$$\chi = 0.9 \frac{100 g/s}{4(1 m/s)\,14.5 m^2} = 0.107 \, g/m^3$$

$$\frac{0.107 \, g/m^3}{100 g/s} = \frac{\chi}{Q} = \frac{.00107 \, g/m^3}{1 \, g/s}$$

per stack

When does $h' < (h_b + 0.5 l_b) = 16.05$

$u = 20 v_s$

$h' - h_s + 1.5$

System	h_s	u_c
1	14.0	10.6
2	13.7	9.4
3	13.4	7.6
4	14.6	9.5
5	14.6	12.8
6	14.6	14.6

critical windspeed source coundwel ground level

By numbers provided by NARF

NaCN = 25.5 lb/wk
KCN = 7.9 lb/wk
CuCN = .25 lb/wk
AgCN = .42 lb/wk

Total Cyanide used

NaCN
(23)(12)(14) = 49
% cyanide $\frac{12+14}{49}$ = 53%

KCN
(39)(12)(14) = 65
% cyanide = $\frac{12+14}{65}$ = 40%

CuCN
(63.5)(12)(14) = 89.5
% cyanide = $\frac{12+14}{89.5}$ = 29%

AgCN
(108)(12)(14) = 134
% cyanide = 19%

Total weekly cyanide

25.5 lb/wk NaCN × .53 + 7.9 lb/wk KCN × .40
+ .25 lb/wk CuCN × .29 + .42 lb/wk AgCN × .19
= 16.83 lb/wk

$$16.83\ \text{lb/wk} \times 52\ \text{wk/yr} \times \frac{1\ \text{yr}}{8760\ \text{hr}} \times \frac{1\ \text{hr}}{3600\ \text{sec}} = 2.775 \times 10^{-5}\ \text{lb/sec}$$
$$= 1.26 \times 10^{-2}\ \text{gm/sec}$$

1.26×10^{-2} gm/sec of CN will enter ventilation system
Scrubber will remove 98%
$1.26 \times 10^{-2} \times .02 = 2.52 \times 10^{-4}$ gm/sec will be emitted

Our normalized program indicates 600 gm/sec will result in a worst case of 53822×10^{-9} gm/m³.

Therefore, our CN worst case will be

$$\frac{2.52 \times 10^{-4}\ \text{gm/sec}}{600\ \text{gm/sec}} \times 53822 \times 10^{-9}\ \text{gm/m}^3$$

☆ $= 2.26 \times 10^{-8}$ gm/m³ (Table 3)

For every 1 gm/sec emission the maximum ground concentration is .00107 gm/m³ with controls

Chromic Acid - CrO_3

$$2.88 \times 10^{-4}\ gm/sec \times \frac{.00107\ gm/m^3}{1\ gm/sec} = 3.1 \times 10^{-7}\ gm/m^3$$

HydroChloric Acid - HCl

$$1.12 \times 10^{-4}\ gm/sec \times \frac{.00107\ gm/m^3}{1\ gm/sec} = 1.2 \times 10^{-7}\ gm/m^3$$

Nitric Acid - HNO_3

$$1.324 \times 10^{-4}\ gm/sec \times \frac{.00107\ gm/m^3}{1\ gm/sec} = 1.4 \times 10^{-7}\ gm/m^3$$

Sulfuric Acid - H_2SO_4

$$1.614 \times 10^{-4}\ gm/sec \times \frac{.00107\ gm/m^3}{1\ gm/sec} = 1.7 \times 10^{-7}\ gm/m^3$$

Cyanide - as CN

$$2.52 \times 10^{-4}\ gm/sec \times \frac{.00107\ gm/m^3}{1\ gm/sec} = 2.7 \times 10^{-7}\ gm/m^3$$

In calculating the average emission rates, the total available quantities were divided by the total hours in a year. To estimate the maximum hourly emission rate, assume the total quantities are emitted during 50 40 hour work weeks with the maximum rate being 5 times the average

This is then calculated by:

$$\frac{\text{Annual quantity}}{40\ \text{hr/wk} \times 50\ \text{wk/yr}} \times 5\ (\text{maximum rate factor})$$

Chromic Acid - CrO_3

$$\frac{2000\ \text{lb}}{40 \times 50} \times 5 \times \frac{1\ \text{hr}}{3600\ \text{sec}} = .0014\ \text{lb/sec}$$

$$= .63\ \text{gm/sec}$$

Scrubber, etc will remove 99%

$$.63 \times .01 = .0063\ \text{gm/sec}$$

Our normalized program indicates 600 gm/sec will result in a worst case of 53822×10^{-9} gm/m³ concentration at Barracks A

Therefore, the CrO_3 worst case will be

$$\frac{.0063\ \text{gm/sec}}{600\ \text{gm/sec}} \times 53822 \times 10^{\cancel{-9}\ -6}$$

★ $= 5.65 \times 10^{\cancel{-10}\ -7}$ gm/m³ (Table ~~4~~ 6)

Inside the building cavity, the maximum ground level concentration is .00107 gm/m³ for every 1 gm/sec emission

★ $.0063 \text{ gm/sec} \times \frac{.00107 \text{ gm/m}^3}{1 \text{ gm/sec}} = 6.74 \times 10^{-6} \text{ gm/m}^3$

CrO_3 (Table 8)

Without the pollution abatement equipment, the concentrations will be

Barracks A (CrO_3)

$\frac{.63 \text{ gm/sec}}{600 \text{ gm/sec}} \times 53822 \times 10^{-6}$

★ $= 5.65 \times 10^{-5} \text{ gm/m}^3$ (Table 9)

Inside building cavity (CrO_3)

★ $.63 \text{ gm/sec} \times \frac{.00107 \text{ gm/m}^3}{1 \text{ gm/sec}} = 6.74 \times 10^{-4} \text{ gm/m}^3$

(Table 11)

HydroChloric Acid - HCl

$\frac{7.45 \text{ lb/wk} \times 52 \text{ wk}}{40 \times 50} \times 5 \times \frac{1}{3600 \text{ sec}} = .00027 \text{ lb/sec}$

$= .122 \text{ gm/sec}$

Scrubber will remove 98%

$.122 \times .02 = .00244 \text{ gm/sec}$

Maximum worst case at Barracks A

$$\frac{.00244 \text{ gm/sec}}{600 \text{ gm/sec}} \times 53822 \times 10^{-6}$$

★ $= 2.19 \times 10^{-7}$ gm/m³ HCl (Table 6)

Inside the Building Cavity

★ $.00244 \text{ gm/sec} \times \frac{.00107 \text{ gm/m}^3}{1 \text{ gm/sec}} = 2.61 \times 10^{-6}$ gm/m³
HCl (Table 8)

Without the pollution abatement equipment, the concentrations will be

Barrack A (HCl)

$$\frac{.112 \text{ gm/sec}}{600 \text{ gm/sec}} \times 53822 \times 10^{-6}$$

★ $= 1.09 \times 10^{-5}$ gm/m³ (Table 9)

Inside building cavity

$.112 \text{ gm/sec} \times \frac{.00107 \text{ gm/m}^3}{1 \text{ gm/sec}} = 1.20 \times 10^{-4}$ gm/m³
(Table 11)

Nitric Acid - HNO_3

$$\frac{8.873 \text{ lb/wk} \times 52 \text{ wk}}{40 \times 50} \times 5 \times \frac{1 \text{ hr}}{3600 \text{ sec}} = .00032 \text{ lb/sec}$$

$$= .145 \text{ gm/sec}$$

Scrubber will remove 98%

$$.145 \times .02 = .0029 \text{ gm/sec}$$

Maximum worst case at Barracks A

$$\frac{.0029 \text{ gm/sec}}{600 \text{ gm/sec}} \times 53822 \times 10^{-8}$$

★ $= 2.60 \times 10^{-10}$ gm/m³ HNO_3 (Table 6)

Inside the Building cavity

$$.0029 \text{ gm/sec} \times \frac{.00107 \text{ gm/m}^3}{1 \text{ gm/sec}} =$$

★ 3.10×10^{-6} gm/m³ HNO_3 (Table 8)

Without the pollution abatement equipment, the concentrations will be

Barracks A HNO_3

$$\frac{.145\ gm/sec}{600\ gm/sec} \times 53822 \times 10^{-6}$$

$$= 1.30 \times 10^{-5}\ gm/m^3 \quad HNO_3 \quad (Table\ 9)$$

Inside the Building cavity

$$.145\ gm/sec \times \frac{.00107\ gm/m^3}{1\ gm/sec}$$

$$= 1.55 \times 10^{-4}\ gm/m^3 \quad HNO_3 \quad (Table\ 11)$$

Sulfuric Acid - H_2SO_4

$$\frac{10.856 \text{ lb/wk} \times 52 \text{ wk}}{40 \times 50} \times 5 \times \frac{1 \text{ hr}}{3600 \text{ sec}} = .000392 \text{ lb/sec}$$

$$= .178 \text{ gm/sec}$$

Scrubber will remove 98%

$.178 \times .02 = .00356$ gm/sec

Maximum worst case at Barracks A

$$\frac{.00356 \text{ gm/sec}}{600 \text{ gm/sec}} \times 53822 \times 10^{-6}$$

☆ $= 3.19 \times 10^{-7}$ gm/m³ H_2SO_4 (Table 6)

Inside the Building cavity

$$.00356 \text{ gm/sec} \times \frac{.00107 \text{ gm/m}^3}{1 \text{ gm/sec}} =$$

☆ 3.81×10^{-6} gm/m³ H_2SO_4 (Table 8)

Without the pollution abatement equipment, the concentrations will be

Barracks A CN

$$\frac{.276 \text{ gm/sec}}{600 \text{ gm/sec}} \times 53822 \times 10^{-6}$$

★ $= 2.48 \times 10^{-5}$ gm/m³ CN (Table 9)

Inside the Building cavity

$$.276 \text{ gm/sec} \times \frac{.00107 \text{ gm/m}^3}{1 \text{ gm/sec}}$$

★ $= 2.95 \times 10^{-4}$ gm/m³ CN (Table 11)

Without the pollution abatement equipment, the concentrations will be

Barracks A H_2SO_4

$$\frac{.178 \text{ gm/sec}}{600 \text{ gm/sec}} \times 53822 \times \cancel{10^{-9}}\ 10^{-6}$$

★ $= 1.60 \times \cancel{10^{-8}}\ 10^{-5}$ gm/m³ H_2SO_4 (Table 9)

Inside the Building cavity

$$.178 \text{ gm/sec} \times \frac{.00107 \text{ gm/m}^3}{1 \text{ gm/sec}}$$

★ $= 1.90 \times 10^{-4}$ gm/m³ H_2SO_4 (Table 11)

Cyanide - CN

$$\frac{16.83 \text{ lb/wk} \times 52 \text{ wk}}{40 \times 50} \times 5 \times \frac{1 \text{ hr}}{3600 \text{ sec}} = .000608 \text{ lb/sec}$$

$$= .276 \text{ gm/sec}$$

Scrubber will remove 98%

$$.276 \text{ gm/sec} \times .02 = .00552 \text{ gm/sec}$$

Maximum worst case at Barracks A

$$\frac{.00552 \text{ gm/sec}}{600 \text{ gm/sec}} \times 53822 \times 10^{-6}$$

★ $= 4.95 \times 10^{-7}$ gm/m³ CN (Table 6)

Inside the Building cavity

$$.00552 \text{ gm/sec} \times \frac{.00107 \text{ gm/m}^3}{1 \text{ gm/sec}}$$

★ $= 5.91 \times 10^{-6}$ gm/m³ CN (Table 8)

DEPARTMENT OF HEALTH, WELFARE
& BIO-ENVIRONMENTAL SERVICES
Bio-Environmental Services Division
Air and Water Pollution Control

CITY OF JACKSONVILLE, FLORIDA

June 8, 1982

DER
JUN 11 1982
BAQM

Mr. Clair Fancy, Director
Central Air Permitting Section
Department of Environmental Regulation
2600 Blairstone Road
Tallahassee, Florida 32301

Dear Mr. Fancy:

Enclosed are pollution Construction Permit applications and $40 processing fees for a new chrome plating installation and asbestos sleeve installation to be located at the Naval Air Rework Facility (NARF), Naval Air Station, Jacksonville, Florida. These applications are being forwarded to your office for processing according to the guidelines currently available to this Agency.

The following comments are provided:

Asbestos Sleeve Installation Project -

A. Complete stack data is not provided.
B. Specifications on HEPA filter should be provided.
C. Source is subject to Chapter 17-2.670 (National Emission Standards for Hazardous Air Pollutants - Florida Administrative Code).

If this Agency can be of further assistance in this matter, please advise.

Very truly yours,

Jerry E. Woosley
Assistant Engineer

JEW/vj

Enclosures

cc: Mr. Stan Garrison (NARF), without enclosures
cc: Mr. Mike Goldston (Naval Facilities Engineering Command Charleston, S.C.)
cc: Mr. Doug Dutton - DER

DEPARTMENT OF THE NAVY
SOUTHERN DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
2144 MELBOURNE ST., P. O. BOX 10068
CHARLESTON, S. C. 29411
TEL. 803-743-5510

DER

JUN 11 1982

BAQM

PLEASE ADDRESS REPLY TO THE COMMANDING OFFICER, NOT TO THE SIGNER OF THIS LETTER. REFER TO:

Code 1142

2 JUN 1982

RECEIVED
JUN 4 1982
AIR & WATER POLLUTION CONTROL - CITY OF JACKSONVILLE

Mr. Jerry Woosley
Department of Health, Welfare and
Bio-Environmental Control
515 W. 6th Street
Jacksonville, FL 32206

Dear Mr. Woosley:

Pursuant to the Florida Air Pollution Control Act, a construction permit application, plans, specifications and emission calculations for the chrome plating system at the proposed plating and cleaning facility, Naval Air Rework Facility, Jacksonville, FL, are forwarded for your review. The emission control equipment includes two mist eliminators and four fume scrubbers as designated on the enclosed data and calculation sheets. The high efficiency of the pollution control equipment will maintain emissions in compliance with all applicable State of Florida air rules.

The enclosed plans and specifications are sections from the 100% submittals. A final design set of plans and specifications is expected by 1 July 1982. If a copy is required, please let us know.

In our letter of 16 September 1981, abrasive blasting operations in this proposal were identified as possibly requiring construction permits. After review of the latest plans and specifications, it appears that a construction permit will not be required for the abrasive blasting operations as the emissions will be vented through a baghouse type dust collector and vented back into the interior of the building. There will be no point source discharge into the outside ambient air.

As required, the application fee of $20 is forwarded by check payable to the Florida Department of Environmental Regulation. If any additional information is needed, please call Mr. Mike Goldston at the above telephone number. Your cooperation is appreciated.

Very truly yours,

F. M. Newcomb

F. M. NEWCOMB
CAPT, CEC, USN
Commanding Officer

Copy to: (w/o encl)
NARF Jacksonville

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STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

№ 33613

RECEIPT FOR APPLICATION FEES AND MISCELLANEOUS REVENUE

Received from Laurens M. Pitts Date June 4, 1982

Address 6 Sayle Rd., Charleston SC 29407 Dollars $ 20.00

Applicant Name & Address Naval Air Rework Facility, NAS Jacksonville FL 32212

Source of Revenue

Revenue Code 0101 Application Number AC 16-50672

By Patricia B. Adams

MR. OR MRS. LAURENS M. PITTS
6 SAYLE RD 571-6369
CHARLESTON SC 29407

1876

2 June 1982

67-1
532

Pay to the Order of Florida Department of Environmental Regulation $ 20.00

Twenty and 00/100 Dollars

South Carolina National Bank
Charleston, S.C.

For

Laurens M. Pitts

⑆053200019⑆ 1876⑈ 10 ⑆000026⑈

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AC 16-56672

DER

JUN 11 1982

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

BAQM APPLICATION TO OPERATE/CONSTRUCT AIR POLLUTION SOURCES

RECEIVED JUN 4 1982 AIR & WATER POLLUTION CONTROL • CITY OF JACKSONVILLE

SOURCE TYPE: Plating & Cleaning Facility [X] New[1] [ ] Existing[1]

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

COMPANY NAME: Naval Air Rework Facility, Jacksonville COUNTY: Duval

Identify the specific emission point source(s) addressed in this application (i.e. Lime Kiln No. 4 with Venturi Scrubber; Peeking Unit No. 2, Gas Fired) chrome plating tanks vented through mist eliminator and packed - tower type scrubber.

SOURCE LOCATION: Street Naval Air Station City Jacksonville

UTM: East 4 - 35.45 North 33 - 43.9

Latitude 30 ° 13 ' 46 "N Longitude 81 ° 40 ' 14 "W

APPLICANT NAME AND TITLE: Commanding Officer, Naval Air Station

APPLICANT ADDRESS: Jacksonville, Florida 32212

SECTION I: STATEMENTS BY APPLICANT AND ENGINEER

A. APPLICANT

I am the undersigned owner or authorized representative* of _____

I certify that the statements made in this application for a _____ 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 permitted establishment.

*Attach letter of authorization

Signed: E. M. Newcomb

CAPT E. M. NEWCOMB, Commanding Officer
Name and Title (Please Type)

Date: 28 MAY 1982 Telephone No. (803) 743-4450

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 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.

(Affix Seal) SOUTH CAROLINA REGISTERED PROFESSIONAL No. 5746 ENGINEER LAURENS M. PITTS

Signed: Laurens M. Pitts

Laurens M. Pitts
Name (Please Type)

Southern Division, Naval Facilities Engineering Command
Company Name (Please Type)

P. O. Box 10068, Charleston, SC 29411
Mailing Address (Please Type)

S.C. ~~Florida~~ Registration No. 5746 Date: _____ Telephone No. (803) 743-5510

[1]See Section 17-2.02(15) and (22), Florida Administrative Code, (F.A.C.)

SECTION II: GENERAL PROJECT INFORMATION

A. 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.

Installation of a chrome plating system to include 13 tanks, exhaust ducts, mist eliminators, four scrubbers and four exhaust stacks. Exhaust emissions will be in compliance with DER requirements.

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

Start of Construction 1 September 1982 Completion of Construction 1 September 1985

C. 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.)

Fume scrubber, stack, mist eliminator (#3) - $22,693, $13,000 $10,000

Fume scrubber, stack (#4) - $13,550, $13,000

Fume scrubber, stack (#5) - $16,053, $7,000

Fume scrubber, stack (#6) - $15,500, $15,500

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

None

E. Is this application associated with or part of a Development of Regional Impact (DRI) pursuant to Chapter 380, Florida Statutes, and Chapter 22F-2, Florida Administrative Code? ____ Yes X No

F. Normal equipment operating time: hrs/day 16 ; days/wk 5 ; wks/yr 52 ; if power plant, hrs/yr ____ ;

if seasonal, describe: ____

G. 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 Deterioriation" (PSD) requirements 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

Attach all supportive information related to any answer of "Yes". Attach any justification 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		
Chromium Trioxide	Chromic Acid	32 oz/gal	1.85	Chrome plating system

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

1. Total Process Input Rate (lbs/hr): 1.85
2. Product Weight (lbs/hr): 0.83

C. Airborne Contaminants Emitted: See data and calculation sheets attached

Name of Contaminant	Emission[1]		Allowed Emission[2] Rate per Ch. 17-2, F.A.C.	Allowable[3] Emission lbs/hr	Potential Emission[4]		Relate to Flow Diagram
	Maximum lbs/hr	Actual T/yr			lbs/hr	T/yr	
Chromic Acid Mist (S-3)	.15	.31	N/A	N/A	.59	1.22	Exhaust System
(S-4)	.03	.06	"	"	.11	.23	"
(S-5),(S-6)	.01	.02	"	"	.04	.08	"

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

Name and Type (Model & Serial No.)	Contaminant	Efficiency	Range of Particles[5] Size Collected (in microns)	Basis for Efficiency (Sec. V, It[5]
Packed Tower Type	Chromic Acid Mist	99%	N/A	Design Rating
Fume Scrubber				
Heil 730 Series				
Heilex - EB Mist	Chromic Acid Mist	99%	+ 50 microns	Design Rating
Eliminator				

[1] See Section V, Item 2.

[2] Reference applicable emission standards and units (e.g., Section 17-2.05(6) Table II, E. (1), F.A.C. — 0.1 pounds per million BTU heat input)

[3] Calculated from operating rate and applicable standard

[4] Emission, if source operated without control (See Section V, Item 3)

[5] If Applicable

E. Fuels

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

*Units Natural Gas, MMCF/hr; Fuel Oils, barrels/hr; Coal, 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 wastes generated and method of disposal.

Liquid waste discharged to the industrial sewer system

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

Stack Height: * ft. Stack Diameter: * ft.

Gas Flow Rate: * ACFM Gas Exit Temperature: 77 °F.

Water Vapor Content: 95 % Velocity: * FPS

*Specified on attached data sheet

SECTION IV: INCINERATOR INFORMATION

Type of Waste	Type O (Plastics)	Type I (Rubbish)	Type II (Refuse)	Type III (Garbage)	Type IV (Pathological)	Type V (Liq & Gas By-prod.)	Type VI (Solid By-prod.)
Lbs/hr Incinerated							

Description of Waste _____

Total Weight Incinerated (lbs/hr) _____ Design Capacity (lbs/hr) _____

Approximate Number of Hours of Operation per day _____ days/week _____

Manufacturer _____

Date Constructed _____ Model No. _____

	Volume $(ft)^3$	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* Velocity _____ FPS

*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.):

SECTION V: SUPPLEMENTAL REQUIREMENTS

Please provide the following supplements where required for this application:

1. Total process input rate and product weight — show derivation.
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, 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 8½" 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 8½" 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 8½" 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. An application fee of $20, unless exempted by Section 17-4.05(3), F.A.C. 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

B. Has EPA declared the best available control technology for this class of sources (If yes, attach copy) [ ] Yes [ ] No

Contaminant	Rate or Concentration

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

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:
5. Useful Life:
6. Operating Costs:
7. Energy:
8. Maintenance Cost:
9. Emissions:

Contaminant	Rate or Concentration

*Explain method of determining D 3 above.

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 applicable, use additional pages if necessary).

1.

a. Control Device:

b. Operating Principles:

c. Efficiency*: d. Capital Cost:

e. Useful Life: f. Operating Cost:

g. Energy*: 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*: d. Capital Cost:

e. Useful Life: f. Operating Cost:

g. Energy**: h. Maintenance Costs:

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:

*Explain method of determining efficiency.

**Energy to be reported in units of electrical power — KWH design rate.

3.

a. Control Device:

b. Operating Principles:

c. Efficiency*: d. Capital Cost:

e. Life: f. Operating Cost:

g. Energy: h. Maintenance Cost:

*Explain method of determining efficiency above.

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*:

d. Capital Cost:

e. Life:

f. Operating Cost:

g. Energy:

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*:

3. Capital Cost:

4. Life:

5. Operating Cost:

6. Energy:

7. Maintenance Cost:

8. Manufacturer:

9. Other locations where employed on similar processes:

a.

(1) Company:

(2) Mailing Address:

(3) City:

(4) State:

(5) Environmental Manager:

(6) Telephone No.:

*Explain method of determining efficiency above.

(7) Emissions*:

Contaminant	Rate or Concentration

(8) Process Rate*:

b.

(1) Company:

(2) Mailing Address:

(3) City:

(4) State:

*Applicant must provide this information when available. Should this information not be available, applicant must state the reason(s) why.

(5) Environmental Manager:

(6) Telephone No.:

(7) Emissions*:

Contaminant	Rate or Concentration

(8) Process Rate*:

10. Reason for selection and description of systems:

*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^2* _____ 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.

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^2	_____ grams/sec

E. Emission Data Used in Modeling

Attach list of emission sources. Emission data required is source name, description on 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.

*Specify bubbler (B) or continuous (C).

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.

CHROME PLATING SYSTEM EMISSIONS DATA AND CALCULATIONS

Tank	Ventilation (cfm)	Process Solution	Emission Control (Reference Drawing P58)
A-5	4500	(Chromic Acid, Sulfuric Acid)	(Mist Eliminator, Chrome System Scrubber (S-3))
A-6	"	" "	" " "
A-7	"	" "	" " "
A-14	"	" "	" " "
A-15	"	" "	" " "
A-16	"	" "	" " "
A-1	3000	(Chromic Acid, Sulfuric Acid, Fluoride)	(Mist Eliminator, * Continuous Acid System Scrubber (S-4))
A-2	"	" "	" " "
A-3	1250	Chromic Acid	Continuous Acid System Scrubber (S-4)
A-13	1125	" "	" " "
A-11	"	Sulfuric Acid	Acid System Scrubber (S-5)
E-2	2000	Chromic Acid	" " "
A-9	1125	P-C-535	Cyanide System Scrubber (S-6)

*Mist eliminator will be installed on Tank A-1 and A-2 and is not shown on the plans at this time.

CALCULATIONS

The total process input rate is 148 lb/wk (Naval Air Rework Facility Report in Preliminary Design Meeting). Based on 16 hr/day and 5 day/wk the input rate is as follows:

Input (lb/hr) = (148 lb/wk)/(16 hr/day)(5 day/wk)
= 1.85 lb/hr

The total process input is lost in the chrome plating process on the product, to dragout and to ventilation (emissions) as follows:

Product - 45% X 1.85 lb/hr = 0.83 lb/hr
Dragout - 15% X 1.85 lb/hr = 0.28 lb/hr
Ventil. - 40% X 1.85 lb/hr = 0.74 lb/hr

Approximately 80% of the vented emissions will exhaust through mist eliminator and scrubber (S-3), 15% through scrubber (S-4), and 5% through scrubbers (S-5) and (S-6). The scrubbers have a manufacturer's rated efficiency of 99%. Use 75% for a worst case.

Scrubber (S-3) - exhaust emissions = (0.74)(0.8)(0.25) = 0.15 lb/hr
Ton/Yr = (0.15)(16)(5)(52)/(2000) = 0.31 Ton/yr

Scrubber (S-4) - exhaust emissions = (0.74)(.15)(0.25) = 0.03 lb/hr
Ton/Yr = (0.03)(16)(5)(52)/(2000) = 0.06 Ton/yr

Scrubber (S-5), (S-6) - exhaust emissions
= (0.74)(.05)(0.25) = 0.01 lb/hr
Ton/Yr = (0.01)(16)(5)(52)/(2000) = 0.02 Ton/yr

Potential Emissions:

Scrubber (S-3) - exhaust emissions = (0.74)(0.8) = 0.59 lb/hr
Ton/Yr = (0.59)(16)(5)(52)/(2000) = 1.22 Ton/yr

Scrubber (S-4) - exhaust emissions = (0.74)(.15) = 0.11 lb/hr
Ton/Yr = (0.11)(16)(5)(52)/(2000) = 0.23 Ton/yr

Scrubber (S-5), (S-6) - exhaust emissions
= (0.74)(.05) = 0.04 lb/hr
Ton/Yr = (0.04)(16)(5)(52)/(2000) = 0.08 Ton/yr

STACK DATA

Scrubber	Exhaust Fan/cfm	Temp (^oF)	Height (Ft)	Diameter (Ft)	Area $(Ft)^2$	Velocity (FPS)
S-3	30,000	77	44	3.67	10.6	47.2
S-4	32,500	77	48	3.51	9.7	55.8
S-5	39,500	77	48	4.66	17.1	38.5
S-6	50,000	77	48	4.66	17.1	48.7

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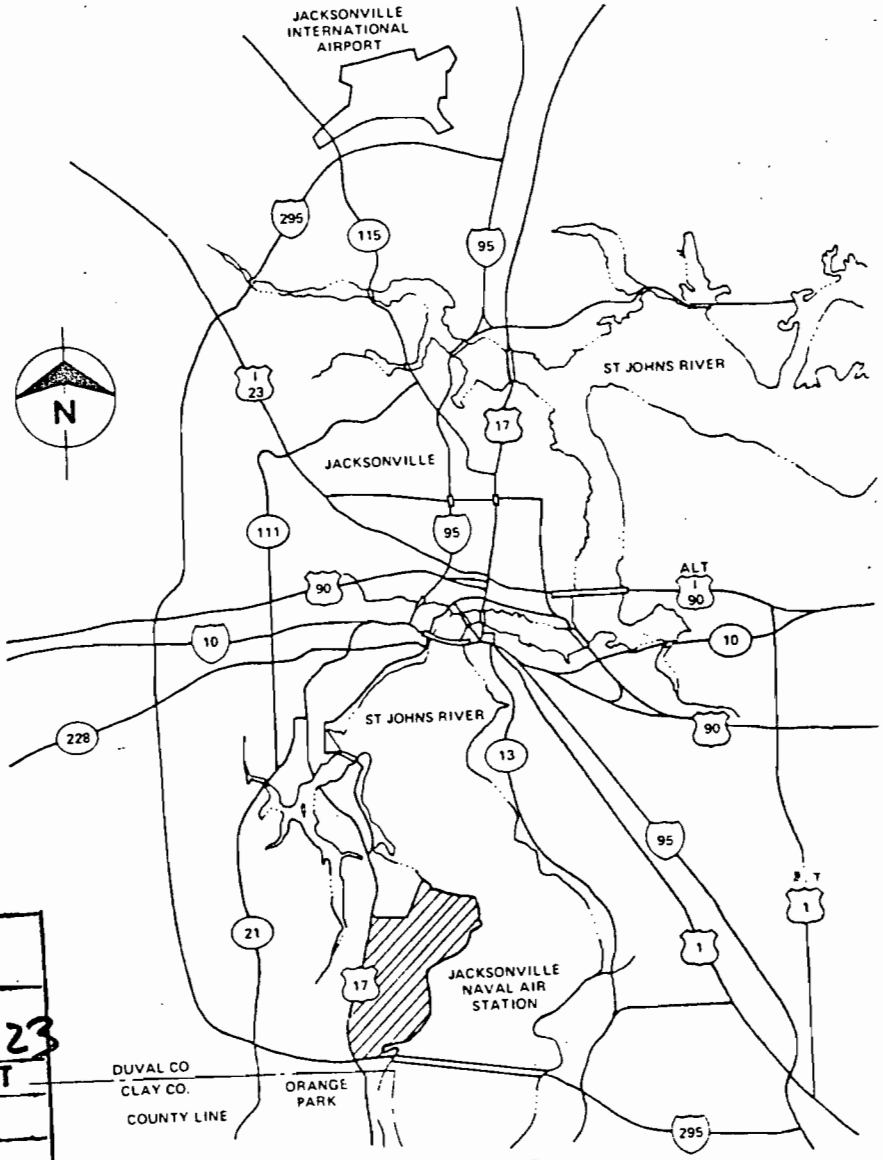

VICINITY MAP
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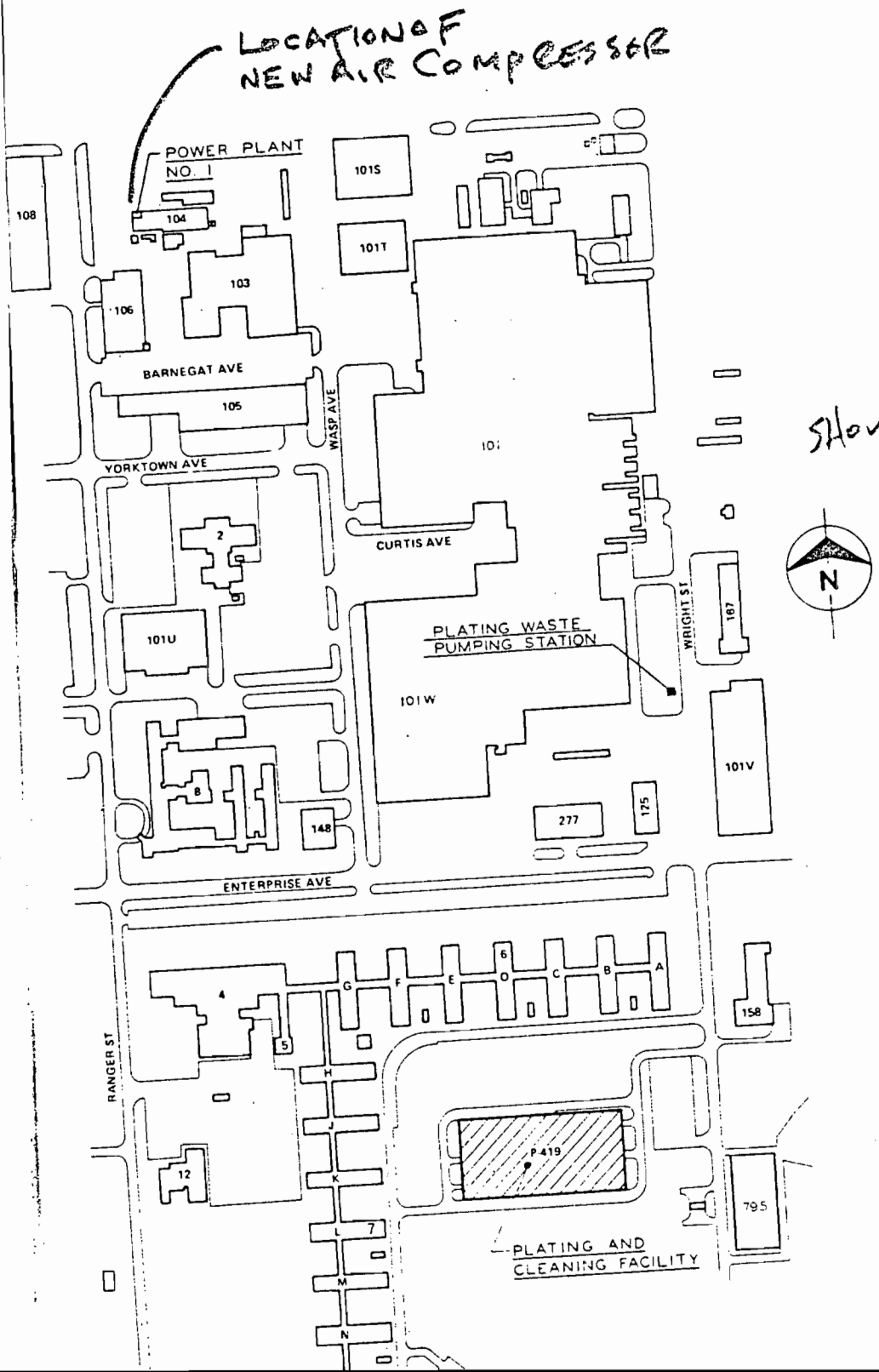

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2130	125	225	25	57	74.6	57	56.5	130	188	44	56	130	150	6	12	45	74	716	35.8	180	140	0.20	5.0	1	12
2200	150	225	25	—	—	—	—	—	—	—	—	—	—	—	—	34	61	1042	52.1	180	140	0.15	5.0	1	6
2200	150	225	25	—	—	—	—	—	—	—	—	—	—	—	—	34	61	1042	52.1	180	140	0.15	5.0	1	6
2200	150	225	25	—	—	—	—	—	—	—	—	—	—	—	—	34	61	1042	52.1	180	140	0.15	5.0	1	6
2200	150	225	25	—	—	—	—	—	—	—	—	—	—	—	—	34	61	1042	52.1	180	140	0.15	5.0	1	6

LOOKS PROPRIETARY

FAN SCHEDULE

STATIC PRESS IN H2O	APPROX WHEEL DIA IN	RPM	MOTOR HP	DRIVE TYPE	DISCHARGE ARRANGEMENT /FAN ROTATION	INLET TYPE	ELECTRICAL DATA VOLT	PHASE	HERTZ	VIBRATION ABSORBER TYPE	REMARKS
0.375	20	680	1/3	BELT	DOWN/CENTRIFUGAL	AXIAL	115	1	60	—	TOILET/LOCKER
0.375	16	930	1/3	BELT			115	1	60	—	TOILET
0.300	12	1750	1/2	DIRECT			115	1	60	—	SERVES P54
0.300	12	1750	1/2	DIRECT			115	1	60	—	SERVES PL16
0.500	20	710	1/3	BELT	DOWN/CENTRIFUGAL	AXIAL	115	1	60	—	SERVES PL18
5.0	70	540	60	V BELT	VERTICAL		460	3	60	VIBRATION PAD	CHEMICAL CLEANING SCR.
5.0	70	540	60				460	3	60		CHEMICAL CLEANING SCR.
5.25	70	520	50				460	3	60		CHROME
6.75	70	570	100				460	3	60		ACID
6.50	70	600	75				460	3	60		ACID
6.85	70	675	125		VERTICAL		460	3	60		CYANIDE
0.75	24½	913	2		HORIZONTAL		460	3	60		PUSH AIR (CHEMICAL CLEAN)
0.75	30	880	5	V BELT	HORIZONTAL		460	3	60	VIBRATION PAD	PUSH AIR (PLATING SHOP)
0.75	14	1200	1/3	BELT	DOWN/CENTRIFUGAL		115	1	60		SERVE K-28

GRIL

DESIGNATION
SA-A
SA-B
SA-C
SA-D
SA-E
RA-A
RA-B
EA-A
SA-F
SA-G

NG

?

SEE DETAIL SHT M11

M	STATIC PRESS IN H2O	VEL FPM
00		1432
40		1260
—		—
00		1835
00		1528
00		623
0		955
00		1528
50		1376
000	0.05	533
00		1146
00		1175
00		1146

STEAM UNIT HEATER SCHEDULE

UNIT NO.	APPROX CFM STD COND	OUTPUT BTUH	ENT. AIR TEMP °F	STEAM PRESS PSIG	STEAM FLOW LBS/HR	MOTOR HP	ELECTRICAL DATA VOLT	PHASE	HERTZ	REMARKS
UH1-14	260	20,000	60	15	20	1/25	115	1	60	SEE DETAIL SHT M13

* UH-1,2,3,5 & 6

M-14

UNIT NO.
MUA-
MUA-
MUA-
MUA-
MUA-

SCRUBBER SCHEDULE

	UNIT NO	LOCATION (DRAWING NO)	LOCATION (COLUMN ROW)	CONTAMINANT	CFM	STATIC PRESS IN. H2O	SCRUBBING LIQUOR SUMP SIZE GAL.	GPM CIRC.	GPM MAKE-UP	CIRC. PUMP NO.
*AA	S-1	P59	C-1	CHEMICAL CLEAN & ENTRAINED MIST	36000	1.50	550	44	4.0	SCP-1
*AA	S-2	P59	A-1	CHEMICAL CLEAN & ENTRAINED MIST	36000	1.50	550	44	4.0	SCP-2
	S-3	P61	B-11	CHROMIC ACID & ENTRAINED MIST	30000	1.75	900	360	7.3	SCP-3
	S-4	P61	C-11	ACID & ENTRAINED MIST	32500	1.50	450	30	3.0	SCP-4
	S-5	P61	D-11	ACID & ENTRAINED MIST	39500	1.50	550	44	4.0	SCP-5
	S-6	P61	E-11	CYANIDE & ENTRAINED MIST	50 000	1.50	650	52	5.0	SCP-6

ONS

[illegible]

CHILLER SCHEDULE

WATER SYSTEM TEMPERATURE ENTER °F	EXIT °F	FLOW GPM	MAX PRESS DROP FT H2O	BLOWER EXT STATIC PRESS IN H2O	HP	COMP KW	PUMP HP	ELECTRICAL DATA VOLT	PHASE	HERTZ	REMARKS
54	44	44	5	0.25	10	52	1	460	3	60	
56	44	44	5	0.25	10	52	1	460	3	60	

EXPANSION TANK SCHED

UNIT NO.	LOCATION (ROOM NO)	CAPACITY GAL	SIZE	MAX WORKING PRESS PSIG	MAX OPERAT TEM °F
ET-1	MECH 206	15	13"D×35"L	125	375
ET-2	MECH 206	60	16"D×77"L	125	375

SECTION 11530

SCRUBBERS, MIST ELIMINATORS, STACKS

PART 1 - GENERAL

1.1 Applicable Publications:

1.1.1 Federal Specifications (Fed. Spec.):

L-P-387A(1) Int Adm 2	Plastic Sheet, Laminated, Thermosetting (For Designation Plates)

1.1.2 National Bureau of Standards (NBS):

PS15-69	Custom Contact Molded Reinforced-Polyester Chemical-Resistant Process Equipment

1.2 Qualifications: Prior to installation, submit data for approval by the Government showing that the exhaust equipment manufacturer is currently in the business of manufacturing such equipment and has been in the business of manufacturing equipment as herein specified for not less than five years. Data shall include the names and locations of at least three installations where the size and type of manufacturer's equipment has been in successful operation for a period of at least five years.

1.3 General Requirements: Manufacturers and model numbers herein referenced are in accordance with Paragraph 10 of Section 01011, "General Paragraphs." Section 11000 "Process Equipment General Requirements" applies to this section, with additions and modifications specified herein.

1.3.1 Submittals: Items for which the submittals requirements of this section apply are as follows:

1.3.1.1 Manufacturer's Data: Submit to the Contracting Officer:
Fume Scrubbers
Mist Eliminator

1.3.1.2 Shop Drawings: Submit to the Contracting Officer:
Fume Scrubbers
Mist Eliminator
Stacks

1.3.1.3 Certified Test Reports:
Fume Scrubbers
Mist Eliminator

1.3.1.4 Operation and Maintenance Manual:
Fume Scrubbers
Mist Eliminator

1.3.1.5 Posted Operating Instructions:
Fume Scrubber

1.4 Description of Work: Work includes: furnishing and installing the scrubbers, mist eliminator, stacks and all accessories, recommended spare parts and all other labor, equipment and materials, and performance of work necessary for or incidential to the complete exhaust systems shown or specified or not.

PART 2 - PRODUCTS

2.1 Fume Scrubbers:

2.1.1 Impingement Type: Refer to schedule on drawings for capacities and quantities.

2.1.1.1 Construction: Each impingement-type fume scrubber shall be constructed entirely of reinforced polyester plastic with physical and chemical characteristics indicated on the plans. Resin shall be Heil Rigidon 3622 FRP in accordance with PS 15-69 to provide corrosion resistance to the chemicals to which it is exposed. Fume scrubbers 710 series shall be as manufactured by Heil Process Equipment, Avon, Ohio.

2.1.1.2 Design: Scrubbers shall be countercurrent flow design, i.e., solution flowing down and fumes flowing up. Internal spray piping shall be constructed of solid plastic. Unit shall have polypropylene mesh pad.

2.1.1.3 Connections: Scrubbers shall include connections for fume inlet and exhaust, spray water inlet, pump suction, overflow, and water makeup inlets. Access manholes shall be located to provide maximum access for cleaning and maintenance. Each scrubber shall contain, as an integral portion of unit, a reservoir to contain the amount in gallons of recycle solution as indicated in the schedule on the drawings. Inlet and exhaust connections shall be flanged for connection to adjacent ducting.

2.1.1.4 Efficiency: Each scrubber shall remove a minimum of 98 percent of entrained mist (indicated in schedule on the drawings) from air passing through the scrubber. A minimum of 98 percent of entrained moisture shall be removed from air leaving the scrubber. Static pressure drop through scrubber shall not exceed 1.5 inches W.G.

2.1.1.5 Resin: The resin shall be acid and alkali resistant, suitable for service with all components being exhausted as shown on drawings and attached specifications. Resin shall be Heil Rigidon 3622.

2.1.1.6 Nameplates, Laminated Plastic: Fed. Spec. L-P-387. Provide a nameplate for each scrubber engraved with the equipment number and name as

indicated on the equipment schedules. Laminated plastic shall be 1/8-inch-thick black melamine plastic with white center core, matte finish and square corners. The lettering shall be accurately aligned and engraved into the white.

2.1.2 Packed-Tower Type: Refer to scrubber schedule on drawings for capacity.

2.1.2.1 Construction: The Packed-Tower Type fume scrubber shall be constructed entirely of reinforced polyester plastic with physical and chemical characteristics indicated on the drawings. Resin shall be Heil Rigidon 3622 in accordance with PS 15-69 to provide corrosion resistance to the chemicals to which it is exposed. Fume scrubber 730 series shall be as manufactured by Heil Process Equipment, Avon, Ohio.

2.1.2.2 Design: The packed-tower scrubber shall be a countercurrent flow design. There shall be a liquid distribution header at the top of the packing for maximum efficiency. There shall be a polypropylene mesh pad.

2.1.2.3 Packing: The packed-tower packing shall be resistant to the corrosive attack of both acids and alkalies, solid plastic, and of a configuration to promote thorough mixing and maximum contact between the gas and the absorbent solution. A two-bend Heilex EB blade-type entrainment separator shall be provided to remove the entrained moisture from gases leaving the scrubber. Internal spray piping shall provide uniform distribution of liquid over packing surface and shall be constructed of solid plastic. Packing shall be Heilex Polypro Tower Packing.

2.1.2.4 Connections: Scrubber shall include connections for spray water inlet, pump suction, overflow, and water makeup inlets, flanged inlet and exhaust connections for connection to adjacent ducting. Exhaust shall be top side and rotatable head. Access manholes shall be located to provide maximum access for cleaning and maintenance. Each scrubber shall contain as an integral portion of unit a reservoir to contain the amount in gallons of recycle solution as indicated in the schedule on the drawings.

2.1.2.5 Efficiency: The packed-tower scrubber shall remove a minimum of 99 percent of chromic acid fumes and entrained mist from air passing through scrubber. A minimum of 99 percent of entrained moisture shall be removed from air leaving scrubber. Static pressure drop through scrubber shall not exceed 1.75 inches W.G.

2.1.2.6 Resin: The resin shall be acid and alkali resistant suitable for service with all components being exhausted as shown on drawings and attached specifications. Resin shall be Heil Rigidon 3622 or approved equal.

2.1.2.7 Nameplates, Laminated Plastic: Fed. Spec. L-P-387. Provide a nameplate for each scrubber engraved with the equipment number and name as indicated on the equipment schedules. Laminated plastic shall be 1/8-inch-thick black melamine plastic with white center core, matte finish and square corners. The lettering shall be accurately aligned and engraved into the white.

2.2 Mist Eliminator

2.2.1 Construction: Impingement-type, horizontal gas flow to be installed in pit area on supply to "Chrome System Scrubber" for entrapment of air-entrained chrome tank vapors for collection and eventual disposal or recovery and return to chrome tanks. Mist Eliminator Heilex-EB shall be as manufactured by Heil Process Equipment, Avon, Ohio.

2.2.2.2 Accessories:

2.2.2.2.1 Flanged inlet and outlet for connection to adjacent ducting.

2.2.2.2.2 Flanged access for service and maintenance.

2.2.2.2.3 Corrosion resistant flushing spray assembly and drain.

2.2.2.2.4 Fiberglass reinforced polyester sump box, integral with mist eliminator, volume minimum of 30 gallons.

2.2.2.2.5 Extruded flow contours with corrosion-resistant frame to separate profiles. Heil Heilex EB 4 Bend blades and housing to be constructed of Rigidon 3622 HF FRP.

2.2.3.1 Efficiency: The horizontal flow mist eliminator shall remove 99 percent of all mist particles larger than 14 microns with a static pressure drop through eliminator not to exceed .20-inch W.G.

2.2.3.2 Nameplates, Laminated Platic: Fed. Spec. L-P-387. Provide a nameplate for Mist Eliminator engraved with the equipment name and number as indicated on the equipment schedules. Laminated plastic shall be 1/8-inch-thick black melamine plastic with white center core, matte finish and square corners. The lettering shall be accurately aligned and engraved into the white.

2.3 Stacks

2.3.1 Size: Stacks shall be shop fabricated of Heil Rigidon Resin 3622 ERP in accoordance with PS 15-69 to diameter and length as indicated on plans to a uniform wall thickness of not less than 5/16-inch.

2.3.1.1 Connection: Flanges, bottom of stack shall have flange for connection to flexible connector and fan.

2.3.1.2 Shoulders: Fiberglass built-up shoulders shall be shop applied in locations indicated and shall be built-up in layers to form a tapered band not less than 1-inch thick and 4 inches wide to be uniform in application and run true in respect to centerline of duct or stack, bottom of shoulder shall be at 90-degrees through entire 360-degree rotation and shall result in a smooth surface suitable for installing metal holding bands and capable of total support of entire stack at any one band or shoulder.

2.3.1.3 Vertical Discharge: No-loss type vertical discharge shall be accomplished by applying section of tube of one size larger and cementing to form one integral stack, with overlap as indicated on drawings.

2.3.1.4 Lifting Lugs: Shop apply lifting lugs near top and at balance center of stack for the purpose of field crane handling.

2.3.1.5 Strength: Stack shall be sufficiently strong to safely resist a wind pressure of 30 psf with lateral supports as indicated on the drawings. Stack shall also be constructed to safely withstand all loads and stresses resulting from handling and erection.

2.3.1.6 Finish shall be shop applied with color added to final several resin applications to accomplish a final contiguous finish free of burrs, chips, cracks, or any embedded debris with a pigmentation to match building panels and with protective coating as required to prevent gamma ray damage.

2.4 Fans: Fans shall be as specified in Section 15805, "Industrial Ventilation on Exhaust Systems (Ducts and Fans)."

PART 3 - EXECUTION

3.1 Installation: Installation shall be in accordance with the manufacturer's written recommendations and Section 11000 "Process Equipment General Requirements." The Contractor shall be responsible for the furnishing of labor, equipment, material and performance of work necessary for or incidental to the complete installation of services and equipment. Resizing or rerouting of services resulting from the selection of equipment or manufacturing changes shall be coordinated and accomplished by the Contractor at no cost to the Government.

3.2 Tests: The Contractor shall be responsible for performing tests and inspections in accordance with Section 11000 "Process Equipment General Requirements" and Section 01161 "Testing and Balancing Air and Water Systems." The Contractor shall provide all labor, material and equipment required for making adjustments and to repair or replace faulty work to ensure proper performance.

END OF SECTION 11530

CHROME PLATING SYSTEM EMISSIONS DATA AND CALCULATIONS

Tank	Ventilation (cfm)	Process Solution	Emission Control (Reference Drawing P58)
A-5	4500	(Chromic Acid, Sulfuric Acid)	(Mist Eliminator, Chrome System Scrubber (S-3))
A-6	"	" "	" " "
A-7	"	" "	" " "
A-14	"	" "	" " "
A-15	"	" "	" " "
A-16	"	" "	" " "
A-1	3000	(Chromic Acid, Sulfuric Acid, Fluoride)	(Mist Eliminator, * Continuous Acid System Scrubber (S-4))
A-2	"	" "	" " "
A-3	1250	Chromic Acid	Continuous Acid System Scrubber (S-4)
A-13	1125	" "	" " "
A-11	"	Sulfuric Acid	Acid System Scrubber (S-5)
E-2	2000	Chromic Acid	" " "
A-9	1125	P-C-535	Cyanide System Scrubber (S-6)

*Mist eliminator will be installed on Tank A-1 and A-2 and is not shown on the plans at this time.

CALCULATIONS

The total process input rate is 148 lb/wk (Naval Air Rework Facility Report in Preliminary Design Meeting). Based on 16 hr/day and 5 day/wk the input rate is as follows:

Chrome H_2SO_4

Input (lb/hr) = (148 lb/wk)/(16 hr/day)(5 day/wk)
= 1.85 lb/hr

The total process input is lost in the chrome plating process on the product, to dragout and to ventilation (emissions) as follows:

Product - 45% X 1.85 lb/hr = 0.83 lb/hr
Dragout - 15% X 1.85 lb/hr = 0.28 lb/hr
Ventil. - 40% X 1.85 lb/hr = 0.74 lb/hr — TO SCRUBBER S-3

Approximately 80% of the vented emissions will exhaust through mist eliminator and scrubber (S-3), 15% through scrubber (S-4), and 5% through scrubbers (S-5) and (S-6). The scrubbers have a manufacturer's rated efficiency of 99%. Use 75% for a worst case.

Scrubber (S-3) - exhaust emissions = (0.74)(0.8)(0.25) = 0.15 lb/hr
Ton/Yr = (0.15)(16)(5)(52)/(2000) = 0.31 Ton/yr

Scrubber (S-4) - exhaust emissions = (0.74)(.15)(0.25) = 0.03 lb/hr
Ton/Yr = (0.03)(16)(5)(52)/(2000) = 0.06 Ton/yr

Scrubber (S-5), (S-6) - exhaust emissions
= (0.74)(.05)(0.25) = 0.01 lb/hr
Ton/Yr = (0.01)(16)(5)(52)/(2000) = 0.02 Ton/yr

Potential Emissions:

Scrubber (S-3) - exhaust emissions = (0.74)(0.8) = 0.59 lb/hr
Ton/Yr = (0.59)(16)(5)(52)/(2000) = 1.22 Ton/yr

Scrubber (S-4) - exhaust emissions = (0.74)(.15) = 0.11 lb/hr
Ton/Yr = (0.11)(16)(5)(52)/(2000) = 0.23 Ton/yr

Scrubber (S-5), (S-6) - exhaust emissions
= (0.74)(.05) = 0.04 lb/hr
Ton/Yr = (0.04)(16)(5)(52)/(2000) = 0.08 Ton/yr

STACK DATA

Scrubber	Exhaust Fan/cfm	Temp (^oF)	Height (Ft)	Diameter (Ft)	Area $(Ft)^2$	Velocity (FPS)
S-3	30,000	77	44	3.67	10.6	47.2
S-4	32,500	77	48	3.51	9.7	55.8
S-5	39,500	77	48	4.66	17.1	38.5
S-6	50,000	77	48	4.66	17.1	48.7

BEST AVAILABLE COPY

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

№ 33612

RECEIPT FOR APPLICATION FEES AND MISCELLANEOUS REVENUE

Received from United States Treasury Date June 4, 1982

Address Navy Jacksonville, Florida Dollars $ 20.00

Applicant Name & Address U.S. Naval Air Station, P.O. Box 5 NAS Jacksonville FL

Source of Revenue

Revenue Code 0101 Application Number AC 16-516671

By Patricia G. Adams

NAVY JACKSONVILLE, FLORIDA Check No. 70,086,129
70,086,129 SYMBOL 8378
15-51 000
United States Treasury MAY 21 1982
PAY $***20DOLLARS00CENTS $***20.00*
TO THE ORDER OF STATE OF FLORIDA
DEPT OF ENVIRONMENTAL REGULATION
TALLAHASSEE, FL
FM883
CHARGE AND EXPENSE
U.S. DISBURSING OFFICER
⑈8378⑈ ⑆000000518⑆ 70086129⑈

NAVAL AIR STATION

JACKSONVILLE, FLORIDA 32212

IN REPLY REFER TO:
Code 18E
7000

JUN 0 3 1982

DER

JUN 1 1 1982

BAQM

Department of Health, Welfare and
Bio-Environmental Services
Bio-Environmental Services Division
Air and Water Pollution Control
515 West 6th Street
Jacksonville, FL 32203

ATTN: Mr. Jerry S. Woosley

Dear Mr. Woosley:

Attached please find Application to Construct an Asbestos Ventilation System. Also enclosed is U. S. Government check no. 70,086,129 in the amount of $20.00 to cover the cost of the permit fee.

Sincerely,

D. L. MONARCH, JR.
CAPTAIN, CEC, USN
Public Works Officer
By direction of the
Commanding Officer

Encl:
(1) Ck. No. 70,086,129

BEST AVAILABLE COPY

AC 16-56671

DER

JUN 11 1982

BAQM

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION
APPLICATION TO OPERATE/CONSTRUCT
AIR POLLUTION SOURCES

RECEIVED JUN 4 1982 AIR & WATER POLLUTION CONTROL - CITY OF JACKSONVILLE

SOURCE TYPE: Air Pollution [X] New[1] [ ] Existing[1]

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

COMPANY NAME: U. S. Naval Air Station, Jacksonville COUNTY: Duval

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

SOURCE LOCATION: Street NAS Jacksonville, Bldg. 101 City Jacksonville

UTM: East 4-35.48 North 33-43.61

Latitude 30 ° 13 ' 25 "N Longitude 81 ° 40 ' 21" "W

APPLICANT NAME AND TITLE: D. J. MONARCH, JR., PUBLIC WORKS OFFICER

APPLICANT ADDRESS: P.O. Box 5, Naval Air Station, Jacksonville, FL 32212

SECTION I: STATEMENTS BY APPLICANT AND ENGINEER

A. APPLICANT

I am the undersigned owner or authorized representative* of _____

I certify that the statements made in this application for an ~~air pollution source construction~~ 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 permitted establishment.

*Attach letter of authorization

Signed: _____

D.J. MONARCH, JR., CAPT, CEC, USN, PUBLIC WKS OFC'R

Name and Title (Please Type)

Date: 18 May 82 Telephone No. 904 772-2114

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 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: Wayne C Kelly P.E.

WAYNE C. KELLY, P.E.

Name (Please Type)

(Affix Seal)

NAVAL AIR STATION, NARF CODE 611

Company Name (Please Type)

NARF, NAS, Jacksonville, FL 32212

Mailing Address (Please Type)

Florida Registration No. 18451 Date: MAY-14-82 Telephone No. 904 772-3220

[1]See Section 17-2.02(15) and (22), Florida Administrative Code, (F.A.C.)

SECTION II: GENERAL PROJECT INFORMATION

A. 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.

Asbestos sleeve installation facility consisting of hooded workbench with high efficiency filter unit vented to the outside.

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

Start of Construction 8-82 Completion of Construction 8-82

C. 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.)

Absolute filter unit with exhaust fan; approx. $2,000.00.

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

N/A This is a new requirement.

E. Is this application associated with or part of a Development of Regional Impact (DRI) pursuant to Chapter 380, Florida Statutes, and Chapter 22F-2, Florida Administrative Code? ____ Yes X No

F. Normal equipment operating time: hrs/day 8 ; days/wk 5 ; wks/yr 52 ; if power plant, hrs/yr N/A ;

if seasonal, describe: Unit to be operated for installation of 4070 sleeves. Estimated time 1 hour X 4070 = 4070 Hrs. over a period of 1 year.

G. 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? Yes
   a. If yes, has "offset" been applied? No
   b. If yes, has "Lowest Achievable Emission Rate" been applied? No
   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 Deterioriation" (PSD) requirements 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? Yes

Attach all supportive information related to any answer of "Yes". Attach any justification 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		
Rubber Impregnated				
Asbestos Tubing	Asbestos	50%	1 lb/hr.	

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

1. Total Process Input Rate (lbs/hr): 1 lb/hr.
2. Product Weight (lbs/hr): 1 lb/hr.

C. Airborne Contaminants Emitted:

Name of Contaminant	Emission[1]		Allowed Emission[2] Rate per Ch. 17-2, F.A.C.	Allowable[3] Emission lbs/hr	Potential Emission[4]		Relate to Flow Diagram
	Maximum lbs/hr	Actual T/yr			lbs/hr	T/yr	
Asbestos	-0-	-0-	-0-	-0-	No V.E.		

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

Name and Type (Model & Serial No.)	Contaminant	Efficiency	Range of Particles[5] Size Collected (in microns)	Basis for Efficiency (Sec. V, It[5]
Vectaire	Asbestos	99%		Manufact'r
54L176				Data
Auxiliary Fume				
Hood				

[1]See Section V, Item 2.

[2]Reference applicable emission standards and units (e.g., Section 17-2.05(6) Table II, E. (1), F.A.C. – 0.1 pounds per million BTU heat input)

[3]Calculated from operating rate and applicable standard

[4]Emission, if source operated without control (See Section V, Item 3)

[5]If Applicable

E. Fuels N/A

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

*Units Natural Gas, MMCF/hr; Fuel Oils, barrels/hr; Coal, 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 wastes generated and method of disposal.

_____

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

Stack Height: _____ ft. Stack Diameter: _____ ft.

Gas Flow Rate: _____ ACFM Gas Exit Temperature: _____ °F.

Water Vapor Content: _____ % Velocity: _____ FPS

SECTION IV: INCINERATOR INFORMATION N/A

Type of Waste	Type O (Plastics)	Type I (Rubbish)	Type II (Refuse)	Type III (Garbage)	Type IV (Pathological)	Type V (Liq & Gas By-prod.)	Type VI (Solid By-prod.)
Lbs/hr Incinerated							

Description of Waste _____

Total Weight Incinerated (lbs/hr) _____ Design Capacity (lbs/hr) _____

Approximate Number of Hours of Operation per day _____ days/week _____

Manufacturer _____

Date Constructed _____ Model No. _____

	Volume $(ft)^3$	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* Velocity _____ FPS

*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.):

SECTION V: SUPPLEMENTAL REQUIREMENTS

Please provide the following supplements where required for this application.

1. Total process input rate and product weight — show derivation.
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, 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 8½" 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 8½" 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 8½" 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. An application fee of $20, unless exempted by Section 17-4.05(3), F.A.C. 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

B. Has EPA declared the best available control technology for this class of sources (If yes, attach copy) [ ] Yes [ ] No

Contaminant	Rate or Concentration

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

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:
5. Useful Life:
6. Operating Costs:
7. Energy:
8. Maintenance Cost:
9. Emissions:

Contaminant	Rate or Concentration

*Explain method of determining D 3 above.

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 applicable, use additional pages if necessary).

1.

a. Control Device:

b. Operating Principles:

c. Efficiency*: d. Capital Cost:

e. Useful Life: f. Operating Cost:

g. Energy*: 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*: d. Capital Cost:

e. Useful Life: f. Operating Cost:

g. Energy**: h. Maintenance Costs:

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:

*Explain method of determining efficiency.

**Energy to be reported in units of electrical power — KWH design rate.

3.

a. Control Device:

b. Operating Principles:

c. Efficiency*: d. Capital Cost:

e. Life: f. Operating Cost:

g. Energy: h. Maintenance Cost:

*Explain method of determining efficiency above.

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*:

d. Capital Cost:

e. Life:

f. Operating Cost:

g. Energy:

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*:

3. Capital Cost:

4. Life:

5. Operating Cost:

6. Energy:

7. Maintenance Cost:

8. Manufacturer:

9. Other locations where employed on similar processes:

a.

(1) Company:

(2) Mailing Address:

(3) City:

(4) State:

(5) Environmental Manager:

(6) Telephone No.:

*Explain method of determining efficiency above.

(7) Emissions*:

Contaminant	Rate or Concentration

(8) Process Rate*:

b.

(1) Company:

(2) Mailing Address:

(3) City:

(4) State:

*Applicant must provide this information when available. Should this information not be available, applicant must state the reason(s) why.

(5) Environmental Manager:

(6) Telephone No.:

(7) Emissions*:

Contaminant	Rate or Concentration

(8) Process Rate*:

10. Reason for selection and description of systems:

*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^2* _____ 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.

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^2	_____ grams/sec

E. Emission Data Used in Modeling

Attach list of emission sources. Emission data required is source name, description on 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.

*Specify bubbler (B) or continuous (C).

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.

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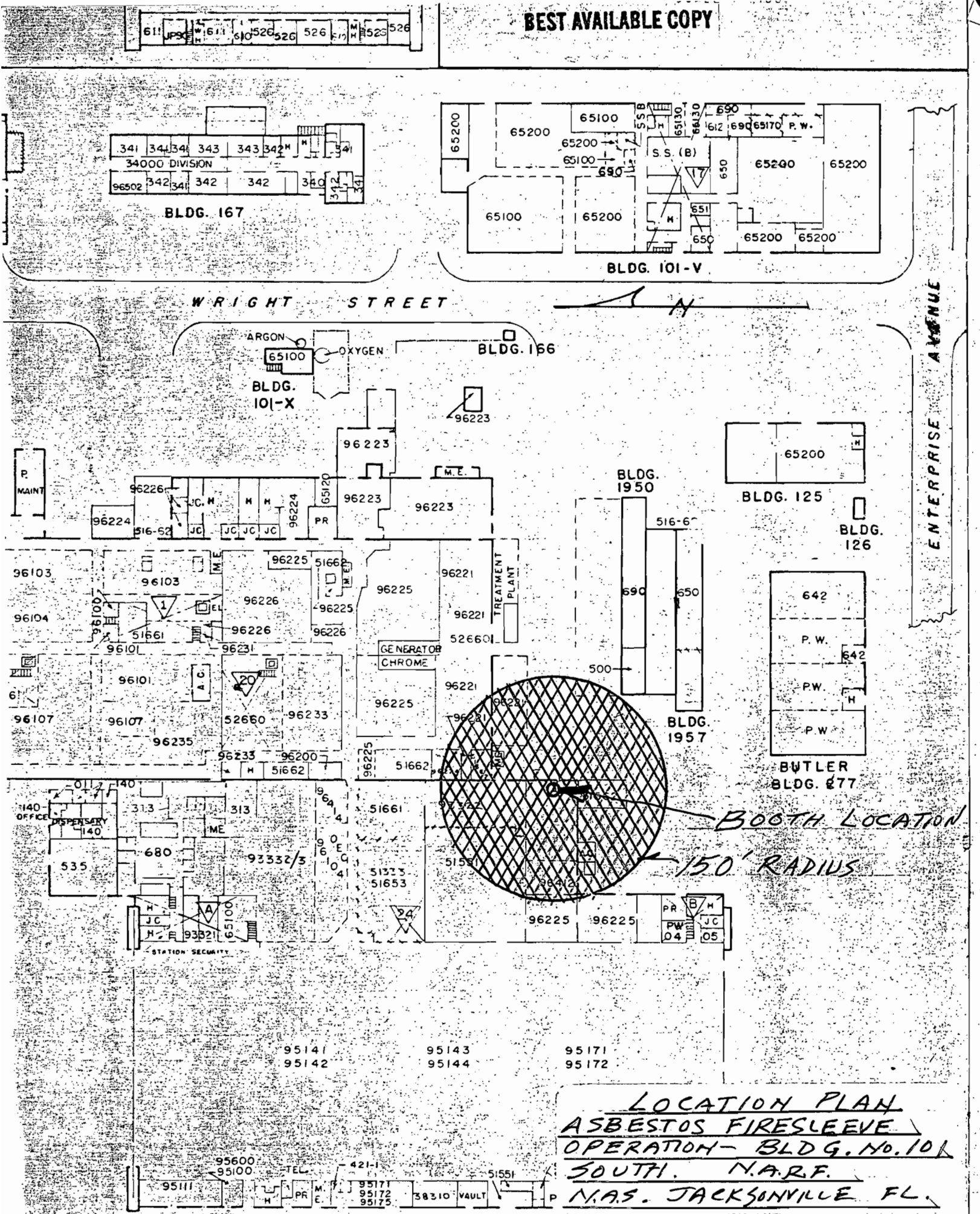

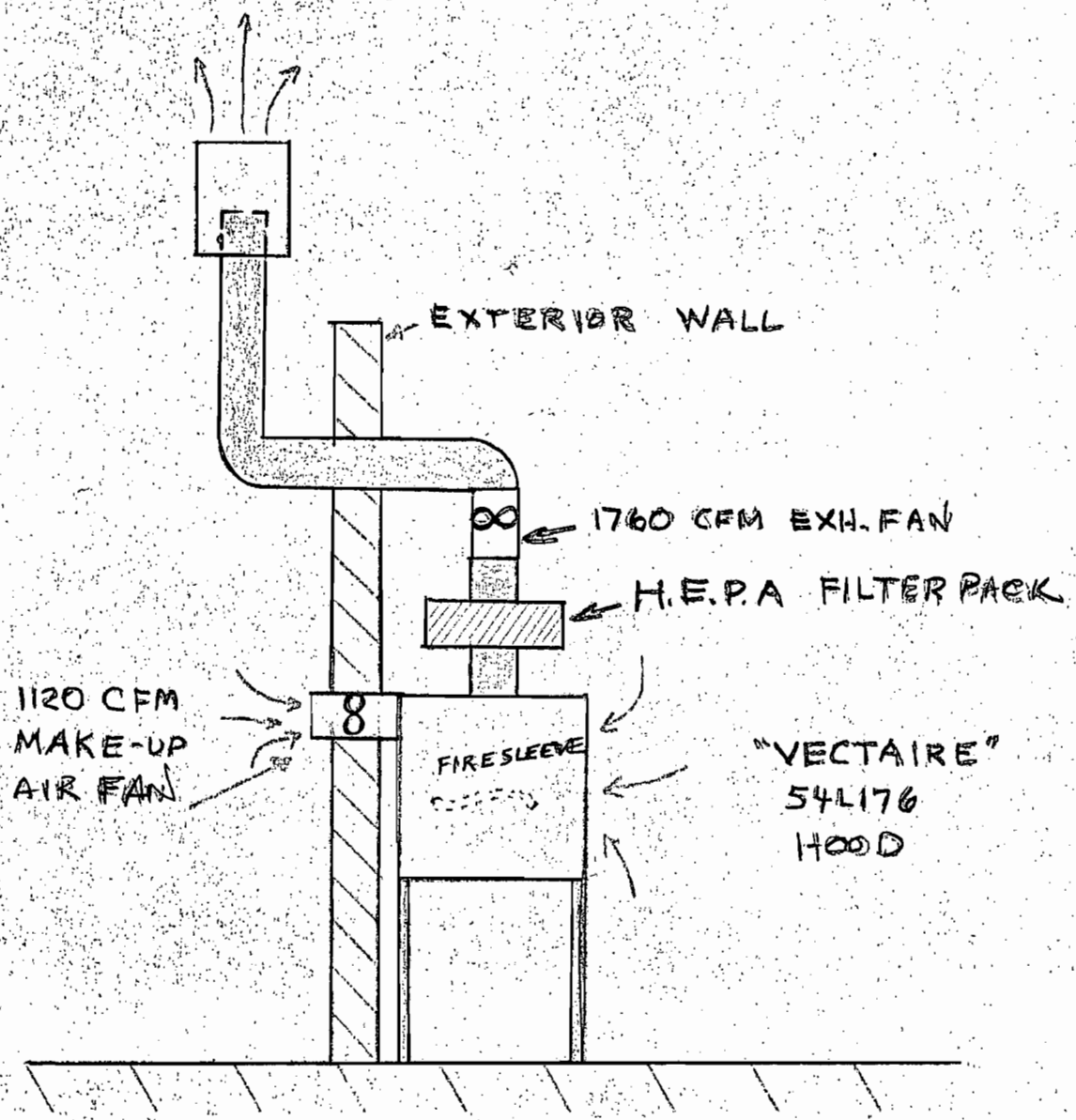

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